REGIONAL DISTRICT OF NANAIMO

REGIONAL DISTRICT OF NANAIMO
SOLID WASTE MANAGEMENT SELECT COMMITTEE
AGENDA

Thursday, July 5, 2018

1:30 P.M.

Committee Room

Pages

1. CALL TO ORDER

2. APPROVAL OF THE AGENDA

That the agenda be approved as presented.

3. ADOPTION OF MINUTES

3.1 Solid Waste Management Select Committee Meeting - May 15, 2018 3

That the minutes of the Solid Waste Management Select Committee meeting held May 15, 2018 be adopted.

4. DELEGATIONS

4.1 Michelle MacEwen re Request of Funding for School Education 5

4.2 Dave Hammond, Nanaimo Organics Waste, re Notice of Intent

5. CORRESPONDENCE

6. UNFINISHED BUSINESS

7. REPORTS

7.1 Preliminary Evaluation of Solid Waste Curbside Collection Options 19

1. That staff be directed to report back on a recommended service option and implementation plan for the following solid waste curbside collection options:

2. That glass collection at curbside be excluded from further consideration.

3. That semi-automated collection service be excluded from further consideration.

4. That staff be directed to conduct a public consultation and evaluation of the service options.

7.2 Regional Landfill Security Contract 2018-2020

1. That the Board award a two (2) year contract for Regional Landfill Security services to Neptune Security Service in the amount of $170,000.00 from September 1, 2018 to August 31, 2020.

2. That the General Manager of Regional and Community Utilities and the Director of Finance be authorized to extend the contract for an additional two (2) years if appropriate.

8. BUSINESS ARISING FROM DELEGATIONS

9. NEW BUSINESS

10. IN CAMERA

That pursuant to Section 90 (1)(k) of the Community Charter the Committee proceed to an In Camera meeting for discussion related to negotiations and related discussions respecting the proposed provision of a municipal service that are at their preliminary stages.

11. ADJOURNMENT

REGIONAL DISTRICT OF NANAIMO

REGIONAL DISTRICT OF NANAIMO

MINUTES OF THE SOLID WASTE MANAGEMENT SELECT COMMITTEE MEETING

Tuesday, May 15, 2018
2:00 P.M.
Committee Room

In Attendance:	Director A. McPherson	Chair
	Director H. Houle	Electoral Area B
	Director M. Young	Electoral Area C
	Director J. Stanhope	Electoral Area G
	Director B. McKay	City of Nanaimo
	Director J. Hong	City of Nanaimo
	Director K. Oates	City of Parksville
	Director B. Colclough	District of Lantzville
	Director T. Westbroek	Town of Qualicum Beach
Regrets:	Director D. Brennan	City of Nanaimo
	Director J. Kipp	City of Nanaimo
Also in Attendance:	Director B. Rogers	Electoral Area E
	P. Carlyle	Chief Administrative Officer
	R. Alexander	Gen. Mgr. Regional & Community Utilities
	L. Gardner	Mgr. Solid Waste Services
	R. Graves	Recording Secretary

CALL TO ORDER

The Chair called the meeting to order and respectfully acknowledged the Coast Salish Nations on whose traditional territory the meeting took place.

APPROVAL OF THE AGENDA

It was moved and seconded that the agenda be approved as presented.

CARRIED UNANIMOUSLY

ADOPTION OF MINUTES

Solid Waste Management Select Committee Meeting - April 3, 2018

It was moved and seconded that the minutes of the Solid Waste Management Select Committee meeting held April 3, 2018, be adopted.

CARRIED UNANIMOUSLY

INVITED PRESENTATIONS

Update on Solid Waste Management Plan

It was moved and seconded that the draft Solid Waste Management Plan, as presented, be forwarded to the Regional District of Nanaimo Committee of the Whole for approval.

Opposed (1): Director Young

CARRIED

COMMITTEE MINUTES AND RECOMMENDATIONS

Regional Solid Waste Advisory Committee - April 19, 2018

It was moved and seconded that the minutes of the Regional Solid Waste Advisory Committee meeting held April 3, 2018, be adopted.

CARRIED UNANIMOUSLY

REPORTS

Church Road Transfer Station Hauling Contract 2018-2020

It was moved and seconded that the contract for the hauling of Municipal Solid Waste, Food Waste and Yard Waste from the Church Road Transfer Station be awarded to Magnum Disposal Services for the period from July 2, 2018 to June 30, 2020 for the approximate value of $340,000 per year.

CARRIED UNANIMOUSLY

IN CAMERA

It was moved and seconded that pursuant to Section 90 (1)(k) of the *Community Charter* the Committee proceed to an In Camera meeting for discussion related to negotiations and related discussions respecting the proposed provision of a municipal service that are at their preliminary stages.

CARRIED UNANIMOUSLY

ADJOURNMENT

It was moved and seconded that the meeting be adjourned.

CARRIED UNANIMOUSLY

TIME: 2:33PM

_____

CHAIR

Michelle MacEwen ©

DRAGON'S DEN

Concept:

To look at the local economy to establish what viable, green, sustainable business could be created using a commodity that has already had a life/use.

Select a commodity that you are interested in creating something with; be it glass, metal, plastic, wood etc.

Establish that there is an abundance of that commodity close by.

Decide what you want to become; a collector, processor/sorter, manufacturer, sales person/ marketer, store operator, distributor.

You will need to meet some basic criteria:

It is doing something that you love, that you are passionate about.

At no stage of its manufacture, marketing and transportation and sales is it creating a by product that will end up in the landfill. You are also mind full that you are not creating a massive omissions trail through poor burning methods or excessive transportation requirements to sell your product.

When you consider your business idea question what you are drawn to:

Do you like making things?

Do you like the idea of melting, forging, welding precious metals?

Are you artistic and see ideas in pictures, or do you like to organize people and share ideas verbally?

Are you a natural inventor?

Will you need to employ people to create your product, if so how many people?

Will you make your product overseas or locally?

What issues will you face if you make your product overseas? Like product quality control and paying workers a real living wage.

You have the option to work in groups of two or on your own.

I will give you a list of useful websites for you to research other green, sustainable ideas.

You will have two weeks to come up with your green idea which will then be presented to the Dragon's Den panel of judges; Ms. Gilroy, Mr. Travers and myself.

Your presentation will need to show originality, sustainability and a description of steps taken to make your product.

We will want to hear how you plan to market and sell your product, and why you strongly believe that there is a market for what you are planning to make.

The winning business plan will receive various accolades and a prize.

GOOD LUCK!

On 2018-06-26 8:31 AM, Thomas Bradbrooke wrote:

To whom it may concern,

This is a letter of recommendation for Michelle MacEwen.

Ever since I have been teaching at Gabriola Elementary School (8 years), Michelle has been facilitating a recycling program with my grade 5/6 class. In this program, Michelle educates students about environmental concerns that humans face today. Each year, students learn the important ideas of reducing, reusing and recycling. By reinforcing this message year after year, Michelle has helped to create a school culture of environmental respect. Two of my own children have had the opportunity of being in this program and they carry these messages along with them to this day.

I will always welcome Michelle in my class and I would recommend her environmental program to other teachers in our school district.

Sincerely,

Tom Bradbrooke

Lesson Plan 1

Short Term Plastic Products, are they sustainable?

Objectives

Students will learn and understand the following:

Short term plastics products, what are they:

Plastic ballpoint pens, toothbrushes, disposable lighters, disposable razors.

All these products have a short life of less than two months when used daily, are not refillable, are not recyclable and are destined for the landfill, or end up in waterways.

All these plastic products used to be made from recyclable, refillable or biodegradable materials.

Choose one short term plastic product: Plastic Ballpoint Pen

Students will learn the history of the pen, focusing on the feather quill; its creation, use, effectiveness as a writing implement, its importance in history.

They will learn the history of ink and how the feather quill established the font of the English alphabet and how letters were sealed and sent.

Students will carve their own quill and write a letter detailing the project, seal it with wax and mail it.

They will create their own wax stamp seal using some dowel, oven bake clay and engraving tools.

They will then draw conclusions based on their experience of writing a letter using a quill.

Materials

Turkey feathers, carving knives, ink pots, paper, envelopes.

Dowel, oven bake clay, toothpicks, paint, glue, elastic bands.

Procedure

Shave off the feathers to leave enough room on the barb for the hand to hold it.

Follow steps to carve a nib into one end.

Practice writing the letters of the alphabet, upper and lower case using pots of ink.

To make your wax stamp seal, design your personal crest on paper then transfer it onto a piece of clay. Bake the clay to harden it, cool and then glue to the piece of dowel.

Paint your piece of dowel to personalize it.

Hold together with three elastic bands until set.

Write out a rough draft of the letter you plan to mail outlining the project. Complete your good copy using your quill.

Let the ink dry on the letter and the address, then melt some sealing wax onto the envelope and seal with your personalized crest.

Notes for each student to make, including questions and conclusions.

Map out the timeline of the pen from the reed pen to the quill to steel fountain pens, ballpoint pens and then the introduction of plastic writing instruments.

Discuss why the quill was the mainstay for writing instruments for almost 2000 years. What were its benefits and pitfalls. Was it biodegradable, sustainable? How long could you use it for? Was it easy to write with? Why was it replaced by a steel nib?

Why was the steel fountain pen replaced by the steel ballpoint pen?

Since the introduction of the plastic ballpoint pen, has this convenient throw away pen made writing easier or better?

How many plastic pens are landfilled each year?

Is it okay to continue the manufacture of short term plastic products?

What could we use today to write with that has no negative impact on the environment?

Conclusions

To complete this lesson plan, encourage a class discussion to determine what students felt they had learnt, and what if any changes they would make to their current choice of writing instrument.

Grade level 6/7

Four lessons, sixty minutes each.

School Program

Lesson Plan 2 – 8, and then ongoing throughout the school year.

Food

Objectives

Students will learn and understand the following:

1. Preparing a waste free lunch will reduce the amount of garbage the classroom produces.
2. Learning how to bake and cook food from scratch teaches important life skills and will inspire children to choose homemade food rather than processed, packaged, mass produced factory food.
3. Will connect children to their environment and the seasons as they learn how local organic food is grown and then prepared into a delicious meal or healthy snack to bring to school.
4. Learn some basic recipes that are simple to make and will teach how to balance the flavors of the tongue, for example a salad dressing.
5. Create a classroom recipe board where they will share favorite recipes with the rest of the school as well as to parents through the school email.

Procedures

1. Discuss with students why there is food ending up in the classroom garbage asking the following;
   Do you bring too much food?
   Do you for the most part like the lunch that you bring to school?
   Do you help make your lunch?
   What would your ideal lunch look and taste like?
   Why are there so many candy wrappers in the classroom garbage?
   Instead of processed snacks, what could we make to bring to school that we would enjoy eating?
   This leads us into why we like the taste of some foods more than others and introduces the six tastes of the tongue: sweet, sour, salty, bitter, spicy, and savory (umami).
2. Students will taste various foods using different senses to establish which sense is the most dominant.
3. As a homework piece have students write about their favorite food memory. They will describe in detail where the meal took place, was it inside or outside, who helped make the food, what they could smell, the tastes, textures. What made the meal memorable? What was the occasion?
4. As a class discuss what some of their favorite food is and what makes it so special.
5. Ask students to help prepare a favorite snack at home that they can share with the class. They will tell the class why they like this recipe, how they made it, special ingredients required, where the recipe came from. The class can give feedback. It is also fun to ask students to close their eyes while tasting a new recipe to see what ingredients they can taste.
   The aim is to get children excited about food, how to make it, what they would like it to taste like etc. This is key to inspiring children to prepare more food from scratch.
   Parents and caregivers need to be involved in this process especially with the younger children.

6. Letters will go out to parents outlining this and offering ideas about how to involve children in the kitchen when preparing food, as well as involving children in deciding what they would like to make to bring to school. My experience with parents on this is that they want to make more food from scratch but don't feel they have the time. They are also in their routine of what packaged food they buy on a weekly basis for school lunches and snacks based on budget and convenience. In essence we also need to inspire parents to rethink how they prepare food. This could be done with some fun cooking classes at the commons where children and parents try new recipes together.
7. Food is a huge subject and is also one of the key elements of how to bring about positive change for the planet. Therefore each class regardless of age will have a strong food component that teaches these principles.

School Lesson Plan 1

Objectives
Students will learn and understand the following:

1. Classroom garbage contains a variety of materials, many of which can be recycled, composted, reused or eliminated completely by applying the concept of rethink.
2. Biodegradable materials are those that easily break down in nature.
3. Garbage goes to a landfill or an incinerator.
4. Wrappers from snacks and single use plastics make up a large quantity of the classroom garbage.
5. The food we bring to school is the largest determining factor relating to classroom garbage.

Materials
Students will weigh and sort several days worth of classroom garbage, separating it into each category of recyclable, compostable and garbage waste, as well as marking down which items are biodegradable.

1. Gloves to wear while sorting
2. Scales to weigh the garbage prior to sorting and then after to conclude the quantity that could be diverted from the landfill.
3. Notes explaining what materials are biodegradable and how long certain materials take to breakdown in nature.

Procedures

1. Discuss with students how much garbage on average each person on the planet produces on a daily basis, and how this is impacting the planet. Ask where does the garbage go, and are landfills a good solution to the worldwide issue of waste. What else could we do with all this garbage? Brainstorm with students why do we produce so much garbage, and is it all garbage? The main purpose of this first discussion is to establish the level of understanding of the subject, and to encourage student participation in debating a subject, which increases their confidence and validates that their opinion is important.
2. Through discussing that it is a global issue the main focus is to show how it could effect them locally, if for example the landfill was full and the classroom garbage was no longer being collected. What could we do with the garbage if it had to stay on the school grounds? This always sparks more inspired thinking and enthusiasm to find a solution.
3. Divide the class into groups of three, two will sort classroom garbage into each category ie. paper, cardboard, glass, plastics, metals, wood, raw and cooked food, candy wrappers. The third person will count the numbers in each category and write down their findings.
4. We will then write are findings down on the board and discuss them to conclude;
   What was the largest number in a single category?
   What materials could have been diverted from the garbage?
   Why is food ending up in the garbage?
5. We will then separate all the materials that can be recycled or composted and then reweigh what is left to show what is actually garbage. The remaining garbage will show it is predominantly food waste through wrappers and cooked food.
6. This will introduce our lesson plans for the coming weeks discussing the subject of food:
   How it is grown, transported, packaged and prepared. We will research food history, culture and traditions, the tastes of the tongue and how they determine our likes and dislikes.

27 June, 2018

To Whom It May Concern:

Michelle MacEwen came into my Grade 3 and 4 classroom at Gabriola Elementary during the 2014/15 school year. The program she taught was interesting and wide ranging focusing on these topics:

- Where food comes from
- What are renewable and non renewable resources
- Where does the garbage go, what is recyclable
- How can we reduce classroom garbage by making a waste-free lunch
- Encouraging the children to practice baking at home and bringing food to school in reusable containers

Michelle was always organized and well prepared, she was enthusiastic and the students responded with an equal interest and enthusiasm. What she taught made a difference in how the students viewed garbage and recycling.

It would be excellent if Michelle was able to extend this program to other schools in the Nanaimo/Ladysmith District.

Yours truly
Kate Reynolds

Michelle MacEwen General Manager of the Gabriola Island Recycling Organization.

Requesting Funding for the Zero Waste School Program at the Gabriola Elementary School.

Amount $15,000

I began teaching a Zero Waste Program at the Gabriola Elementary School in 2014. During that year I was also volunteering at GIRO in the Recycling Department to further my understanding of the four R's. The GIRO Board hired me as General Manager in 2015. Part of my job description is to educate and inform in the community, so my work at the school has continued. I report on my activities at the school with the GIRO Board monthly.

Each year the program at the school has evolved with new lesson plans while still maintaining the focus on the four R's. My aim is to make each lesson fun, engaging and to include a hands-on activity. I share the "global" picture and then more importantly what we can do at a local level. This has the effect of empowering students that their actions make a difference. I am diligent to ensure that each lesson plan touches the curriculum for that grade level at every opportunity. In addition, I consult regularly with the teachers and the principal to evaluate the success of each lesson (Teacher references attached).

One of the main elements that has made this program successful is the children/parent/teacher/principal/custodian participation. When there is a clear directive regarding how I would like the classroom recycling set up, and the teachers are clear that this is important and a valuable learning experience for the children, then there is more potential for it to be successful and for it to continue in the long run.

At the beginning of each school year I meet with the principal and teachers to outline what amount of time I can give their classes and then individual meetings with teachers to discuss lesson plan ideas.

As the school year commences I roll into each classroom to give a presentation on “what goes into each bin” and “why”. Placement and labelling of bins is essential to successful diversion of materials. This sets the tone for the year. This information is then shared with the custodian.

Each lesson plan will then expand on the four R’s, with a heavy focus on Rethink. The aim is to have minimal garbage AND minimal recycling. To achieve this the students learn all the ways that we can make changes that can have a positive effect in the classroom, at home, in their community and globally.

My classroom contact time has been approximately three - four hours a week. My prep time is two hours to each classroom hour, so I am spending approximately ten hours a week to create and run the program. My paid hours at GIRO do not cover the time I put in at the school. To date though the Board value and appreciate the work I am doing at the school, they cannot make it financially viable to fully fund the program.

This program has demonstrated through learning objectives and outcomes, as well as positive feedback from teachers, parents and students, that it could be successfully rolled out both District wide and Provincially.

I am requesting $15,000 to fund the program for a full school year (ten months).

$10,000 of this would pay for my time at $25.00 per hour, 40 hours a month.

$5,000 would be used for materials and to pay a skilled woodworker for projects that require additional hands on carpentry skills. I will expand on this in the meeting.

Yours sincerely,

Michelle MacEwen

General Manager

GIRO

June 27, 2018

RE: reference in support of Zero waste program

Attention RDN:

Michelle MacEwen has been enriching Gabriola Elementary School for the past several years by running a Zero Waste program. Ms. MacEwen has several skills that have made her a valuable community expert. Our school is a placed based school and we use our surroundings and the community to support the learning of the B.C. curriculum. The Zero Waste program and our philosophy on how to approach learning have many commonalities.

Firstly, the program is curricular. In the new BC curriculum, on the subject of Careers, students are to investigate ideas in reference to: environmental stewardship, effective use of resources and sustainability. Ms. MacEwen is very knowledgeable in these areas and creates lessons that are authentic and engage students. All students have prior knowledge and being able to share and rethink ideas is a very exciting way for students to learn.

In the B.C. curriculum Core competencies umbrella all topics. Examples of core competencies are: problem solving, critical and creative thinking. The Zero Waste program is a great vehicle to instill such competencies. Students are challenged to develop questions and then explore how they may have real impact on their surrounding. One project asked the question, “How can we reduce the use of plastic bags on our Island?” Student lead projects were created and then the class narrowed it down to one project and implemented it. The result was creating cloth bags with messages on them on how the Earth is being impacted by use of plastic. The entire island felt the energy and desire to make smart changes that produced zero waste.

Finally, whole school initiatives have been created and spurred on through Ms. MacEwen integration of Zero Waste ideology. All students are globally aware of their impact on our surrounding and now recycle their paper towels and we are one of few schools that have organic bins for food waste in each classroom. The district is now implementing this idea but because of Zero Waste we are already there. “Waste Free Wednesday” were started this year as we tried to reduce the amount of garbage produced by our lunches. Many students are now influencing their parents as we all work together to being more mindful of our environment.

The Zero Waste program has been presented by Michelle MacEwen that reflect curricular objectives and promotes a way of learning that is beneficial to all learners. It is our school’s desire to be have this program continue and we need your support to make that happen.

Sincerely

Dave Travers, Principal

Gabriola Elementary school

REGIONAL DISTRICT OF NANAIMO

STAFF REPORT

TO: Solid Waste Management Select Committee **MEETING:** July 5, 2018

FROM: Vivian Schau, Zero Waste Coordinator **FILE:** 5370-01

SUBJECT: Preliminary Evaluation of Solid Waste Curbside Collection Options

RECOMMENDATION

1. That staff be directed to report back on a recommended service option and implementation plan for the following solid waste curbside collection options:

2. That glass collection at curbside be excluded from further consideration.

3. That semi-automated collection service be excluded from further consideration.

4. That staff be directed to conduct a public consultation and evaluation of the service options.

SUMMARY

The current solid waste and recycling curbside contract with Waste Connections of Canada (Waste Connections) is set to expire on March 31, 2020. Given the timeline required for equipment acquisition by any service provider, a *Request for Proposal* for a replacement service should be issued by November 2018. This preliminary report details the service delivery options for the future Regional District of Nanaimo (RDN) curbside collection program.

BACKGROUND

Background and Purpose

The initial 5 year solid waste and recycling curbside contract with Waste Connections was extended for an additional 5 years and will expire on March 31, 2020. The current manual curbside collection has served the region well; however, as the region continues to grow, it is prudent for the region to explore alternate curbside collection options and costs of each delivery model, along with their respective strengths and weaknesses, as well as benefits to the community.

Scope of the Evaluation

The scope of the evaluation is based on the following assumptions:

- Three waste stream collection (garbage, recycling, and food waste) will continue to service approximately 29,000 single family households within the RDN:
    - RDN Electoral Areas A, B, C, E, F, G & H;
    - City of Parksville;
    - District of Lantzville;
    - Town of Qualicum Beach;
    - ❖ Note: The City of Nanaimo operates its own automated curbside collection program;
- The desire to further drive waste diversion to 90% and a per capita disposal rate of 109 kg/year by 2027 consistent with the proposed Solid Waste Management Plan;
- The RDN will to continue to contract with Recycle BC for the collection of recyclables as the most efficient service to the community;
- Consideration should be given to yard waste as part of the curbside collection program; and
- The exclusion of glass as part of the curbside collection program due to the limited diversion impact and contamination concerns to the other recycling streams. The staff report presented to the Regional Solid Waste Advisory Committee projected the cost of a household glass collection program to be $190,000/year (or an additional $7/household/year) to achieve an increase of 2.6% overall diversion in the region[1].

Collection Truck Types

The 3 types of curbside collection for consideration are detailed below, along with their respective strengths and weaknesses. A summary of benefits and disadvantages, along with images of all three curbside collection options can be found in Appendix A.

1) Manual – status quo

The RDN currently contracts for a service that uses manual collection trucks, generally operated by a 1 person crew who drives, and manually lifts the containers from the ground to the truck hopper to tip the waste into the truck. Occasionally, an additional person is provided to drivers on a return to work program to assist in the retrieval and emptying of the container contents. There are two loading component configurations, rear loading and side loading, the latter being the more ergonomic as the lift height is lower, which is preferable from an operation and safety perspective.

Residents are responsible for the purchase and maintenance of their blue box, and garbage containers (required to meet the volume and weight specifications) and "Beyond Composting" green containers. Yellow recycling bag for newsprint and other household papers are provided free of charge from municipal offices or directly from Waste Connections.

2) Fully Automated

Automated collection trucks consist of an articulated arm used to retrieve standardized carts, generally operated by a 1 person crew who remains in the cab at all times. Fully automated systems are effective in areas with good access to carts such as laneways,

[1] Jeff Ainge (RDN Staff Report), "Curbside Collection Program – Household Glass Collection", October 14, 2015

and households with driveways, in order to allow sufficient access for the driver to reach the carts, free of any obstacles (i.e. parked cars, poles).

The main advantage of this method of curbside collection is the reduction of injuries related to the repetitive heavy lifting, walking to retrieve containers, and the frequent ins and outs of the collection truck. Generally, increases in operational efficiency are greater in high density neighborhoods but are reduced in rural areas where the travel distance between households are significantly longer. Automated collection with standardized carts equipped with Radio Frequency Identification (RFID) technology provides better coordination, and real-time tracking to streamline customer inquiries, complaints, and compliance issues.

Costs of an automated collection equipment are higher than manual collection due to: the added expense of the articulating arm and its associated maintenance costs; and initial investment in the standardized carts. It is common practice for local governments to supply the carts which remain with the property rather than the homeowner.

3) Semi-Automated

The semi-automated collection system offers the some benefits of both manual and full automation as it takes advantage of the health and safety components of automation by eliminating the need to manually lift containers. This system requires the driver to exit the truck cab to manually move and align the standardize carts to the automated arm (configured either on the side or the rear of the collection truck), to unload the container contents into the hopper. The use of standardized carts is required to ensure compatibility with the collection truck's automated lift.

Semi automation is deemed to be slowest of the three options presented due to the time to enter and exit the cab to retrieve carts, and the relatively slow cycle time of the mechanical arm. System costs are similar for both semi-automated and full automation. Furthermore, entry and exit from the cab remains a common source of injury amongst garbage collection workers.

Based on the preliminary findings of this report, it is recommended that semi-automated collection not be given further consideration.

Current Collection Systems

The RDN residential curbside garbage, recycling and organics collection program is a compulsory service set up under Local Service Establishment Bylaw No. 793, fully funded by user fees and not augmented by taxation. The current curbside collection service program details are as follows:

- Collection services provided by Waste Connections, under contract to the RDN to approximately 29,000 residential households in all electoral areas, City of Parksville, District of Lantzville, and the Town of Qualicum, 5 days each week (Monday to Friday).
    - Food waste collected weekly
    - Garbage and recycling collected on alternating weeks

- Multifamily dwellings and ICI buildings are not serviced under the RDN contract and are required to make their own refuse removal service arrangements.

- Basic service allows for one standard-size 100 litre garbage can or bag to be collected once every two weeks with a maximum weight of 50 lbs or 23 kgs. Tags for extra containers of garbage may be purchased for $3 each. A maximum of two additional containers may be put out on scheduled collection days, if a garbage tag is attached to each additional container. Between 2016 and 2017, The RDN sold an average of 14,868 garbage tags per year, equating to 0.5 extra bag tag per household per year.

- The garbage is collected and sent to either the Church Road Transfer Station to be transferred to the Regional Landfill, or directly to the Regional Landfill located approximately 5 km south of downtown Nanaimo.

- Organic food waste is sent to Nanaimo Organic Waste (NOW), the only food waste processing facility in the RDN, where the material is processed in a drum-style in-vessel composting facility and the end product is blended in soil mixes.

- The recycling material collected is collected and sent to the Waste Connections material recovery facility for processing.

- As per Bylaw No. 1591, the user fee for garbage, food waste and recyclable collection is $144.69 (10% prompt pay discount if paid prior to due date).

- Containers for all waste streams are the responsibility of the residents as per Bylaw No. 1591 with the following requirements:

    - Maximum garbage of 100 litre capacity or 50 pounds gross weight and “tie, or otherwise seal, to prevent spillage or entry of water, any plastic bags placed for collection[2]”;
    - Unlimited quantities of recycling to a maximum of 100 litre capacity or 50 pounds gross weight per container and “tie, or otherwise seal, to prevent spillage or entry of water, any plastic bags placed for collection[3]”;
    - Maximum food waste of 42 litre capacity in RDN approved “Beyond Composting” green bin with the animal proof latch secured.

There are a number of issues identified with the current contract that will be addressed through the upcoming procurement process as summarized below:

1. Revise Bylaw 1591 to specify the use of rigid containers with lids to address safety hazards associated with bags and litter concerns as a result of material being tipped/blown over or wildlife intrusions.

2. Consistent enforcement of weight and number of containers (without extra bag tags) set out by residents.

3. Consistent enforcement of tagging contaminated material.

[2] www.rdn.bc.ca/dms/documents/rdn-bylaws/solid-waste/bylaw_1591_-_collection_of_garbage_food_waste_and_recyclable_materials.pdf
[3] www.rdn.bc.ca/dms/documents/rdn-bylaws/solid-waste/bylaw_1591_-_collection_of_garbage_food_waste_and_recyclable_materials.pdf

4. Improve current identification of secondary suites for collection drivers.

5. Improve current customer complaint/validation process.

6. Develop a method to identify residences currently receiving service but are not registered with the RDN for curbside collection (not paying a utility fee).

Safety Analysis

The current manual garbage collection process is very labour intensive; the collection crew lifts on average 12,000 lbs (5.4 tonnes) per worker per garbage and food waste collection day. The primary sources of injury stems from repetitive motion injuries, slips and trips, and exposure to sharp objects and infectious diseases.

As per the General Conditions in Part 4 of the Occupational Health and Safety Regulation under the authority of the Workers Compensation Act, it stipulates that the employer shall "eliminate or, if that is not practicable, minimize the risk of musculoskeletal injury to workers" [4]. In the past decade, the industry has and is continuing to shift from manual to automated collection, influenced by WorkSafe BC injury claim records for the garbage and recycling industry[5].

A reduction or elimination of manual lifting through the use of full automation will see the greatest benefit from an injury reduction perspective, decreasing compensation costs, disability claims and work accommodations, which are all factored into the collection contract service pricing.

As a minimum for the future solid waste curbside collection contract, the RDN should limit the variability of containers handled by the collection crews and have a greater emphasis on the enforcement of maximum weights for any manual collection to minimize worker injury.

Operational Efficiencies

Communities with optimized fully automated waste collection systems, such as Vancouver, Surrey and Toronto, have realized upwards of 30% productivity efficiency in large part due to the reduced variability in the collection containers and the elimination of manual involvement in the retrieval of collection containers, which translates to more pickups in the same timeframe and therefore, the waste contractor can cover the same geographical area/ route with few drivers. The efficiencies gained are largely attributed to optimized routing.

Based on a recent time and motion study of automated garbage/organic waste collection service with City of Nanaimo staff, the collection times in high density suburban areas averaged at 30 seconds per household. Operational efficiencies realized in higher density neighborhood are attributed to the elimination of the need for the collection staff to get in and out of the cab, and manually retrieve and tip the container contents. In the RDN, the length of time required to service each household with manual collection, averages at 37 seconds for suburban areas and considerably longer for more rural areas with longer travels times between residences. Neighbourhood densities vary quite widely in the RDN between the electoral areas and the member municipalities, the efficiency gains are diminished in rural areas.

[4] www.bclaws.ca/civix/document/id/lc/statreg/296_97_02
[5] www.worksafebc.com/-/media/WorksafeBC/Classifications/2018/2018_732018

Operational Monitoring

The use of RFID tags provide tracking based on the position and status of the carts upon pickup and its subsequent path for final disposal. This value-added administrative component provides the waste collection team with real time monitoring and communication, including but not limited to:

- Route optimization;
- Detailed records for each touch point by container for active accounts;
- Activation of accounts not previously registered in the system;
- Container status (requires replacement/ repair);
- Equipment status;
- Contamination records for noncompliant containers;
- Refused pickup records (blocked containers, open lids, access issues); and
- Automated contamination/refused pickup exception feedback for residents to be used as targeted education.

Collection Containers and Diversion Implications

If the Board chooses to proceed with either the semi or fully automated option, RDN residents will be required to use standardized wheeled carts to ensure compatibility with the mechanized lifting arm. Based on discussions with a number of municipalities across the BC region with semi or full automation garbage collection service, it is industry practice for regional district/ municipalities to purchase the carts for residents use and they remain the property of the regional district/municipality. The carts are registered to each property receiving collection services rather than the property owner – if the owner moves, the carts remain with the property as they are assigned to the civic address. Alternatively, the option to have the collection contractor own and maintain the carts should also be considered.

The carts are available in various sizes to best suit the RDN's Solid Waste Management Plan diversion goals, and the use of the carts aligns with the user pay model that the RDN currently employs to fund the curbside collection program. In almost all municipalities where there are standardized carts, residents are offered different size garbage carts ranging from 80L to 360L. The RDN's Bylaw currently sets the maximum garbage container size at 100L which has aided with achieving high levels of residential curbside waste diversion. The RDN does not limit the amount of recycling that can be put out which is commonly set out in multiple containers including cans, blue boxes and yellow bags. Communities with standardized containers for automated collection commonly provide 240L or 360L size recycling carts.

The pricing of containers varies widely depending on the quality, warranty coverage, sizing, volume discounts, and timing, as resin cost is impacted by oil prices which is susceptible to pricing volatility. Based on the expected warranties from container suppliers which ranged between 10 – 12 years, the annualized cost for the RDN/contractor to provide collection containers per household is estimated at approximately $20 per year over the life of the contract. A summary of the container and cost comparison is detailed below in Table 1.

Table 1. Container and Cart Size Comparison

Container Size (Gallons)	Container Size (Liters)	Current 100 Liter Can Equivalent	Estimated Unit Pricing (based on 20,000 volume discount)
21	79	0.8	$ 45.00
32	121	1.2	$ 45.00
64	242	2.4	$ 55.00
96	363	3.6	$ 66.00
Options			
RFID labels			$ 1.00
Locking Latch for Green Bins			$ 20.00
Hot Stamping – RDN logo			$ 1.00
Hot Stamping – Directional Arrows			$ 0.30
Hot Stamping – "Garbage Only"			$ 0.30
Hot Stamping – "Recycling Only"			$ 0.30
Hot Stamping – "Organic Waste Only"			$ 0.30
Hot Stamping – "Organic Waste Only"			$ 0.30
Hot Stamping – "Organic Waste Only"			$ 0.30
Colorful in mold design on top of lid to describe what goes where			$ 1.50
Cart assembly and delivery to specified addresses			$ 6.00
Estimated Total Cost per Household for 3 Containers (garbage, recycling and food waste)			**$ 187.30**

With the exception of the District of Oak Bay and the Town of Lake Cowichan where the residents purchase or pay a rental fee for the carts, all other municipalities listed in Appendix B supplied the carts to the residents for use and the carts remain with the property. It is important to note, the treatment of the cost of carts varies between municipalities and therefore, do not reflect the true cost of the total curbside collection program. For example, the City of Coquitlam supplies their residents with carts purchased through a capital contract with an annualized cost of $28 per residence, which is not included in the annual curbside collection charge to the residents. Similarly with the City of Port Moody, the cost of the carts was not included in the $360 annual charge.

The RDN Solid Waste Management Plan promotes Zero Waste and also includes the objective of user-pay. Collection carts size selection can incent residents to recycle their waste to reduce as much residual waste as possible. For example, default container size of 80 litre garbage container, 120 litre green waste container, and 360 litre blue recycling container would encourage diversion. Majority of municipalities permit residents the option to upsize their garbage containers at a higher cost, consistent with user pay. In most municipalities, single family homes with secondary suites are automatically upgraded to the larger containers in effort to reduce the footprint required to service these accounts; however, some municipalities permit single family home with secondary suites the option to downsize to the default size containers for each individual dwelling.

The current program has seen great diversion success since the introduction of the garbage 100 L / 50 lbs limits. With either the semi or full automation options, there are no weight restrictions as manual lifting is no longer required and safety requirements with respect to weight are no longer a consideration.

The current extra bag tag program allows residents to dispose of their extra waste along with their regular manual curbside collection, to a maximum of three total garbage containers per collection. Generally, municipalities with automated collection do not permit the use of extra bags as they are not contained within the standardized carts. It is possible to configure an automated collection truck to allow for manual deposits for extra bags beyond the allowable limits, however, this would defeat the primary safety motivation to restrict the driver in the cab of the truck and impact operational efficiency.

Contamination

Regional districts/municipalities may see an increase in recycling contamination at the onset of a switch from manual to automated collection, which may be attributed to one or more of the following:

- most regional districts/municipalities offer residents a larger capacity cart (usually 240 L or 360 L) to encourage diversion; however, with an increase in participation/recycling quantity is generally accompanied by an increase in contaminants;
- inconsistent recyclers, or residents who did not previously own a recycling bin now have the convenience of a recycling cart and therefore, are learning to recycle on a regular basis;
- when a large capacity recycling cart is coupled with a smaller capacity garbage cart, residents may use their recycling cart to displace their garbage if their garbage container is full to avoid a trip to the landfill to dispose of their waste appropriately; and
- residents may view their covered carts as an opportunity to hide contaminants.

Nevertheless, contamination in single stream automated curbside collection can be effectively managed by:

- determining the optimal size option pairing for garbage, recycling and green waste to best align with the RDN division goals (majority of municipalities studied opt to provide residents with a default size, along with different sizing options to tailor to their waste generation); and
- implementing diligent education and enforcement efforts.

The City of Nanaimo recently switched to automated service and have reported a negligible change in their contamination (as per Recycle BC reporting) in their first 6 months of operation, primarily due to their effective communication strategy. Since the implementation of the first phase of the roll out, the City of Nanaimo has been very diligent in the use of their monitoring software and subsequent follow up to educate residents regarding their non-compliance. The City of Nanaimo report the monitoring component of the curbside collection program has required increased administrative support to handle calls and enquiries from residents. At the onset of a RDN automated program, this administrative work is estimated to amount to 0.4 FTE but may be scaled back to 0.2 FTE once the program has been fully implemented with minimal offenders.

Yard and Garden Waste

The inclusion of residential yard and garden waste was considered as an option in the recent Solid Waste Management Plan review[6]. The report indicated a bi-weekly 9 month service (March to November) would cost an estimated additional $50/household/year, plus $16,500 in staffing costs (0.2 FTE to administer the collection of a fourth waste stream) to provide collection of yard waste to achieve a 0.3% diversion increase to the overall region's disposed waste.

For the purposes of this report, yard and garden waste refers to organic waste materials generated a residential properties, which includes grass clippings, hedge trimmings, garden and flowerbed wastes. For the manual collection option, collection of yard waste would require the use of compostable bags. Due to the high moisture content and frequent rain events in the region, weight and volume limits, and deterioration of the bags will be problematic. For these reasons, consideration of yard and garden collection is not recommended for the manual collection option.

Past surveys indicate between 40 – 60% of resident support for introducing curbside yard waste collection. Support was slightly higher for respondents in urban areas with City of Parksville at 58% (backyard burning is not permitted) and Town of Qualicum Beach at 48% (backyard burning only permitted between October – April). However, this support drops significantly down to 14% when respondents are aware of the associated costs with the program which has been estimated at an additional $50 per year to the utility fee based on past studies.

Currently, most residents self-haul their yard and garden wastes to: 1) the Regional Landfill and the Church Road Transfer Station where the material is sent to Nanaimo Organic Waste for composting; 2) a number of private operated sites in the region where it is either composted or used as an industrial fuel; or 3) collected by a private hauling services. It is estimated 12,000 tonnes of yard and garden material is being diverted from landfill disposal annually through self-haul, plus an additional 2,475 tonnes through backyard composting and an undetermined amount through backyard burning and illegal dumping activities.

It is estimated that roughly 80% of yard and garden waste generated in the RDN is currently diverted from the landfill. Therefore, the choice is largely a matter of convenience for residents rather than achieving the region's diversion goal, and it may have an adverse impact on the private hauling and collection businesses.

Curbside Collection in Comparable Jurisdictions

A review of 12 municipalities/regional districts with curbside collection programs in British Columbia was conducted to get a better understanding of their service delivery approach and the associated costs. As shown in Appendix B, all 12 municipalities/regional districts are automated collection with biweekly recycling (bag/blue box to 360 L cart options) and mostly bi-weekly garbage (80L to 360L cart options) collection. The food and yard waste programs are quite varied between the municipalities. Reasons for not offering this program include a lack of a local processor or residents' unwillingness to pay the additional cost to transport and process the organic material.

[6] Jeff Ainge (RDN Staff Report), "Curbside Collection Program – Yard Waste Collection", October 13, 2015

The annual curbside cost to residents similar to the current RDN service (for all three streams – garbage, recycling and organics) ranged between $165 to $360 per household per year, average at $218 per household per year. A tabular summary of the cost comparisons of curbside collection service provided by other regional districts/municipalities can be found in Appendix B.

Contract Length

Optimal financial benefit is realized where the length of the service contract is aligned with the useful life of equipment. The useful service life of waste collection vehicles is 10 years and should be a significant consideration in moving forward with the future curbside collection service contract.

Community Engagement

The solicitation of community feedback is recommended on preferred service options, and the inclusion of yard and garden waste in the future curbside collection contract. This is proposed to be done through a focus group session with community representatives planned for August and a region wide survey planned for September.

Other considerations

Communities that have implemented automated collection have reported improvement in general neighbourhood aesthetic through the use of standardized carts to prevent litter/odour issues from wildlife and/or being exposed to the elements. Currently, these instances require administrative time to address, and in some cases, requires funds to conduct the required cleanup.

Timeline

The current curbside collection contract with Waste Connections expires on March 31, 2020. The procurement process lead time for the successful vendor to acquire equipment is expected to take approximately 18 months. A recommendation on the type of curbside collection service options to be used in the tender will be provided to the Board by October 2018.**ALTERNATIVES**

1. Direct staff to report back on a recommended service option and implementation plan for the following solid waste curbside collection options:

    a. Manual garbage collection without yard waste or glass collection.

    b. Fully automated garbage collection without yard waste or glass collection.

    c. Fully automated garbage collection with yard waste and without glass collection.

2. Provide alternate direction.

FINANCIAL IMPLICATIONS

The financial costs and implications will ultimately depend on the model selected.

As shown in Table 2, based on the preliminary findings in preparing this report, high level implications for curbside collection by a private contractor are provided below. Refined estimates will be included in the recommendation report in October 2018

- Option 1: Replace with a manual system with garbage, recycling and food waste only (status quo) is estimated at $166/household/year (15% increase) to offset the cost of new equipment purchase
- Option 2: Replace with a fully automated system with garbage, recycling and food waste only is estimated at $208/household/year (30% increase) to offset the cost of new equipment and cart purchase
- Option 3: Replace with a fully automated system with garbage, recycling, food and yard waste is estimated at $256/household/year (63% increase) to offset the cost of new and cart equipment purchase

Table 2. Preliminary cost comparison for manual full automation curbside collection program

Collection Stream		Option 1	Option 2	Option 3
	Current Contract	Manual Collection	Automated without Yard Waste	Automated With Yard Waste
Garbage	Yes	Yes	Yes	Yes
Recycling	Yes	Yes	Yes	Yes
Food Waste	Yes	Yes	Yes	Yes
Yard Waste	No	No	No	Yes
Estimated Annual Utility Fee	$ 145	$ 166	$ 188	$ 236
Annualized Cart Cost	$ -	$ -	$ 20	$ 20
Total Estimated Annual Utility Fee	$ 145	$ 166	$ 208	$ 256
Cost Differential	$ -	$ 22	$ 63	$ 112
% Increase in Utility Fee	-	15%	30%	63%

The solid waste curbside collection program reserve was originally setup with the intention to meet future financial obligations as it pertains to the next curbside agreement and/or system, specifically to offset a portion of the capital cost associated with the program. There is currently approximately $340,000 in the reserve, with an estimated total of $140,000 to be added as part of the 5 year plan. These funds will be factored into the cost calculations in the October 2018 service option recommendation report.

STRATEGIC PLAN IMPLICATIONS

The RDN's Strategic Priorities formed the basis of the goals of the curbside collection evaluation. Consistent with the "*focus on organizational excellence and services"* as set out in the Strategic Plan. The anticipated increase in diversion of solid waste and recycling are aligned with the diversion goals as defined in the SWMP.

The projected operational and cost efficiencies of an automated collection system speaks to the "*focus on the environment*" initiatives by optimizing the routes to reduce the overall collection vehicles on the road, and thereby minimizing the greenhouse emissions.

Vivian Schau
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June 21, 2018

Reviewed by:

- L. Gardner, Manager, Solid Waste Services
- R. Alexander, General Manager, Regional and Community Utilities and Solid Waste
- P. Carlyle, Chief Administrative Officer

Appendix A

Method of Collection	Decision Criteria	Benefits	Disadvantages
Manual	**Staffing**	1) One person crew size (plus a swamper on occasion)	1) High turnover due to the nature of the job 2) Concerns for the long term ability of staff to perform the function of these roles
	Absenteeism		1) Potentially an issue
	Safety		1) Physically demanding - heavy, repetitive, manual lifting (Collection crews currently lift upwards of 10,000 lbs per worker per day) 2) Required to leave the cab to collect and tip waste containers
	Containers	1) Residents responsible for the purchase and maintenance of their own containers	1) Difficult to enforce container size, weight limits 2) Difficult for the collection crew to handle non rigid container, and exposes them to safety hazards (i.e. needles/sharps) 3) Current bylaws does not have requirements surrounding the need for enclosed containers with animal resistant lids
	Container Placement	1) Less restrictive as containers are retrieved by hand	
	Diversion Implications	1) Currently set at a 100 L / 50 lb limit (although not consistently enforced)	
	Contamination Implications	1) Collection crew have the ability to review contents for contaminates and tag as necessary	
	Flexibility	1) No prescriptive restrictions	
	Operational Efficiency		1) Inferior compared to full automation
	Cost	1) Generally the lowest cost option	

Method of Collection	Decision Criteria	Benefits	Disadvantages
	Implementation	1) Already in place	
Full Automation	**Staffing**	1) Crew size of 1 2) Generally remains in a climate controlled cab for the entirety of the shift 3) Potential increase in diversity in workforce 4) Potential staffing reduction as a result of improved operational efficiencies	1) Potentially additional cost to wages due to more specialized skills required to operate an automated collection truck
	Absenteeism	1) Reduced attendance issues	
	Safety	1) Few injuries and worker compensation claims 2) Decrease insurance costs 3) Elimination of worker exposure to sharps and biological/chemical hazards	
	Containers	1) Residents are required to restrict their waste consumptions to the predetermined sizing options to align with the waste diversion goals 2) Residents are supplied for containers for all three streams which encourages diversion efforts, especially for residents who did not previously own recycling and food waste containers 3) All containers will be animal resistant to limit wildlife interactions/ spread of litter	1) all containers must be uniform and consistent in order to realize the full benefits of automation 2) Generally the local government/ municipalities bear the cost of the initial investment (but remain with the property rather than the owner) 3) If extra bags are permitted, additional cost is required to lower the frame on the automated collection truck to allow manual tipping into the truck hopper
	Container Placement		1) Very prescriptive as the collection truck's automated arm required a 1 meter clearance between and beside the carts, and 3 meter clearance above the carts to safely operate 2) Limited flexibility as residents run the risk of pickup refusal if containers are placed incorrectly

Method of Collection	Decision Criteria	Benefits	Disadvantages
	Diversion Implications		1) Depending on the container size provided to residents (to be compatible with the automated arm), it will likely be increased capacity which may result in increase waste generation
	Contamination Implications	1) Automated contamination exception feedback for residents to be used as targeted education	1) Recycle BC has data to show contaminates in single stream, automated systems are generally higher compared to single stream, manual systems 2) The operator is limited to the camera view from the hopper for any contaminates
	Flexibility		1) No flexibility for changes to program without significant capital outlay (i.e. container changes, ability to collect material not placed in carts)
	Operational Efficiency	1) Improved efficiency, particularly in higher density neighborhoods	
	Cost		1) Higher equipment cost 2) Higher maintenance cost to the complexity of the truck
	Implementation		1) Requires substantial communication roll out to prepare residents of the requirements and rationale to get buy in 2) Long lead time required for equipment purchase (at least a year)
Semi Automated	**Staffing**	1) One person crew for side loading or two person crew for rear loading	1) Collection staff is still required to frequently enter and exit the cab to manually retrieve and align containers for tipping
	Absenteeism	1) Reduced attendance issues	

Method of Collection	Decision Criteria	Benefits	Disadvantages
	Safety	1) Minimize worker exposure to sharp waste, chemical/biological hazards	1) Minimal manual lifting is still required 2) Workers are still required to step on and off the collection trucks (a primary cause of injury) 3) If collecting other materials manually in addition to carts, the increased height of the loading compartments will be problematic
	Containers	1) Residents are required to restrict their waste consumptions to the predetermined sizing options to align with the waste diversion goals 2) Residents are supplied for containers for all three streams which encourages diversion efforts, especially for residents who did not previously own recycling and food waste containers 3) All containers will be animal resistant to limit wildlife interactions/ spread of litter	1) In order to realize the full benefits of automation, containers must be uniform and consistent 2) Generally the local government/ municipalities bear the cost of the initial investment (but remain with the property rather than the owner)
	Container placement		1) Very prescriptive as the collection truck's automated arm required a 1 meter clearance between and beside the carts, and 3 meter clearance above the carts to safely operate 2) Limited flexibility as residents run the risk of pickup refusal if containers are placed incorrectly
	Diversion Implications		1) Depending on the container size provided to residents (to be compatible with the automated arm), it will likely be increased capacity which may result in increase waste generation

Method of Collection	Decision Criteria	Benefits	Disadvantages
	Contamination Implications	1) Automated contamination exception feedback for residents to be used as targeted education	1) Recycle BC has data to show contaminates in single stream, automated systems are generally higher compared to single stream, manual systems 2) The operator is limited to the camera view from the hopper for any contaminates
	Flexibility		1) No flexibility for changes to program without significant capital outlay (i.e. container changes, ability to collect material not placed in carts)
	Operational Efficiency		1) Slower compared to fully automation 2) Slower compared to manual
	Cost		1) Existing rear loading collection trucks may be retrofitted to minimize cost 2) Existing side loading collection trucks cannot be retrofitted and would require new trucks 3) Minor cost differential compared to fully automated trucks
	Implementation		1) Requires substantial communication roll out to prepare residents of the requirements and rationale to get buy in 2) Long lead time required for equipment purchase (at least a year)

Figure 1. City of Nanaimo fully automated green waste and recycling collection

Figure 2. Town of Qualicum Beach manual food waste collection

Figure 3. City of Punta Gorda, Florida semi-automated garbage collection

Figure 3. Container size reference

Appendix B

City/Municipality*	Service Provider	Population (2016 Census)	Collection	Materials Collected by Automation				Annual Cost
				Garbage	Recycling	Food Waste	Yard Waste	
British Columbia								
City of Nanaimo	**City Staff**	**90,504**	Automated	120 L biweekly	240 L biweekly	120L weekly		$ 165.00
Town of Lake Cowichan	**City Staff**	**3,226**	Automated	80L biweekly	bag biweekly	80 L weekly	NA	$ 175.80
Cowichan Valley Regional District	**City Staff**	**83,739**	Automated	140 L biweekly	240 L biweekly	NA	NA	$ 143.67
City of Fernie	**City Staff**	**4,850**	Automated	120 L weekly	240 L biweekly	NA	NA	$ 154.99
City of Victoria	**Contractor**	**85,792**	Automated(G/O)/ Manual(R)	120 L biweekly	box/bag biweekly	120 L biweekly	NA	$ 218.13
District of Oak Bay	**City Staff**	**18,094**	Automated(G/O)/ Manual(R)	140L biweekly	box/bag biweekly	120 L biweekly	NA	$ 210.00
Town of View Royal	**Contactor**	**10,408**	Automated	40 kg weekly	NA	40 kg weekly	NA	$ 185.00
City of Port Moody	**City Staff**	**33,551**	Automated	120 L biweekly	360 L biweekly	120 L	weekly	$ 360.00
City of Port Coquitlam	**City Staff**	**58,612**	Automated	240 L biweekly	240 L biweekly	240 L	biweekly	$ 189.36
City of Surrey	**Contractor**	**517,887**	Automated	240 L biweekly	240 L biweekly	240 L	weekly	$ 287.00
City of Richmond	**Contractor**	**198,309**	Automated	240 L biweekly	240 L weekly	240 L	weekly	$ 274.55
City of Coquitlam	**Contractor**	**139,284**	Automated	120 L biweekly	box/bag biweekly	120 L	weekly	$ 244.00
City of Vancouver	**City Staff**	**631,486**	Automated(G/O)/ Manual(R)	75 - 360 L biweekly	box/bag biweekly	120 - 360 L	weekly	$203 - $368
City of Penticton	**City Staff**	**33,761**	Automated	120 L weekly	240 L biweekly	NA	240 L biweekly	$ 232.00

* At this point, it is unknown whether municipalities' costs are supplemented by taxation.

REGIONAL DISTRICT OF NANAIMO

STAFF REPORT

TO: Solid Waste Management Select Committee

MEETING: July 5, 2018

FROM: Ben Routledge
Superintendent, Scale & Transfer Service

FILE: 5360-55

SUBJECT: Regional Landfill Security Contract 2018-2020

RECOMMENDATIONS

1. That the Board award a two (2) year contract for Regional Landfill Security services to Neptune Security Service in the amount of $170,000.00 from September 1, 2018 to August 31, 2020.

2. That the General Manager of Regional and Community Utilities and the Director of Finance be authorized to extend the contract for an additional two (2) years if appropriate.

SUMMARY

The Regional Landfill requires onsite afterhours and statutory holiday security services to prevent theft, unauthorized entry, identify and report incidences of fire and respond to security alarms. The current contract expires on August 31, 2018.

On May 8, 2018, the replacement Regional Landfill Security Tender was posted on the BC Bid and RDN websites. Seven (7) responses were received. Neptune Security Services submitted the lowest compliant bid in the total amount of $170,000 excluding GST.

Neptune Security Service and all of their Security Officers have valid security licences issued by the province of BC. Further, the security service will provide the Regional District of Nanaimo (RDN) with a “Worker Check”, whereby authorized staff working alone and after hours can be monitored to ensure safety and adhere to Worksafe BC regulations.

BACKGROUND

Over its operating life, the Regional Landfill has experienced afterhours break-ins resulting in thefts, vandalism and damage to machinery, buildings and infrastructure. Additionally, contractor equipment and materials have been damaged or stolen. With the addition of

afterhours security services the amount of attempted break-ins and vandalism has been minimal.

Most importantly, due to the significant risk of a landfill fire, security staff provides valuable continuous monitoring for signs of fire. Minor smoke/burning events are not uncommon at the landfill usually caused by incompatible waste or "hot loads" inadvertently received at the site. Quick response to extinguish the fire mitigates the hazard. Any landfill fire that is not immediately extinguished, poses serious health and environmental impact in addition to be being operational challenging and costly to manage. Where a fire is detected by afterhours security staff, emergency services and the applicable RDN employees are contacted ensuring a rapid and organized response. There has not been an afterhours fire at the landfill for a few years.

ALTERNATIVES

1. Enter into a two (2) year contract with Neptune Security Service to provide contracted security services at the Regional Landfill with the option to renew for an additional two (2) year period.

2. Cancel the tender and provide alternate direction.

FINANCIAL IMPLICATIONS

Neptune Security Service submitted the lowest compliant bid in the amount of $170,000 ($85,000 Year 1 & $85,000 Year 2). These amounts are provided for in the Solid Waste budget.

The security service minimizes costs associated with theft and vandalism at the landfill. However, the greatest financial benefit is the cost avoidance in responding to a potential significant fire event through early detection by security staff.

STRATEGIC PLAN IMPLICATIONS

Focus on Service and Organizational Excellence & Focus on the Environment – this contract for security services considers both costs and benefits, as well as, community safety and environmental protection by minimizing the consequence of a landfill fire.

Ben Routledge
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June 21, 2018

Reviewed by:
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- K. Felker, Purchasing Manager, Finance
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