

ADMINISTRATIVE REPORT TO THE COMMITTEE OF THE WHOLE

ON

**COMMUNITY WIDE CURBSIDE RESIDENTIAL
ORGANIC WASTE COLLECTION PROGRAM**

PURPOSE

The purpose of this report is to seek the Committee of the Whole's direction on the design of a community-wide residential organic waste collection program, specifically as it relates to shifting to an alternating, biweekly collection schedule for garbage and recycling, and the option to opt out of organics collection for residents who backyard compost or otherwise divert organics from landfill.

COUNCIL STRATEGIC PLAN

This report supports Council's strategic priorities and areas of focus regarding:

- **Governance and Accountability**
 - Asset Management: We proactively plan for the repair and replacement of our infrastructure.
 - Community Engagement: We are committed to engaging and connecting with Kamloops residents and stakeholders.
 - External Relationships: We understand the importance of maintaining and improving key relationships.
 - Fiscal Responsibility: We are fiscally responsible and accountable.
- **Vibrant Economy**
 - Business Health: We cultivate a positive business environment and maintain a framework that facilitates jobs, economic sustainability, and growth.
 - Economic Strength: We support initiatives that increase our competitive advantage, cultivate growth, and support our residents.
 - Partnerships: We continue to nurture partnerships with key agencies and organizations.
- **Environmental Leadership**
 - Climate Action: We enhance the City's resiliency and capacity for mitigating and adapting to the impacts of climate change.
 - Sustainability: We implement strategies that reduce our impact on the environment.

SUMMARY

In December 2020, Council authorized allocating funds from the Solid Waste Reserve for staff to apply for grant funding from the Green Municipal Fund, which is administered by the Federation of Canadian Municipalities, for a feasibility study and pilot program related to curbside residential organic waste collection. Council also authorized allocating funds from the reserve to apply for the CleanBC Organics Infrastructure and Collection Program grant, which could be applied to capital costs associated with a community-wide organics collection program.

Our corporate mission is...

MAKING KAMLOOPS SHINE

The City was awarded \$36,290 from the Green Municipal Fund for a feasibility study and \$1,788,233 (67% of eligible project costs) from the CleanBC Organics Infrastructure and Collection Program for community-wide implementation. Administration is awaiting a decision on a Green Municipal Fund pilot program grant application of \$282,500 (approximately 50% of eligible project costs).

Administration updated the Civic Operations Committee in June 2021 with the results of the feasibility study, which included key findings from public consultation activities and a composition audit of garbage collection routes. Administration also updated the committee with information regarding a pilot program that would begin in September 2021 and include approximately 2,500 homes across five neighbourhoods.

In December 2021, Administration provided the committee with an update on the pilot program funding and findings, including a summary of the engagement activities with pilot participants, performance measures for waste diversion, participation, and excess garbage and recycling monitoring.

Due to potential delays caused by ongoing supply chain disruptions and shortages that are impacting operations as well as the positive findings from the first 6 months of the 12-month pilot program, Administration will be seeking Council's authorization to approve a community-wide curbside residential organic waste collection program prior to completion of the pilot program.

Administration will be recommending that Council authorize automated collection services for the removal of organic waste from all residential properties on the City's automated collection service using 120 L carts collected weekly and changing from weekly to alternating, biweekly collection for garbage and recyclables.

To support meeting program objectives for waste diversion, organic waste capture, greenhouse gas (GHG) emission reductions, and extending the life of the Mission Flats Landfill, Administration will also be recommending an increased rate for larger-sized garbage carts, and penalties for failure to properly separate or dispose organics.

Junior Council received the Community Wide Curbside Residential Waste Collection Program report on June 1, 2022. The minutes from that meeting are attached (Attachment "E") outlining their decision.

RECOMMENDATION FROM THE COMMITTEE TO COUNCIL:

That the Committee of the Whole recommend that Council authorize:

- a) Solid Waste and Recyclables Amendment Bylaw No. 40-68, 2022 (Attachment "C"), to be introduced and read a first, second, and third time**
- b) Municipal Ticket Information Amendment Bylaw No. 43-17, 2022 (Attachment "D"), to be introduced and read a first, second, and third time**
- c) subject to adoption of Bylaw No. 40-68:**

Our corporate mission is...

MAKING KAMLOOPS SHINE

- i) **\$1,200,400 from the Solid Waste Reserve for additional capital costs including \$120,000 for City-provided kitchen bin liners for community-wide implementation**
- ii) **the addition of four FTEs to support administration and operations**
- d) **the Corporate Services Director to update the 2022–2026 Financial Plan accordingly**

SUPPORTING COUNCIL AND CORPORATE DIRECTION

The recommendations in this report are supported by the following plans and corporate directions:

- KAMPLAN: City of Kamloops Official Community Plan's goal to reduce solid waste disposal by adopting a zero-waste philosophy and implementing diversion programs as follows:
 - support policies and initiatives for management of recyclable and compostable materials and garbage in alignment with the Thompson-Nicola Regional District (TNRD) Solid Waste Management Plan
 - emphasize the "4 Rs" (reduce, reuse, recycle, and rethink) of waste management through education and awareness
 - leadership in recycling, composting, and waste management by implementing the City's Zero Waste Program
 - extend the life of the Mission Flats Landfill to 2090
- TNRD Solid Waste Management Plan goal to reduce annual per capita waste disposal rate from 614 kg per person to 560 kg per person by 2023 and 500 kg per person by 2028
- Community Climate Action Plan Big Move 5 to reduce waste sent to landfill by 50% by 2028 and by 90% by 2050, including goals to:
 - reduce and capture all kitchen and yard waste for beneficial end use
 - reduce waste and prioritize diversion of methane-generating materials (i.e. cardboard, paper, yard, and wood waste) from entering the landfill
 - reduce the use of non-renewable resources, promote materials reuse, and support regenerative business models
- Council authorization to allocate funding for grant applications in support of a residential organic waste collection program in December 2021

DISCUSSION

Administration began planning for a curbside residential organic waste collection program in March 2020. The approach to the program consisted of three phases:

- Phase 1 - Feasibility Study
- Phase 2 - Pilot Study
- Phase 3 - Community-Wide Implementation

The plan was presented at the November 24, 2020, Regular Council Meeting. In December 2020, Council authorized allocation of funds from the Solid Waste Reserve for staff to apply for grants for all three phases of the program.

Phase 1 - Feasibility Study

The City was awarded a grant from the Green Municipal Fund for a feasibility study, which was completed in June 2021. Phase 1 (feasibility study) included extensive research into organic waste collection programs, planning, and information gathering in the form of public consultation and audits for garbage collection routes. Public consultation showed that 79% of residents support an organic waste collection program, and audits of garbage collection routes showed that 42% of residential garbage can be diverted from City landfills through organic waste collection.

Phase 2 - Pilot Program

In June 2021, Administration provided an update to the Civic Operations Committee relaying the results of the feasibility study and plans to launch a pilot program (Phase 2) in September 2021. The pilot program would test organic waste collection in each of the City's five collection zones using a model that is common in other jurisdictions—weekly organic waste collection with alternating biweekly garbage and recycling collection. A top concern raised by residents during public consultation in Phase 1 was around costs. This model is one of the lowest-cost options to implement organic waste collection.

Five existing collection routes were selected for the pilot program (one route in each of the City's five collection zones) by applying a methodology to the public survey results that identified routes expected to yield high- and low-participation rates. Households on pilot routes were notified through letters, notices, and direct engagement in the two months leading up to the pilot. Carts, kitchen bins, and information packages were delivered to households two weeks prior to the launch date.

The City was awarded a grant from the Green Municipal Fund for the pilot program, which was launched in September 2021. The two main activities for the pilot are participant engagement and performance monitoring. Participant engagement includes several communication tools, including surveys designed to measure changes in attitudes and behaviours related to organic waste management because of the pilot program and to test the effectiveness of communication tools and strategies.

Timing Considerations

Administration is seeking approval for a community-wide program prior to completing the pilot program. Recent and ongoing challenges with supply chains disruptions have had a significant impact on solid waste collection services, most notably in the ability to obtain new solid waste carts and fleet units. To meet the proposed timeline to introduce community-wide collection in September 2023, Administration will need to engage with suppliers and contractors as far in advance as possible.

Another reason for seeking early approval for the program is to provide an opportunity to engage in contract negotiations for the management and processing for the City's organics

material streams with the private sector. While the outcome of any potential interest in managing processing is uncertain at this time, approval to move ahead with community-wide collection would ensure adequate time for negotiations with the private sector for organics material management.

Administration will continue collecting organics from pilot routes, engaging with pilot participants, and measuring pilot program performance through September 2022. Should Council approve implementing a community-wide program, organic waste collection from pilot participants would continue through to the implementation of the community-wide program.

Pilot Program Engagement

Engagement with pilot participants has been a key activity during the pilot program. The main elements of engagement have been through newsletters, surveys, the City website, program guides and direct communication. Two surveys with participants have been performed to date, with a final survey planned at the end of the pilot.

The table below shows highlights of the first two surveys, including number of responses, level of support for the organics program, the number of backyard composters and specifically their level of support for organic waste collection, how much organic waste is being diverted from landfill, and the level of concern for and impact of biweekly garbage and recycling collection. A survey summary report is included in Attachment "A".

Survey 1 (Sep–Oct 2021)	Survey 2 (Feb–Mar 2022)
535 Responses (24% response rate)	733 Responses (33% response rate)
79% Support 13% Neutral 8% Do not support	77% Support 12% Neutral 11% Do not support
39% Home/backyard composters 73% of backyard composters support organic waste collection	40% Home/backyard composters 72% of backyard composters support organic waste collection
n/a	88% have used the cart at least once
Food waste diverted (prior to pilot) 36% None 35% Some 24% Most 6% All	Food waste diverted (since pilot) 7% None 19% Some 34% Most 41% All
Yard waste diverted (prior to pilot) 7% None 17% Some 32% Most 44% All	Yard waste diverted (since pilot) 14% None 33% Some 24% Most 29% All

Our corporate mission is...

MAKING KAMLOOPS SHINE

Survey 1 (Sep–Oct 2021)	Survey 2 (Feb–Mar 2022)
Soiled paper diverted (prior to pilot) 61% None 25% Some 9% Most 5% All	Soiled paper diverted (since pilot) 10% None 26% Some 42% Most 21% All
Level of concern for biweekly garbage collection 21% Very concerned 23% Somewhat concerned 55% Not concerned 2% Not sure	Level of impact of biweekly garbage collection 23% Significant impact 35% Moderate impact 42% Insignificant or no impact
Level of concern for biweekly recycling collection 24% Very concerned 26% Somewhat concerned 49% Not concerned 1% Not sure	Level of impact of biweekly recycling collection 27% Significant impact 34% Moderate impact 38% Insignificant or no impact

Pilot Program Performance

Several metrics are used to evaluate the performance of the pilot program. Participation and capture rates are measured on a periodic basis and are shown in the table below. Diversion rates (from collection and landfill), GHG emission reductions, landfill life expectancy, and deferred capital costs are measured on an annual basis; however, for the purpose of this report, estimates are shown using adjusted data.

Performance Metric	Description	Results
Participation Rate	The proportion of residents setting out organics cart each week measured by number of organics carts at curb ÷ number of properties.	Organics: 39%
Capture Rate	The proportion of organic waste diverted from garbage measured as total weight of organic waste in organics cart ÷ (the total weight of organic waste in garbage + organics diverted).	December audit: 53%
Diversion Rate - Landfill	The proportion by mass of all waste diverted from disposal to the total mass of all waste material generated.	<i>Reported annually once a full cycle of data has been captured</i>
Diversion Rate - Residential Collection	The proportion by mass of all waste diverted from residential collection to the total mass of all waste material collected.	<i>Reported annually once a full cycle of data has been captured</i>

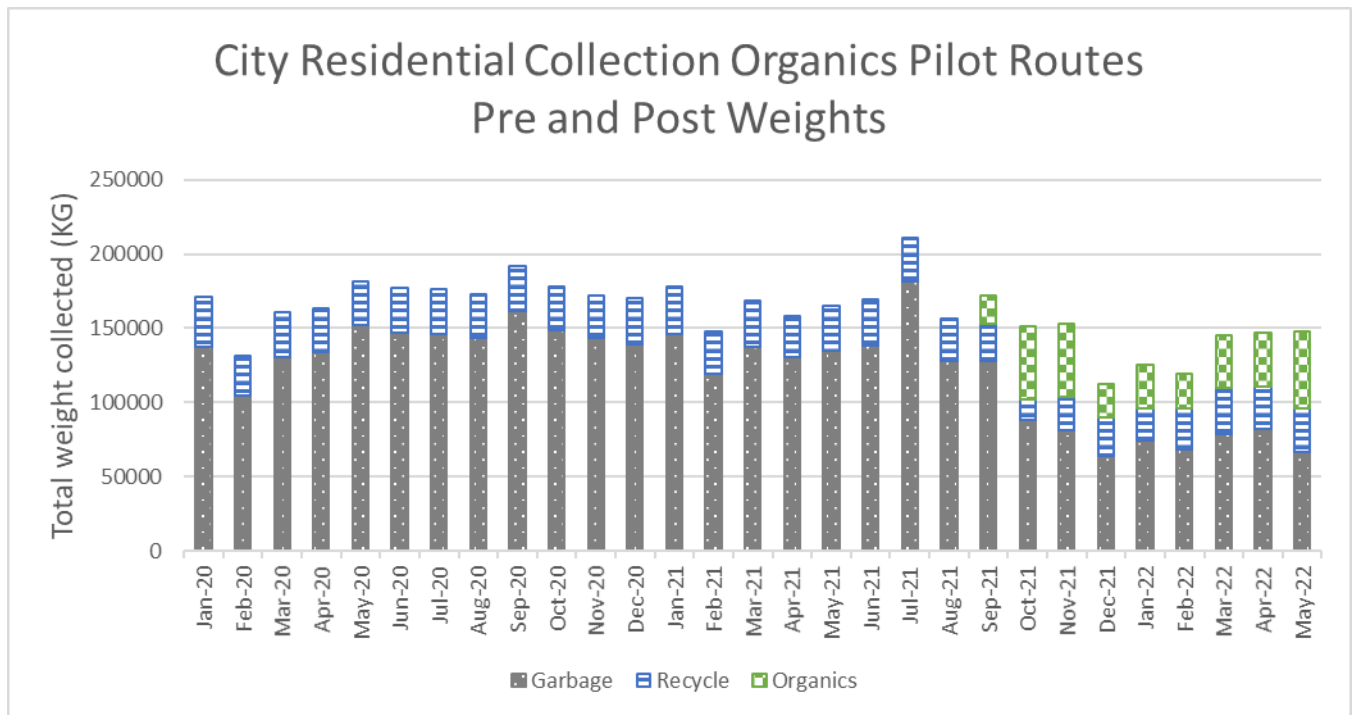
Our corporate mission is...

MAKING KAMLOOPS SHINE

Performance Metric	Description	Results
GHG Emission Reductions (tCO ₂ e)	The net change in GHG emissions measured by GHG avoided from diverting organics from landfill plus GHG emissions from transportation to a processing facility.	<i>Reported annually once a full cycle of data has been captured</i>
Landfill Life Expectancy	Number of years of landfill airspace saved because of diverting organic waste from landfill.	3 years
Value of Landfill Airspace Saved Annually	Estimated value of landfill airspace saved minus the operating cost to fill that airspace. This surplus is transferred to the Solid Waste Reserve, which funds landfill capital projects (e.g. expansion, closure and post closure activities, landfill gas management).	\$420,000

In addition to performance metrics, staff also track total organic waste diverted through the program and reduction in garbage collection on the pilot routes. The amount of waste collected varies seasonally. The following chart shows residential collection from the pilot routes since January 2020.

Prior to the pilot program, the average diversion from residential collection along pilot routes was 18%. Over the period of October 2021–March 2022, the average diversion rate on pilot routes increased to 43%. While the data from the pilot is limited to a shorter period, the data is showing a significant reduction in total material collected as well as total garbage collected.



Pilot Program Audits

Seasonal audits performed in winter and non-winter months of organics and garbage collection are part of the evaluation of the pilot program. These seasonal audits allow Administration to understand the variation in composition and volume of waste collected.

The first audit was completed in December 2021 where samples of garbage and organics were collected from households on pilot routes as well as samples of garbage from households on control routes (neighbourhoods adjacent to the pilot routes).

The audit measured the amount and composition of garbage and organics on the pilot routes as well as the amount and composition of garbage on the control routes. The following are some highlights from the December audit:

- The pilot routes set out 24% less total waste (garbage + organics) and 74% less garbage than the control routes (garbage).
- The average weight per household on the pilot routes was 11.9 kg per household/week (3.4 kg organics and 8.6 kg garbage), while the average weight per household on the control routes was 14.8 kg per household/week (garbage only).
- The amount of compostable material in organics carts on pilot routes was 98.4%.
- The amount of compostable material in garbage carts on pilot routes was 36.0%, which consisted of:
 - 27.3% food waste
 - 4.9% compostable and food soiled paper
 - 2.9% yard waste
 - 0.6% other compostable organics (wood, textiles)
- The amount of compostable material in garbage carts on control routes was 50.0%.
- Pilot routes were diverting 16.0% of total waste (not accounting for recyclables).
- Contamination of organics was 1.6%.

The complete December 2021 audit report is included in Attachment “B”. Administration will be conducting a second waste audit in third quarter 2022.

Lessons Learned

The pilot has been very informative with many takeaways and lessons to build a successful community-wide program. One of the key learnings from the pilot is around bin liners. During the pilot, participants are only allowed to use paper bin liners as compostable plastic bag bin liners are not accepted by the City’s current processing contractor. Administration recognizes that the paper bin liners are significantly higher cost compared to compostable plastic bin liners and will work with prospective organics processing facilities to include compostable plastic liners as part of a future community-wide organics collection program.

Another key lesson from the pilot was the impact to residents transitioning from weekly to alternating biweekly garbage and recycling collection. Despite a robust communication plan to inform pilot participants of the coming changes to collection, Administration made a quick decision to collect all three commodities on a weekly basis for the first two weeks of the pilot in order to allow residents who were unaware of the changes to adjust to the new schedule. Upon

full implementation, Administration will need to be prepared for an adjustment period to ensure broad-scale awareness of the changes during the first few weeks of implementation.

Bylaw Amendments

Staff have drafted Solid Waste and Recyclables Amendment Bylaw No. 40-68, 2022 (Attachment “C”), which includes the following:

- new definitions
- authorizing services
- adding clauses to support separation of organics from garbage and ensuring that organics containers are properly used (i.e. not contaminated), removing clauses that prohibit disposal of specific items in garbage or require specific handling of items in garbage that can be placed in organics containers (grass clippings, kitchen scraps)
- adding a utility fee for organics carts
- Adding a fee for larger- sized (360 L) recycling carts
- increasing the utility fee for larger sized garbage containers

Proposed Changes in Solid Waste Bylaw 40-67

Section 2.3(a) requires single-family and duplex dwellings to use the City’s automated collection service for removing garbage and recyclables. The proposed amendment would add the term “organics” to this section, thus requiring all single-family and duplex dwellings to use the City’s automated collection service for the removal of organics as well as garbage and recyclables.

Section 2.4(a) and (b)(iii) allows property owners and occupiers of multi-family dwellings and commercial premises to use the City’s automated collection service for the removal of garbage and recyclables. The proposed amendment would allow multi-family dwellings on the City’s curbside program to be serviced with organic waste collection but not allow commercial premises to be serviced with organics collection. The CleanBC grant agreement stipulates that the funding is solely for residential collection.

Section 3.2 allows the City to suspend collection under certain conditions. The proposed amendment to this section would allow the City to suspend collection if a resident places items other than organics in an organics container. The bylaw has a similar clause for recyclables, which is used on a regular basis during container inspections to help reduce contamination.

Section 3.3(a) includes provisions for what is not accepted in solid waste carts. The proposed amendments remove grass clippings from the list of prohibited items as these would be accepted in organics carts.

Section 3.3(b) includes provisions for requiring specific waste items be bagged in garbage. The proposed amendments remove kitchen and food waste, sawdust, and tissues from this clause as these would be accepted in organics carts.

Section 3.4(h) includes provisions that stipulate that solid waste carts are to be used exclusively for the storage of waste materials. The proposed amendment adds the term organics to types of waste that can be stored in carts.

Section 3.4(i) stipulates the frequency of collection for garbage and recyclables. The proposed amendment would change the frequency of collection of garbage and recyclables from once every week to once every two weeks and add organics collection every week.

Section 4.1(b) imposes utility fees for garbage and recyclables. The proposed amendments adds a utility fee for organics.

Schedule “A” includes fees for solid waste collection. The proposed amendment adds an annual \$12 fee for 120 L organics carts for residential and multi-family. While the focus is on single-family residential collection, there are several multi-family properties on the City’s curbside collection program which could be incorporated into the organics program.

The proposed amendment adds a new \$20 annual fee for 360 L recycling carts to provide a larger cart option for residents who need additional capacity for recycling. As per the City’s agreement with Recycle BC, residents can also place excess recycling at the curb beside their cart in a tote or cardboard box at no extra cost.

The proposed amendment to Schedule “A” also includes increasing the annual fee for 360 L garbage carts from \$230 to \$300. This increase is to incentivize separation of organics and recyclables from the garbage.

The proposed amendments in Municipal Ticket Information (MTI) Amendment Bylaw No. 43-17, 2022 (Attachment “D”), include adding offences and associated penalties for:

- failure to properly separate or dispose organics
- failure to properly store wildlife attractants

Schedule “Q” of the MTI Bylaw includes offences and penalties for the Solid Waste Bylaw. The proposed amendments to the MTI Bylaw include adding offences and associated penalties for failure to properly separate or dispose of organics. Based on lessons from the City’s recycling program, this penalty is required to allow enforcement for contaminating organics carts.

The proposed amendments to the MTI Bylaw also include adding an offence and associated penalties for failure to properly store wildlife attractants. This provision is needed to support maintaining the City’s good standing as a Bear Smart community.

ALTERNATIVES/OPTIONS

Opt Out of Organics Collection

Through public consultation and engagement with pilot participants, Administration received inquiries related to the option to opt out of organics collection. Residents who currently manage organics on their own (e.g. backyard composting, private collection, and feeding to livestock) have asked whether there would be an option to opt out of organics collection service. Through research into communities with organics collection, Administration found that an opt-out option for organics collection is not common practice due to the following:

- opt-out programs increase the user fees for those who choose to use the service

- there is an increase in the administrative costs for the collection service due to the increase in resources required to effectively manage an opt-out option

For example, the Town of Gibsons allows residents to opt-out of organics collection; however, residents must submit annual applications to opt out of the service and must prove that they divert 100% of materials accepted in the program. Based on conversations with staff from the Town of Gibsons, only 3% of residents currently qualify for the opt-out program, which is time consuming and costly to administer.

When done properly, backyard composting is an excellent way to manage household waste and reduces the need for collection and processing by the City or others. However, there are certain types of organics materials, such as meat, dairy, and cooked foods, that should not be composted in open backyard systems because they attract vermin, bears, and other wildlife. Other types of organics materials are not commonly composted in backyards, such as napkins, paper towels, paper plates, and pizza boxes, but would be accepted as part of a City collection program.

Based on the above, Administration does not recommend the inclusion of an opt-out option for the proposed community-wide collection program. As with curbside recycling, all residents would be required to pay for this new community service.

Collection Frequency

Since implementing the pilot program, several residents have raised concerns about the alternating, biweekly garbage and recycling collection schedule. The rationale for testing this model was based on research into other jurisdictions with organics programs in which biweekly collection of garbage and recycling is very common as it provides incentive to divert material from garbage to the organics stream (as garbage is collected on a less frequent basis) and minimizes collection costs.

Pilot participants were questioned about the level of concern and impact of the biweekly collection schedule in the two engagement surveys completed to date. The following table shows the results of the survey questions around collection frequency.

Stream	Survey 1 - Level of Concern	Survey 2 - Level of Impact
Biweekly garbage	21% Very concerned 23% Somewhat concerned 55% Not concerned 2% Not sure	23% Significant impact 35% Moderate impact 42% No impact
Biweekly recycling	24% Very concerned 26% Somewhat concerned 49% Not concerned 1% Not sure	28% Significant impact 34% Moderate impact 38% No impact

During the pilot, residents can place (a reasonable amount of) excess material at the curb on collection day. Collection staff track the number of homes with excess material placed out for collection. On average, the number of homes with excess garbage placed out for collection was 15 each day while the number of homes with excess recyclables placed out for collection was

13 each day. There are approximately 455 homes on each pilot route, which equates to an approximate average of 3% of households putting excess material out for collection on any given day.

Given the impacts to some residents, the following options around frequency of collection are alternatives to the proposed collection model:

- Option 1 - Weekly Collection of Garbage, Recycling, and Organics

This would be the most expensive option for residents as ongoing operational costs would increase through need for additional trucks and staff to operate those trucks. This option would be the least disruptive to residents, and those who do not wish to participate would be able to continue using their garbage bins without impact.

- Option 2 - Weekly Garbage and Recycling and Biweekly Organics

This option would have a higher cost impact as it would require expanding the fleet to accommodate an extra commodity picked up every two weeks. There is also potential negative impact with respect to odour and wildlife. Organics material sitting at a property for two weeks in hot temperatures would cause unpleasant odours that would attract wildlife.

- Option 3 - Weekly Recycling and Organics and Biweekly Garbage

This option would have a higher cost impact as it would require expanding the fleet to accommodate an extra commodity picked up every two weeks. This option would result in the highest waste diversion as recycling and organics collected every week and garbage collection every two weeks would be an incentive to separate organics from garbage to manage with the reduction in collection.

- Option 4 - Biweekly Garbage and Recycling and Seasonal Weekly and Biweekly Organics

This is a system that the City of Calgary has adopted knowing that the wildlife and odour impacts are not as significant an issue in the winter months as well as volumes of organics significantly reduce with less yard waste in winter. This would be the lowest cost option but would require more operational and fleet planning to manage the change in service levels over the year.

In order to minimize program costs, Administration recommends continuing with the model of collection being tested during the pilot program - weekly organics and bi-weekly alternating garbage and recycling collection. For households that require additional capacity for garbage and recycling, larger or additional carts could be ordered. Administration recommends that Council approve a period of time where garbage upsize fees would be waived (the current fee to upsize a garbage container is \$50).

Collection Scheduling (Add-a-Day Collection Schedule)

The City's current collection schedule does not include curbside residential collection on statutory and municipal holidays. Instead, the collection schedule pauses one day on each holiday (commonly referred to as "add-a-day" scheduling). This approach to collection scheduling has always had an impact on operations with up to three days worth of garbage and recyclables that accumulate over the add-a-day schedule. Over the Christmas and Easter holidays, with two consecutive days of delayed collection, there is even more of an impact on operations due to the increase in material placed at the curb.

Through the pilot program, staff identified that the operational impacts of the add-a-day scheduling is compounded with the change to alternating biweekly collection of garbage and recyclables. In some cases over the Christmas holidays, some pilot routes did not receive garbage collection for 20 days.

Many jurisdictions collect residential solid waste on a four-day work week of ten-hour shifts, typically Tuesday through Friday, with waste being collected on stats that fall on Tuesdays and Fridays. Six of the 13 statutory holidays fall on Mondays. This approach to scheduling helps to mitigate the impacts to the level of service provided to residents due to stat and municipal holidays.

In the second pilot survey, residents were asked if they would support a shift to a set schedule for garbage collection, with 66% of respondents indicating that they support this shift if there is no extra cost, 13% indicating that they support this shift even if there is some extra cost, and 21% indicating they do not support this shift.

Based on the above, Administration recommends further exploring the option of implementing a revised collection schedule to minimize potential impacts of statutory and municipal holidays to residents as it relates to the collection of garbage and recyclables.

City-Supplied Organics Bin Liners

Kitchen bin liners aid in minimizing mess and preventing materials from freezing inside of carts in winter. The absence of viable kitchen bin liner options can be a barrier to increased participation and capture rates; however, bin liners do have a cost associated with their purchase. As part of the implementation of a community wide organics collection program, one option is for the City to purchase and deliver a six-month supply of bin liners to residents as they become accustomed to the new program. The cost for this option is a one-time capital expense of approximately \$120,000, which could be funded by the Solid Waste Reserve and would result in no impact to user fees. Administration recommends the option of supplying an initial supply of bin liners to residents but not supplying bin liners on an ongoing basis.

Cart Washing Truck

One of the concerns we have heard throughout the pilot is related to the smell and yuck factor of the organics collection cart. Administration has reviewed the ability to wash carts and provide a more aesthetically pleasing experience for organics collection. Through the research, it appeared all communities put this task onto the resident rather than providing it systematically across the community.

Administration recommends further exploring the concept of washing organics carts on a regular schedule. More research is needed to determine the best approach in providing this new service.

Wildlife Management

During the feasibility study and the pilot program, staff heard from residents of their concerns that introducing curbside organics collection could lead to an increase in wildlife challenges, in particular rats and bears. Administration understands that bear-resistant carts, if used appropriately, can reduce the potential for bear-human conflicts and other unwanted wildlife interactions in residential neighbourhoods. It is the responsibility of residents to ensure that waste is managed in such a way to minimize wildlife attractants; however, there is a desire for bear-resistant cart options in some areas.

Administration does not recommend that wildlife-resistant carts be implemented at this time. Staff will continue to research options for introducing bear-resistant carts into the City's solid waste collection system. In the meantime, City staff will continue to provide education and awareness to the public regarding the various wildlife that we share the land with and the various actions we can take to prevent unwanted wildlife interactions so we can keep both our residents and wildlife safe.

FINANCIAL IMPLICATIONS

Costs and Funding

Fleet Impacts

Administration is seeking approval to add three more fully automated trucks to the sanitation fleet with implementation of the organics program. The need for more trucks is driven by the following factors:

- Growth - curbside households grow by approximately 1% per year with an annual increase of 500 carts collected every week. There is a current need to increase the number of collection routes in each of the five collection zones based on growth alone.
- Commercial waste - agreements with Recycle BC and Clean BC stipulate that residential and commercial waste cannot be mixed. Historically, the City has provided waste collection services to the commercial sector on residential routes; however, these new agreements that provide financial benefit to the City require separate routes for commercial premises.

There is also a need for two additional fleet units to support the administration and education of the solid waste collection system. These units will be operated by the Solid Waste Reduction Coordinator and the Solid Waste Services Analysts.

City-Wide Implementation

The estimated capital cost for Phase 3 (community-wide implementation) presented to Council in December 2020 was \$3,510,000. This cost has since been revised to an estimated value of \$4,008,633—an increase of \$498,633. In December 2020, Council authorized staff to pursue grant funding from the CleanBC Organics Infrastructure and Collection Program, with the City

receiving funding in the amount of \$1,788,233 in August 2021. As part of the grant funding application process, the City was required to commit funds from the Solid Waste Reserve in the amount of one-third of all eligible program costs, which equated to \$1,020,000. This City funding was approved by Council at the December 15, 2020 Regular Council Meeting. Based on the revised total capital cost estimate (\$4,008,633), the CleanBC grant funds (\$1,788,233) and the initially approved City funding (\$1,020,000), staff are now requesting that the Civic Operations Committee recommend to Council that the remaining capital funding (\$1,200,400) be funded from the Solid Waste Reserve. The total capital cost of this program needed from the Solid Waste Reserve is \$2,220,400.

Capital Expenses

This additional capital request of \$1,200,400 will fund the addition of three new solid waste trucks. These trucks are requested based on community growth and provincial regulation of separating commercial properties from residential properties.

Operating Expenses

The following table represents the new annual operating costs associated with deploying an effective solid waste collection program.

Budget Item	Amount
Solid Waste Operator and Truck	\$200,000
Solid Waste Operator and Truck	\$200,000
Solid Waste Reduction Coordinator and Vehicle	\$100,000
Solid Waste Analyst and Vehicle	\$100,000
Increase in Annual Operating Costs	\$600,000

It is anticipated that the organics processing cost would be in the range of \$70 to \$150 per metric tonne, which will be absorbed by the reduction of landfill tipping fees (i.e. solid waste collection would no longer pay tipping fees for the organics now being diverted from the landfill).

These new operating costs will be funded by creating a specific organics service charge and increasing the largest garbage container (360 L). Because the exact organics processing costs are still being determined, the new annual organics collection fee will end up being between \$11 and \$18, and the largest garbage container will be adjusted from \$230 per year to \$300 per year. The attached bylaw shows a draft annual rate of \$12. This rate may be adjusted before the bylaw goes before Council for first reading.

PERSONNEL IMPLICATIONS

Administration is seeking Council's approval to add four new full-time equivalents (FTEs) within the Environmental Services Section and the Sanitation and Sign Shop Section to support operations and administration. Two FTEs would be for Solid Waste Operators within the Sanitation and Sign Shop Section, and two FTEs would be for a Solid Waste Reduction Coordinator and a Solid Waste Services Analyst to supplement the current position within the Environmental Services Section.

The rationale for the Solid Waste Operators was included in the discussion about fleet impacts above, specifically driven by growth, commercial waste, and contingency factors. With the addition of new trucks for the fleet, there is a need for operators of those trucks.

The need for new FTEs for a Solid Waste Reduction Coordinator and another Solid Waste Services Analyst is driven by the following factors:

- Meeting waste reduction targets - the Community Climate Action Plan has targets to reach zero waste and significantly reduce waste to landfill. Support is needed to help plan and drive initiatives to meet these targets.
- Monitoring and oversight - the Environmental Services Section lacks capacity to effectively oversee and administer several waste diversion programs. In particular, there is insufficient staff capacity to ensure the City's long-term compliance with the rigorous requirements of the contract with Recycle BC, which provides a significant source of revenue for the City. In addition, to ensure long-term success of the proposed curbside residential organic waste collection program, additional staff capacity is required.
- Education and behaviour change - there is an increasing need to support the community in reducing and diverting waste through education and outreach to meet City waste reduction targets.

SUSTAINABILITY IMPLICATIONS

The main drivers for this program are related to sustainability. Removing organic waste from a landfill reduces greenhouse gas emissions. According to the Community Climate Action Plan GHG inventory, 5% of the community's GHGs are related to solid waste and specifically methane gas released from organics material breaking down in the landfill. Diverting organics material to composting can reduce our community's GHG emissions by an estimated 2,800 tCO₂e per year.

Diverting waste from landfill is another priority and benefit of organic waste collection. Estimates based on data collected during the pilot program show that a community-wide organics collection program could potentially divert approximately 6,000 tonnes of organic waste from landfill each year, reducing the amount of waste going to the Mission Flats Landfill by 10% and extending the life of the landfill by three years.

Food waste prevention strategies will be included in the community-wide program to encourage residents to reduce waste. The City has participated in the provincial Love Food Hate Waste program, and although we are no longer using this branding, the City continues to educate residents about food waste reduction strategies. A community-wide organics collection program would include a robust communications campaign, including City-branded information under the theme of "Love Your Food".

SOCIAL IMPLICATIONS

There are several social benefits for a curbside organics program, such as increased civic pride, ownership and participation as residents can contribute to waste diversion efforts, and pride in taking steps to reduce environmental impact. Curbside organic waste collection also improves the efficiency of services by making it easier for residents to participate in waste diversion. This program also supports increased employment opportunities and stimulus for the local economy

through private enterprise opportunities with respect to processing organics material. If local processing is developed, there would be further opportunities for private haulers to expand their collection into organic waste.

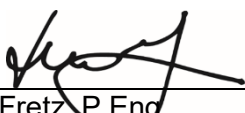
IMPLEMENTATION PLAN

As outlined to Council previously, implementation of a community-wide organic waste collection program is still targeted for July 2023. Pending the Civic Operations Committee recommending Council's approval, the following key activities will be initiated:

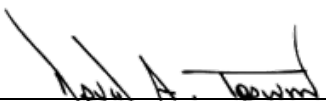
Activity	Timing
Present Amended Solid Waste and MTI Bylaws for Adoption	June 2022
Secure Organics Processing Service Agreement	July 2022
Place Orders for Curbside Carts and Kitchen Bins	July 2022
Place Order for Additional Solid Waste Collection Trucks	July 2022
Develop and Implement Long-Term Public Education Strategy	June 2022–December 2024
Modify Collection Routes	June 2022–October 2022
Deliver Curbside Carts and Kitchen bins	June 2023
Begin Community-Wide Collection	September 2023

COMMUNICATIONS PLAN

Drawing from the lessons learned during Phase 2 - pilot program, staff from Environmental Services will collaborate with the Communications and Community Engagement Division to develop a robust communications strategy for the curbside residential organic waste collection program, including a comprehensive education campaign well in advance of community-wide collection.


J. Fretz, P.Eng.
Civic Operations Director

Concurrence: K. Humphrey, CPA, CA, Corporate Services
Director


Approved for Committee

Author: M. Dick, BBA, Solid Waste Reduction
Coordinator

Reviewed by: A. Michener, P.Ag., Environmental
Services Supervisor
G. Farrow, BBA, Streets and
Environmental Services Manager

MD/kjm

Attachment



Let's Talk Organics

Organics Pilot Program Survey #2 Summary Report

Curbside Organic Waste Collection Project - Phase 2 Pilot Program - Survey #2 (February-March 2022) Summary Report

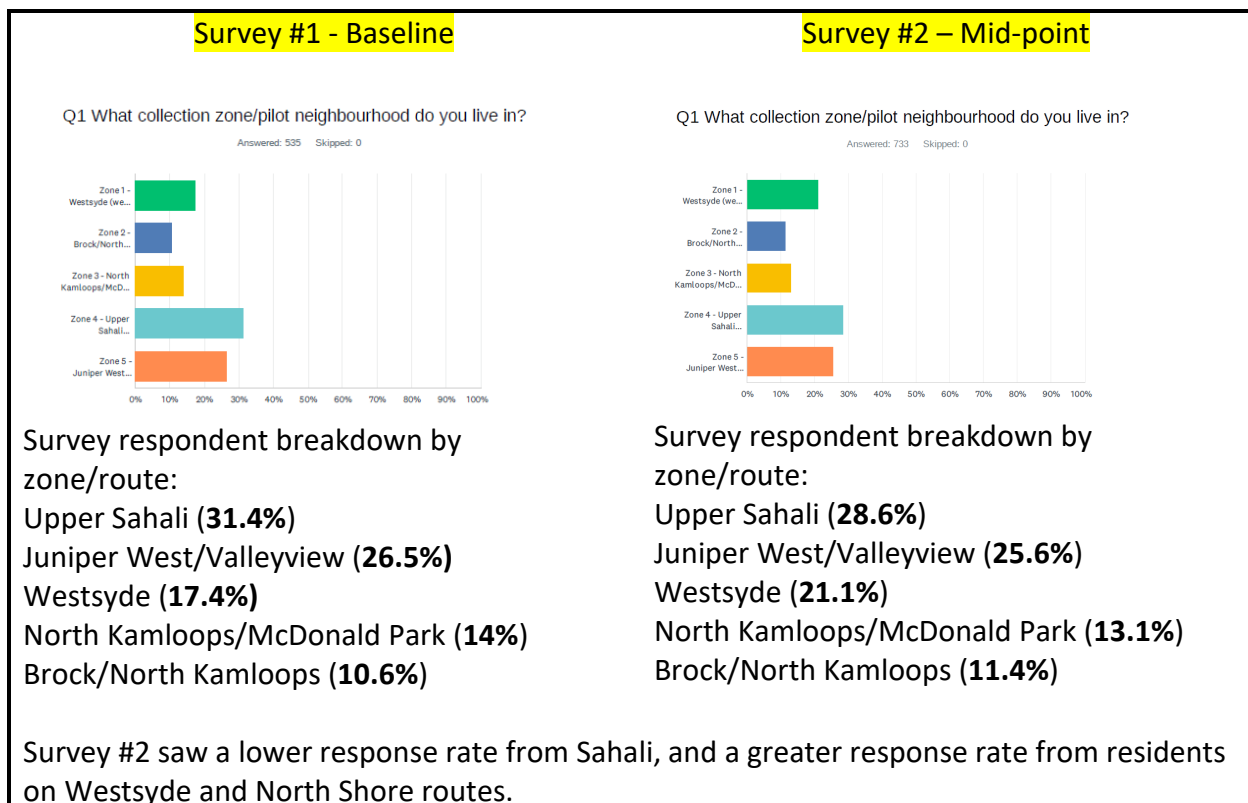
Engagement activities for Phase 2 of the Curbside Organic Waste Collection Program—Pilot Program—include a series of surveys at the beginning, middle, and end of the pilot program. The intent of the surveys is to consult with residents on pilot routes to gather feedback on what works well and what might need improvement before a community-wide organics program is implemented, and to measure changes in attitudes and behaviours of pilot participants over the duration of the pilot program.

The second pilot survey was open from **February 16 to March 14, 2022** and garnered **733 responses**. The survey was promoted primarily through the pilot newsletter (twice; an initial communication for the survey launch and a reminder one week before close) and twice through Waste Wise app notifications geotargeted to pilot route residents. In addition, door hangers promoting the survey were delivered to all residences on pilot routes. 726 responses were digital and 7 paper surveys were mailed in.

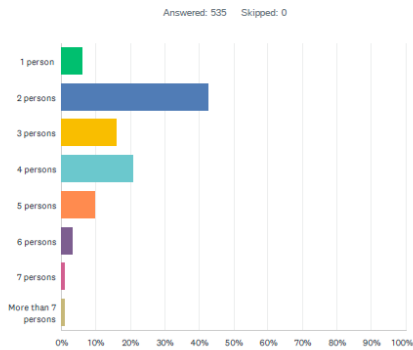
Where possible, this report compares baseline data (survey #1) to mid-point data (survey #2) to identify potential pilot program trends.

About You/Your Household

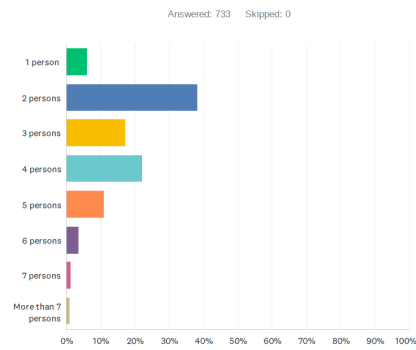
Data from questions 1-7 determines where respondents live, number of household residents, attitudes, and support levels (including for a sub-segment of self-identified home composters).



Q2 How many people reside in your household (adults and children)?

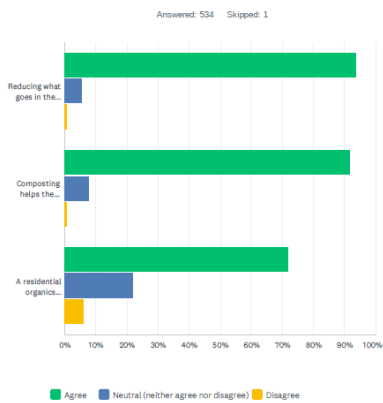


Q2 How many people reside in your household (adults and children)?

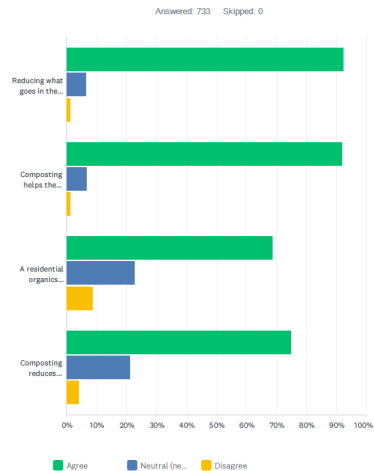


As in survey #1, the majority of respondents have between two and four people residing in their household.

Q3 Please indicate your level of agreement with the following statements:



Q3 Please indicate your level of agreement with the following statements:



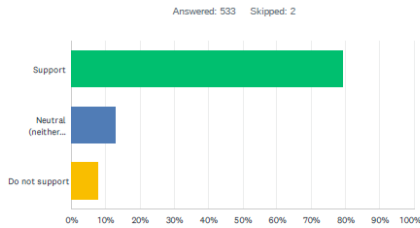
Similar to survey #1, a majority of respondents agree with the following statements:

- “Reducing what goes in the landfill is the right thing to do” (94% in #1 and 92% in #2)
- “Composting helps the environment” (92% in both surveys)
- “A residential organics collection program in Kamloops is long overdue” (72% in #1 and 69% in #2)

Survey #2 added a fourth statement:

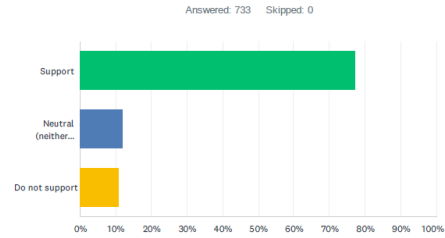
- “Composting reduces greenhouse gas emissions” (75% agree)

Q4 In general, what is your level of support for a residential curbside organic waste collection program in Kamloops?



Support (**79.3%**)
Neutral (**12.7%**)
Do Not Support (**7.9%**)

Q4 In general, what is your level of support for a residential curbside organic waste collection program in Kamloops?



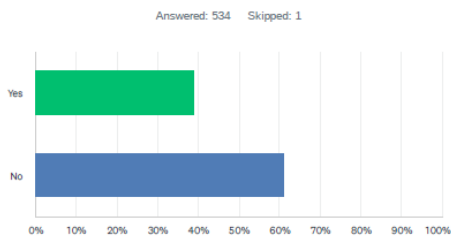
Support (**77.8%**)
Neutral (**12.0%**)
Do Not Support (**10.9%**)

Similarly, a majority of respondents support a residential curbside organics program for Kamloops.

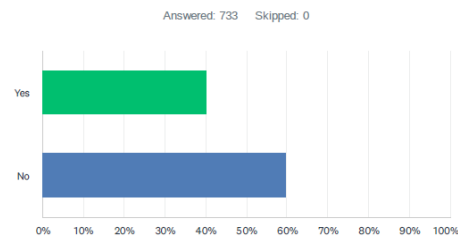
Home Composters

One objective of the survey is to discover attitudes and behaviours of residents who compost at home. As the curbside organics program can accept items that should not be or are not commonly composted at home (e.g., meat, oils, greasy/food-soiled paper), the survey series aims to provide insight into the attitudes of this segment of residents towards organic waste collection, and whether these attitudes change over the duration of the pilot program.

Q5 Are you a home/backyard composter?



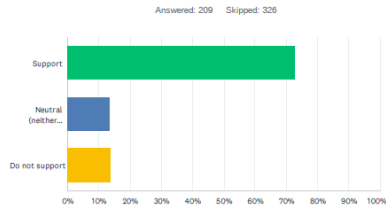
Q5 Are you a home/backyard composter?



The split between those who compost at home and those who don't remains identical to survey #1. **40.0%** of respondents are home composters and **60.0%** are not.

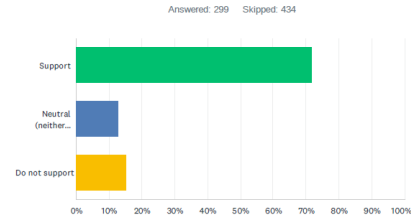
Subsequent survey questions were asked of just the home composters (some questions for surveys #1 and #2 differ).

Q6 On a personal level, as a home/backyard composter, what is your level of support for a residential curbside organic waste collection program?



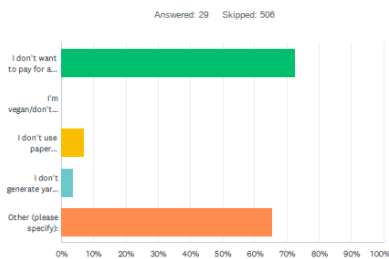
Of the 40.0% of survey respondents who compost at home:
72.7% support organic waste collection
13.4% had a neutral position
13.8% do not support such a program

Q6 As a home/backyard composter, what is your level of support for a residential curbside organic waste collection program?



Of the 40.0% of survey respondents who compost at home:
71.9% support organic waste collection
12.7% had a neutral position
15.3% do not support such a program

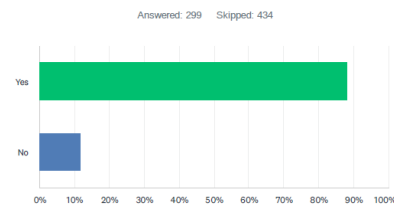
Q7 You indicated you do not support an organics program as a home/backyard composter. What are the reason(s) for this? (Select all that apply)



In survey #1, of the home composters who did not support the program, the main reasons were “I don’t want to pay for a service I feel I won’t use” (72.4%) and “Other” (65.5%).

The majority of the responses in the “Other” category were less about aspects of home composting and more about other aspects of the program (garbage collection frequency, acceptability of bin liners, and wildlife mitigation) that can be addressed from an operational approach.

Q7 Have you put your organics cart out for collection at least once since the program began?



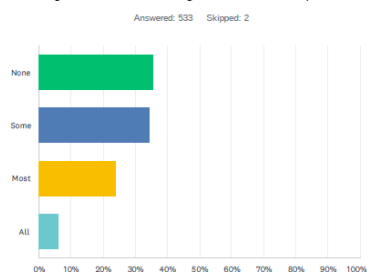
Of the 40.0% of survey respondents who compost at home:

88.2% have participated in the pilot by putting out their organics cart at least once.

Garbage, Composting, and Yard Waste Habits

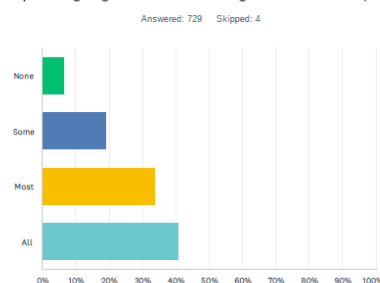
The next set of questions determine habits around garbage, composting, and yard waste. A key objective of the pilot program is to determine diversion trends. Three key questions asked on survey #1 were also asked on survey #2, allowing for a direct comparison from baseline to mid-pilot data.

Q8 Prior to starting the City's Organic Waste Collection Pilot Program, how much FOOD WASTE would you say you diverted from the landfill (kept out of the landfill through composting, private compost pick up, using a garburator, or using for animal feed)?



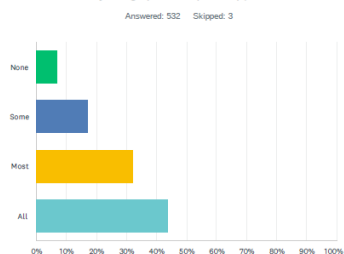
Prior to the pilot program, re: food waste:
35.6% of respondents diverted **none**
34.5% diverted **some**
23.8% diverted **most**
6.0% diverted **all** of their food waste

Q9 How much of your household's FOOD WASTE has been diverted (by utilizing the curbside organics cart, home composting, private compost pick up, using a garburator, or using for animal feed)?



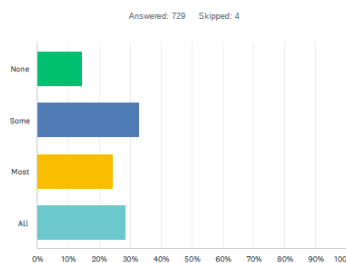
Since the pilot began, re: food waste:
6.6 % of respondents diverted **none**
19.1 % diverted **some**
33.6% diverted **most**
40.7% diverted **all** of their food waste

Q9 Prior to starting the City's Organic Waste Collection Pilot Program, how much YARD WASTE would you say you diverted from the landfill (kept out of the landfill through composting, taking it to yard waste depots, grass-cycling, private pick up)?



Prior to the pilot program, re: yard waste:
6.7% of respondents diverted **none**
17.3% diverted **some**
32.1% diverted **most**
43.8% diverted **all** of their yard waste

Q10 How much of your household's YARD WASTE has been diverted (by utilizing the curbside organics cart, home composting, taking it to yard waste depots, grass-cycling, or private pick up)?

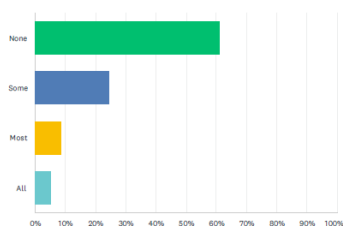


Since the pilot began, re: yard waste:
14.4% of respondents diverted **none**
32.8% diverted **some**
24.3% diverted **most**
28.5% diverted **all** of their yard waste

The yard waste diversion data from survey #2 may be skewed as a result of the survey timing over the winter season. The question will be asked again on pilot survey #3 (in Aug./Sept. 2022) and data captured at that time is expected to more accurately reflect the overall yard waste diversion trend.

Q10 Prior to starting the Organics Pilot Program, how much SOILED PAPER WASTE (e.g. paper towels, napkins, paper plates, dirty pizza boxes) would you say you diverted from the landfill (kept out of the landfill through composting)?

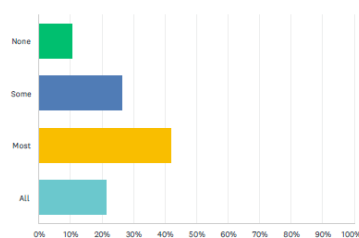
Answered: 532 Skipped: 3



Prior to the pilot program, re: food-soiled paper waste:
61.2% of respondents diverted **none**
24.6% diverted **some**
8.8% diverted **most**
5.2% diverted **all** of their food-soiled paper waste

Q11 How much of your household's SOILED PAPER WASTE (e.g. paper towels, napkins, paper plates, dirty pizza boxes) has been diverted (by utilizing the curbside organics cart or home composting)?

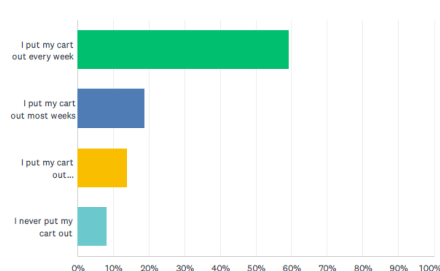
Answered: 729 Skipped: 4



Since the pilot began, re: food-soiled paper waste:
10.4 % of respondents diverted **none**
26.4 % diverted **some**
41.8% diverted **most**
21.4% diverted **all** of their food-soiled paper waste

Q12 How often are you participating in the organics pilot program?

Answered: 729 Skipped: 4

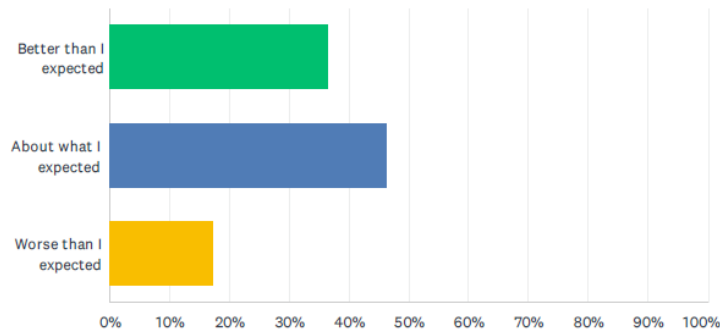


59.3% put their cart out **every week**
18.8% put their cart out **most weeks**
13.9% put their cart out **occasionally**
8.1% have **never** put their cart out

Program Assessment (Pilot Program Mid-Point, No Baseline Comparison)

Q13 Has your experience so far with the organics collection program been...

Answered: 727 Skipped: 6



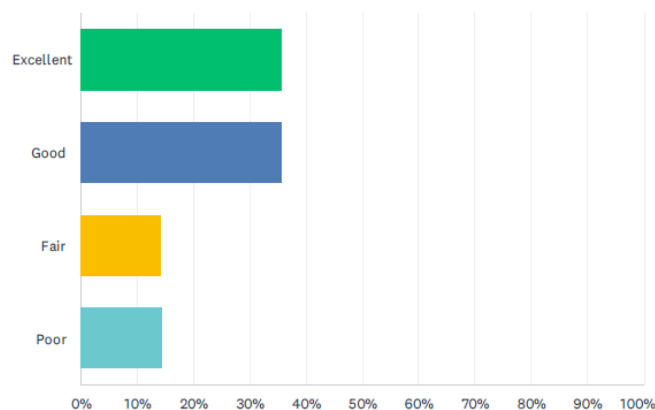
36.5% respondents said their experience has been **better than expected**

46.2% said their experience has been **about what they expected**

17.3% said their experience has been **worse than expected**

Q14 Generally, how would you rate your experience overall with the organics program?

Answered: 727 Skipped: 6

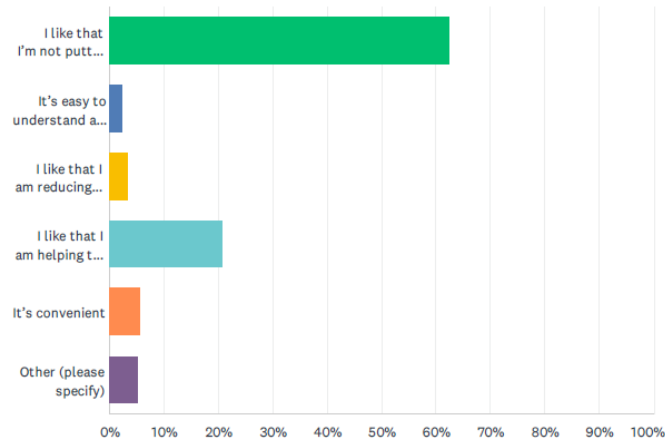


Over **71%** of respondents said their experience was either **excellent (35.6%)** or **good (35.6%)**

Nearly **29%** said their experience was either **fair (14.3%)** or **poor (14.4%)**

Q15 Why has curbside organics collection been an excellent or good experience so far? Please choose your top reason (or provide your own in the comment box):

Answered: 518 Skipped: 215



The reasons* for respondents having an excellent or good experience are:

“I like that I’m not putting as much waste into the garbage” (62.6%)

“I like that I am helping the environment” (20.7%)

“It’s convenient” (5.6%)

“Other” (5.4%) (See below for comments)

“I like that I am reducing greenhouse gases” (3.5%)

“It’s easy to understand and follow” (2.3%)

Of the 5.4% (29 people) that chose the “Other” answer option: 46% said “All of the above”

Other reasons/comments include:

“I don’t have to go to cinnamon ridge.”

“Good for lawn clippings.”

“It is such a relief to have a place to put on-backyard-compostable foods that isn’t in the landfill.”

“The cart is easy to pull around the yard for small cleanup projects.”

“The program composts more efficiently than I do on my own.”

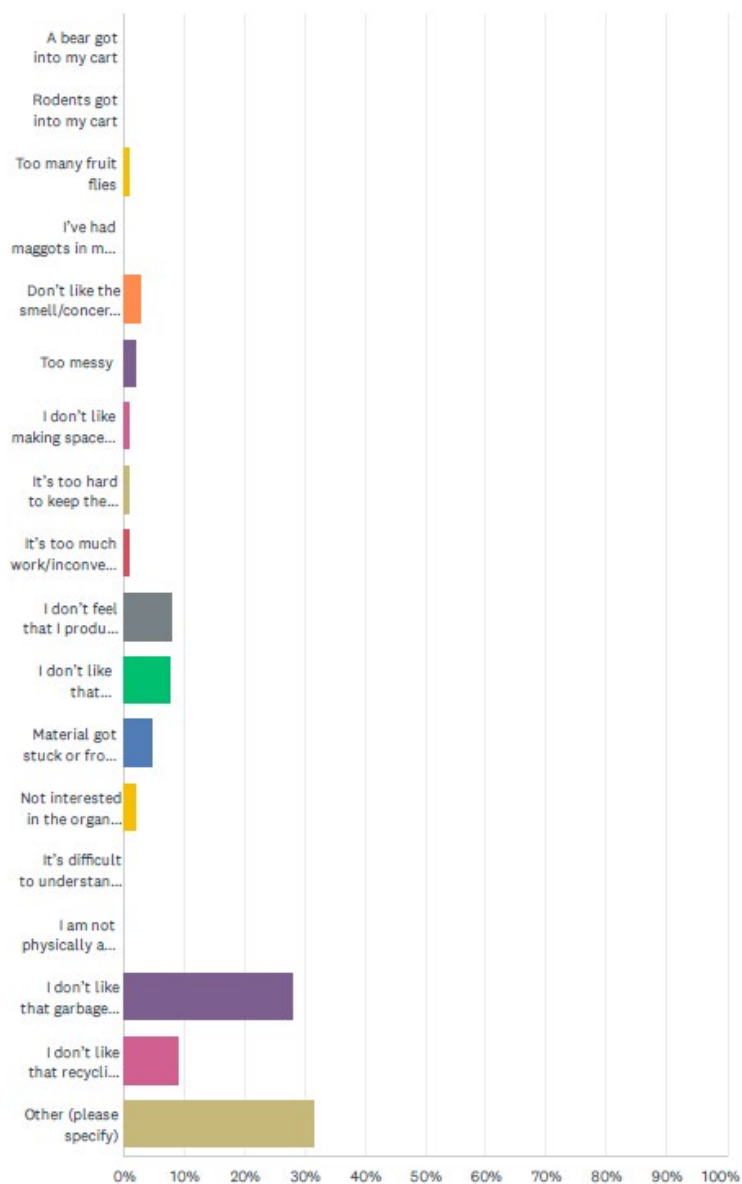
“I am happy to be putting as much unnecessary waste in the garbage as well as helping the environment in many ways. My kids have begun to understand and do their part to make sure food waste goes into the compost.”

There were a few comments in the other section that reflect a positive program assessment but include comments about experiencing a challenge with bi-weekly garbage collection.

*The question format of asking for a top reason (versus ‘select all that apply’) was intentional in order to learn what reason, over others, shifted to the top reason when given only one option.

Q16 Why has curbside organic waste collection been a fair or poor experience so far? Please choose your top reason (or provide your own in the comment box)

Answered: 209 Skipped: 524



The reasons* for respondents having a fair or poor experience are:

“Other” (31.6%) (See below for comments)

“I don’t like that garbage is biweekly” (28.2%)

“I don’t like that recycling is biweekly” (9.1%)

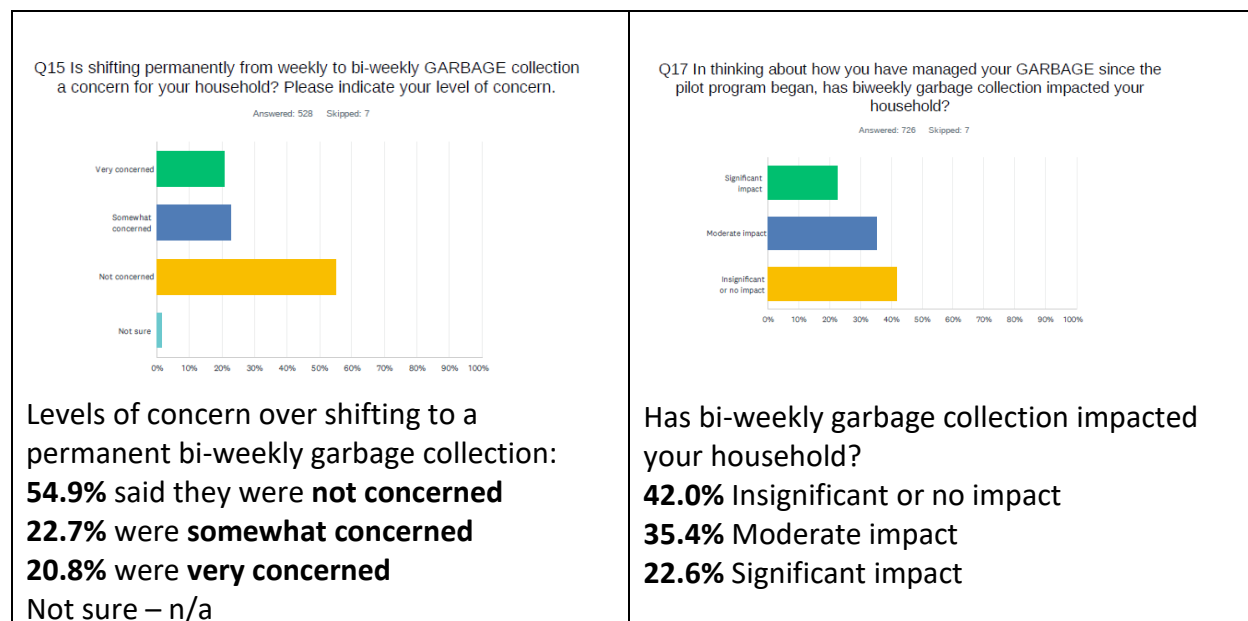
“I feel I don’t produce enough organic waste to participate in this program” (8.1%)

“I don’t like that compostable plastic bin liners aren’t accepted in the pilot program” (7.7%)
 “Material got stuck or frozen inside the cart” (4.8%)
 “Don’t like the smell/concerned about odours” (2.9%)
 “Too messy” (1.9%)
 “Not interested in the organics program” (1.9%)
 “Too many fruit flies” (1.0%)
 “I don’t like making space/don’t have room for a third cart” (1.0%)
 “It’s too hard to keep the curbside cart clean” (1.0%)
 “It’s too much work/inconvenient” (1.0%)
 “A bear got into my cart” (0.0%)
 “Rodents got into my cart” (0.0%)
 “I’ve had maggots in my cart” (0.0%)
 “It’s difficult to understand and follow” (0.0%)
 “I am not physically able to use it” (0.0%)

Of the 31.6% (66 people) that chose the “Other” answer option: Many of these ‘Other’ comments cited multiple reasons from the list of options provided. As with the previous question, the format was intentional to try to support the objective of aiming to discover the top reason users had a fair or poor experience. The most cited comments in the ‘Other’ section were about disliking bi-weekly garbage and recycling collection.

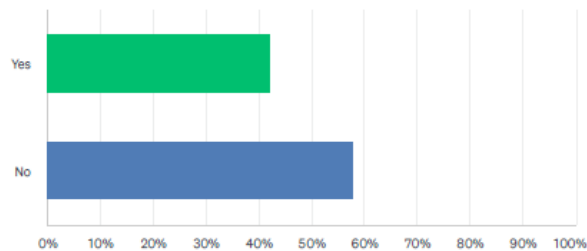
Program Considerations and Concerns – Garbage Collection Frequency

The pilot program is testing bi-weekly garbage/recycling with weekly organics, a collection format popular in other communities. The next section compares users’ perspectives on the shift in collection frequency at the beginning of the pilot to perceived impact at the mid-point.



Q18 Have you had excess garbage during the pilot program that didn't fit in your garbage cart?

Answered: 726 Skipped: 7



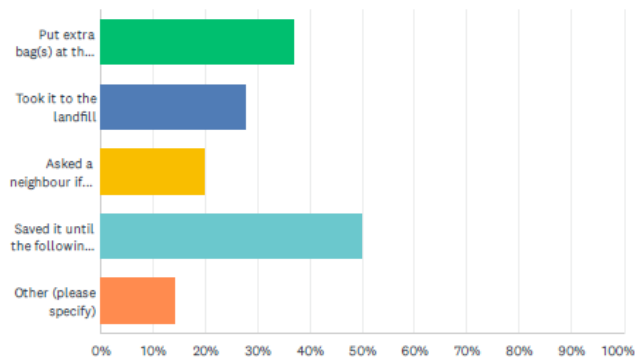
Have you had excess garbage?

57.7% - No

42.3% - Yes

Q19 What did you do with your excess garbage? (Select all that apply)

Answered: 307 Skipped: 426



What did you do with it?

“Saved it until the following garbage day” **(50.2%)**

“Put extra bag(s) at the curb on garbage day (permitted during pilot)” **(36.8%)**

“Took it to the landfill” **(27.7%)**

“Asked a neighbour if they had extra room in their garbage cart” **(19.9%)**

“Other” **(14.3%)** (See comments below)

Of the 14.3% (44 people) that chose the “Other” answer option:

50% of the comments referenced taking excess garbage to work bins or other bins/dumpsters around town such as apartment complexes, open dumpsters, City bins, to a friend's house.

Other comments include:

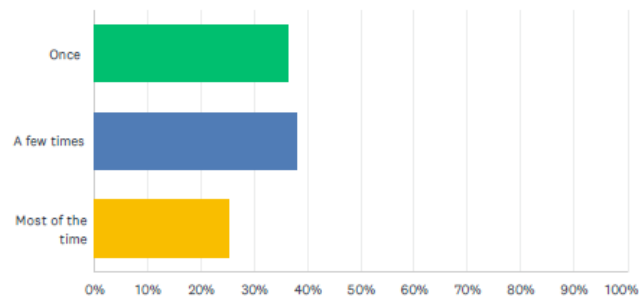
“We ordered a bigger can”

“Took to rural transfer station”

“Stacked it on top”

Q20 How frequently have you placed excess garbage at the curb since the pilot program began?

Answered: 307 Skipped: 426



How frequently have you placed excess garbage the curb?

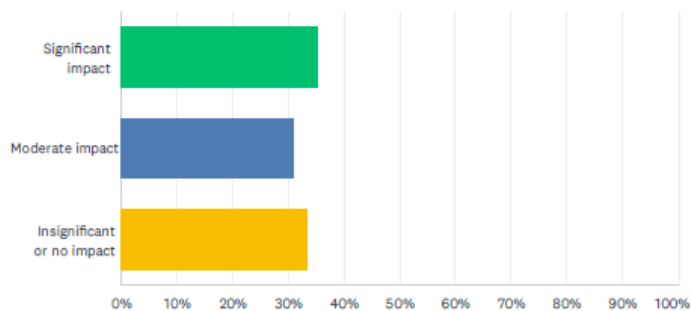
"A few times" (38.1%)

"Once" (36.5%)

"Most of the time" (25.4%)

Q21 Over the Christmas holidays, there were multiple statutory holidays that resulted an extended length of time between garbage collection days. Did the holiday collection schedule impact your household?

Answered: 725 Skipped: 8



Did the holiday garbage collection schedule impact your household?

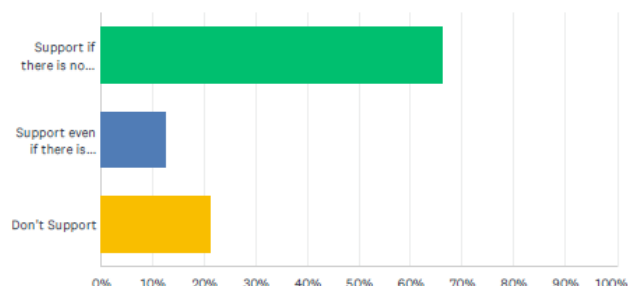
"Significant impact" (35.3%)

"Moderate impact" (31.2%)

"Insignificant impact" (33.5%)

Q22 Currently, the City's garbage collection schedule shifts when there is a statutory holiday, which occasionally results in an extended period of time between collection days. If it was an option, would you support a move to a set schedule for garbage collection (ie. your collection day would always fall on the same day of the week (biweekly), even on stat holidays)?

Answered: 725 Skipped: 8



Would you support a move to a set schedule for garbage collection? (i.e. same day of the week, biweekly)

“Support if there is no extra cost” (66.2%)

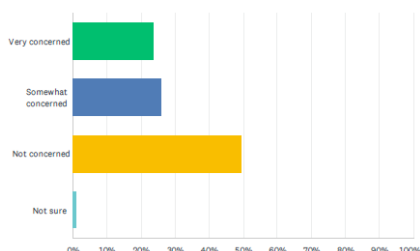
“Support even if there is some extra cost” (12.6%)

“Don’t support” (21.2%)

Program Considerations and Concerns – Recycling Collection Frequency

Q16 Is shifting permanently from weekly to bi-weekly RECYCLING collection a concern for your household? Please indicate your level of concern.

Answered: 530 Skipped: 5



Levels of concern over shifting to a permanent bi-weekly recycling collection:

49.4% said they were not concerned

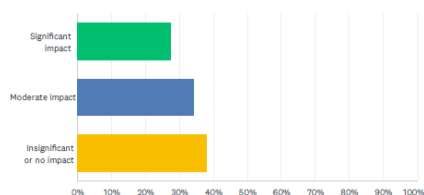
20.6% were somewhat concerned

23.7% were very concerned

Not sure – n/a

Q23 In thinking about how you have managed your RECYCLING since the pilot program began, has biweekly recycling collection impacted your household?

Answered: 724 Skipped: 9



Has bi-weekly recycling collection impacted your household?

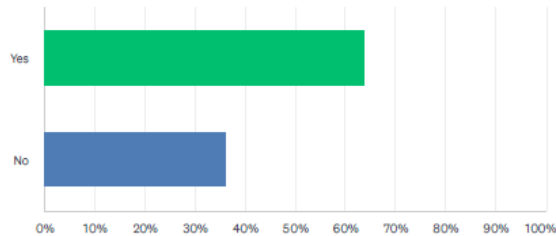
38.1% Insignificant or no impact

34.4% Moderate impact

27.5% Significant impact

Q24 Have you had excess recycling during the pilot program that didn't fit in your recycling cart?

Answered: 724 Skipped: 9



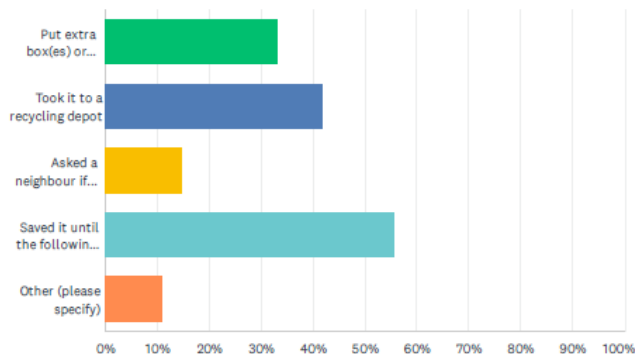
Have you had excess recycling?

63.4% - Yes

36.3% - No

Q25 What did you do with your excess recycling? (Select all that apply)

Answered: 460 Skipped: 273



What did you do with it?

“Saved it until the following recycling day” **(55.7%)**

“Took it to a recycling depot” **(41.7%)**

“Put extra boxes/totes at the curb on recycling day (permitted during pilot)” **(33.3%)**

“Asked a neighbour if they had extra room in their recycling cart” **(14.8%)**

“Other” **(10.9%)** (See comments below)

Of the 10.9% (50 people) that chose the “Other” answer option:

26% of the comments referenced putting excess recycling into the garbage/landfill

24% referenced taking it to work

Other comments include:

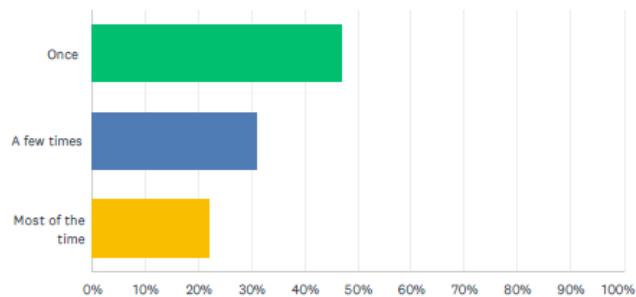
“Purchased a second (recycling cart)”

“I did not realize we could put extra bags out...”

“Placed extra recycling at the curb, but they weren’t picked up”

Q26 How frequently have you placed excess recycling at the curb since the pilot program began?

Answered: 460 Skipped: 273



How frequently have you placed excess recycling the curb?

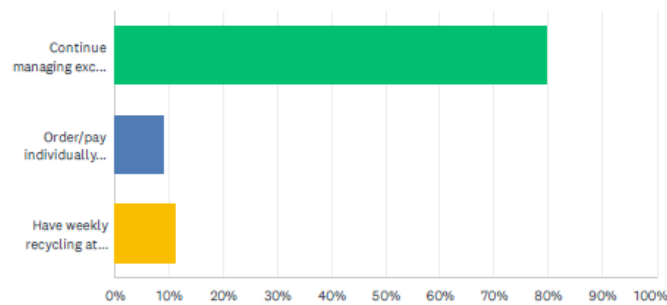
"Once" (47.0%)

"A few times" (31.1%)

"Most of the time" (22.0%)

Q27 Regarding recycling collection, if you had the choice, would you want to: (pick one)

Answered: 723 Skipped: 10



If you had a choice regarding recycling collection frequency, would you:

"Continue managing excess recycling by placing it at the curb when necessary at no extra cost" (79.7%)

"Have weekly recycling at an extra cost to everyone" (11.3%)

"Order/pay individually for a larger or additional recycling cart for your household" (9.0%)

Program Considerations and Concerns

The following section compares initial perceived concerns with current perceived impacts, with the aim to discover how initial concerns translated into actual impact.

In survey #1, respondents who said YES to participating in the program were provided a list of ten topics that had emerged as top concerns in phase 1 of community engagement in 2020.

The top three concerns (using a weighted average) for those who said they intended to participate were about the possibility of attracting **fruit flies** and **rodents** and **cart cleanliness**. (see table 1.1 - *Top Concerns Cited in Survey #1* - below)

Q18 If you answered YES to participating in the pilot program, please indicate if you have any concerns, and your level of concern about the following aspects of the program.

Answered: 505 Skipped: 30

	VERY CONCERNED	SOMEWHAT CONCERNED	NOT CONCERNED	TOTAL	WEIGHTED AVERAGE
The possibility of attracting bears	19.52% 98	36.65% 184	43.82% 220	502	2.24
The possibility of attracting rodents	28.37% 143	36.71% 185	34.92% 176	504	2.07
The possibility of attracting fruit flies	32.74% 165	37.30% 188	29.96% 151	504	1.97
The possibility of attracting maggots	23.26% 117	30.22% 152	46.52% 234	503	2.23
Possible odours inside	26.73% 135	34.26% 173	39.01% 197	505	2.12
Possible mess inside	19.72% 99	26.49% 133	53.78% 270	502	2.34
Having/making space to store a curbside cart	11.71% 59	18.65% 94	69.64% 351	504	2.58
Cart cleanliness/keeping my cart clean	27.69% 139	43.23% 217	29.08% 146	502	2.01
Possible odours outside	21.87% 110	39.56% 199	38.57% 194	503	2.17
Too much work/inconvenient	6.76% 34	14.12% 71	79.13% 398	503	2.72

Table 1.1 – Top Concerns Cited in Survey #1

In survey #2, respondents were presented with a list of most of the same concerns plus a few more topics that have emerged as concerns for some residents since the pilot started – namely limitations with the types of bin liners accepted and material freezing or sticking inside the cart.

From the list of concerns, the three with the most significant impact (using a weighted average) are **limitations with the types of bin liners accepted, material freezing or sticking** inside the cart, and **cart cleanliness**. (see table 1.2 Table 1.2 -*Top Concerns/Impacts Cited in Survey #2* - below).

Q28 The following are some concerns raised by residents prior to and since the organics pilot program began. Please indicate the level of impact that the following have had, if any, on your household.

Answered: 719 Skipped: 14

	NO IMPACT OR INSIGNIFICANT IMPACT ON MY HOUSEHOLD	SOME IMPACT ON MY HOUSEHOLD BUT WE ARE MANAGING	SIGNIFICANT IMPACT ON MY HOUSEHOLD - IT IS HINDERING ME OR PREVENTING ME FROM USING THE PROGRAM	TOTAL	WEIGHTED AVERAGE
Bear activity (bear encounter with organics cart)	84.56% 608	11.54% 83	3.89% 28	719	1.19
Rodent activity	79.97% 575	15.30% 110	4.73% 34	719	1.25
Fruit flies inside	50.90% 366	37.83% 272	11.27% 81	719	1.60
Maggots in my organics cart	77.61% 558	16.69% 120	5.70% 41	719	1.28
Odours inside	48.40% 348	40.47% 291	11.13% 80	719	1.63
Mess inside	53.55% 385	34.77% 250	11.68% 84	719	1.58
Finding the space to store my curbside organics cart	68.15% 490	23.23% 167	8.62% 62	719	1.40
Keeping my organics cart clean	32.96% 237	48.54% 349	18.50% 133	719	1.86
Odours outside	58.69% 422	31.29% 225	10.01% 72	719	1.51
Material has gotten stuck or frozen inside my organics cart	25.17% 181	53.27% 383	21.56% 155	719	1.96
Limitations with types of bin liners accepted in the pilot (i.e. compostable plastic not accepted)	43.81% 315	34.08% 245	22.11% 159	719	1.78

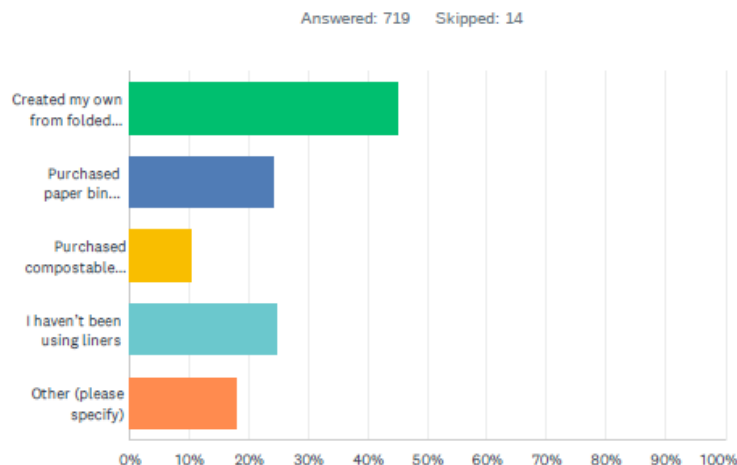
Table 1.2 – Top Concerns/Impacts Cited in Survey #2

Fruit flies and rodent activity, which were cited as top concerns in survey #1, did not translate into as much impact as users initially expected. However, the top concerns may shift with the season (i.e. fruit flies, rodent or wildlife activity). A third survey at the end of the pilot will ask the same questions again and will reflect a trend over time across the entire pilot (all seasons).

There was also an “Other” answer option, for respondents to share additional concerns. There were 130 responses provided. The “Other” responses from this question are quite varied, many reflect the timing of the survey with respect to the topics already included in the list with expanded comments, and many reflect overall feedback from other comment sections on the survey. For the purposes of this summary report we have summarized all comment categories later in this report.

Bin Liners

Q29 During the pilot program, the City is only allowing paper bin liners for kitchen bins, which can be made from folded newspaper or purchased at retailers. Please tell us what type of kitchen bin liners you have used, if any, during the pilot program? (Select all that apply)



What have you been using for kitchen bin liners?

“Created my own from folded newspaper” (45.2%)

“I haven’t been using liners” (24.8%)

“Purchased paper bin liners” (24.3%)

“Purchased compostable plastic bag liners” (10.4%)

“Other” (18.2%)

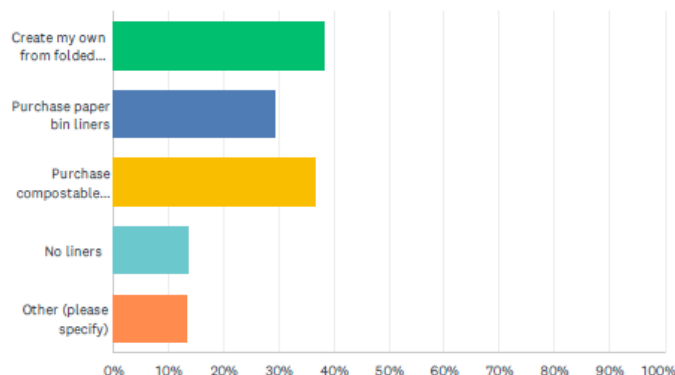
Of the 18.2% (131 people) that chose the “Other” answer option, comments varied:

Many reference using paper bags, paper towel, crumpled/layered newspaper, wrapping in newspaper, paper bags or boxes from takeout, parchment paper, paper shopping bags, used pizza boxes, large yard waste bags. Some comments reflect a concern over increased cost for

purchasing liners, bags or paper. Some comments were not related to bin liners; these are included in the summary of all comment categories later in this report.

Q30 If/when the organics program is introduced to a full community program, what would your preference be for kitchen bin liners? (Select all that apply)

Answered: 719 Skipped: 14



What would be your preference be for kitchen bin liners for an ongoing community-wide program?

“Create my own from folded newspaper” (38.4%)

“Purchase compostable plastic bag bin liners” (36.6%)

“Purchase paper bin liners” (29.5%)

“No liners” (13.6%)

“Other” (13.5%)

Of the 13.5% (97 people) that chose the “Other” answer option:

20% indicated they think the City should provide liners

Many comments reflect cost as a consideration, for example, “whatever I can use that I would not have to purchase”

Items Accepted in the Organics Cart

Q31 Are there items you feel should be accepted in the organics cart, that are not currently accepted?

Answered: 443 Skipped: 290

This question elicited a variety of answers, sampled below:

Compostable bags/liners

Diapers

Small pieces of wood /larger sticks

Disinfectant wipes

Animal waste

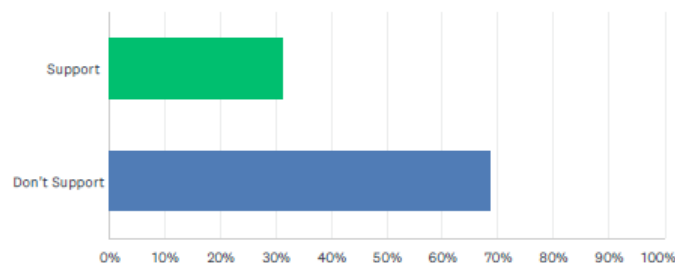
Textiles
Cat litter
Butcher paper from meats/cheeses
Dirt, rocks
Beeswax wrap
Wax paper
Wrapping paper tissue
Used tissue
Guinea pig hay
Takeout boxes with waxed lining
Egg cartons, paper cup/food trays
Cotton balls/Q-tips

In a full community-wide program, some of the above-listed items may be able to be accepted, such as compostable bags and pet waste. Other items are accepted already, such as used tissue, paper takeout containers (soiled), and guinea pig hay, so this reflects the need for a robust communications plan and ongoing education to support a community-wide program. Some items, such as textiles, are not considered as an organic item and would never be accepted in an organic waste program.

Cart Washing

Q32 In thinking about cart cleanliness, in implementing a permanent organics program, would you support including a cart washing service up to 4 times per year, for an extra cost?

Answered: 719 Skipped: 14



Would you support a cart-washing service up to four times per year, for an extra cost?

Support (31.3%)

Don't support (68.7%)

Levels of Confidence in Understanding Aspects of the Pilot Program

The next section compares levels of confidence in understanding various aspects of the program from perceived knowledge prior to the pilot program starting, with confidence levels at the mid-point, with an expectation that levels of understanding would increase over the duration of the pilot through further awareness and education.

In Table 2.1 below - *Confidence Levels Cited in Survey #1* - using a weighted average, the areas with the **lowest levels of confidence** (highlighted in red) in understanding were **how to prevent insects inside** (i.e. fruit flies), **how to prevent material from sticking in the cart**, and **how to report an issue**. Conversely, the areas most understood were what items are accepted in the organics cart, and the frequency of collection for both organics, and garbage/recycling.

Q21 Thinking about what you knew prior to the pilot program starting, how confident were you in your level of understanding the following:

Answered: 516 Skipped: 19

	VERY CONFIDENT IN LEVEL OF UNDERSTANDING	SOMEWHAT CONFIDENT IN LEVEL OF UNDERSTANDING	NOT CONFIDENT IN LEVEL OF UNDERSTANDING	TOTAL	WEIGHTED AVERAGE
What is accepted in the program	44.66% 230	48.54% 250	6.80% 35	515	1.62
What is not accepted in the program	43.44% 222	49.51% 253	7.05% 36	511	1.64
How often garbage and recycling would be collected during the pilot program	60.51% 311	24.90% 128	14.59% 75	514	1.54
How often organics would be collected during the pilot program	68.29% 351	21.98% 113	9.73% 50	514	1.41
What to do with excess garbage or recycling	35.67% 183	31.58% 162	32.75% 168	513	1.97
How to use the kitchen bin and the organics cart (i.e. use of bin liners, layering wet/dry material in the carts)	45.03% 231	37.62% 193	17.35% 89	513	1.72
How to prevent odours inside	34.50% 177	42.69% 219	22.81% 117	513	1.88
How to prevent insects inside	28.91% 148	41.02% 210	30.08% 154	512	2.01
How to prevent odours outside	29.63% 152	44.44% 228	25.93% 133	513	1.96
How to help prevent wildlife attraction outside	35.94% 184	37.70% 193	26.37% 135	512	1.90
How to prevent material getting stuck inside the cart	29.18% 150	41.83% 215	28.99% 149	514	2.00
How to report an issue	31.76% 162	38.24% 195	30.00% 153	510	1.98

Table 2.1 – Confidence Levels in Survey #1

In Table 2.2 below - *Confidence Levels Cited in Survey #2* - using a weighted average, the areas with the **lowest levels of confidence** (highlighted in red) in understanding are **how to prevent material from sticking in the cart, how to report an issue, and how to prevent/manage odours outside**. The areas most understood were the same as in survey #1 - what items are accepted in the organics cart, and the frequency of collection for both organics, and garbage/recycling. The data here also suggest that ongoing education on various aspects of the program are key, for example, on how to report an issue, and where to find resources and information.

Q33 At this point in the pilot program, how confident are you in your level of understanding the following:

Answered: 718 Skipped: 15

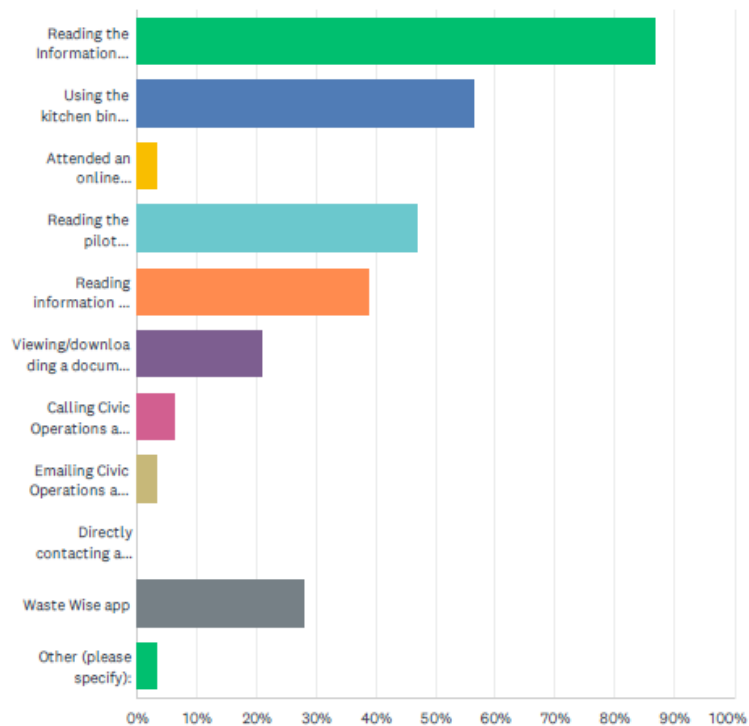
	VERY CONFIDENT IN LEVEL OF UNDERSTANDING	SOMEWHAT CONFIDENT IN LEVEL OF UNDERSTANDING	NOT CONFIDENT IN LEVEL OF UNDERSTANDING	TOTAL	WEIGHTED AVERAGE
What is accepted in the program	74.23% 533	22.70% 163	3.06% 22	718	1.29
What is not accepted in the program	68.80% 494	27.72% 199	3.48% 25	718	1.35
How often garbage and recycling is collected during the pilot program	87.47% 628	9.75% 70	2.79% 20	718	1.15
How often organics are collected during the pilot program	91.78% 659	6.27% 45	1.95% 14	718	1.10
What to do with excess garbage or recycling	66.71% 479	24.51% 176	8.77% 63	718	1.42
How to use the kitchen bin and the organics cart (i.e. use of bin liners, layering wet/dry material in the carts)	68.11% 489	25.63% 184	6.27% 45	718	1.38
How to prevent/manage odours inside	49.86% 358	35.52% 255	14.62% 105	718	1.65
How to prevent/manage insects inside	46.94% 337	35.52% 255	17.55% 126	718	1.71
How to prevent/manage odours outside	43.59% 313	37.74% 271	18.66% 134	718	1.75
How to help prevent wildlife attraction outside	48.75% 350	35.24% 253	16.02% 115	718	1.67
How to prevent material getting stuck inside the cart	38.44% 276	41.64% 299	19.92% 143	718	1.81
How to report an issue	42.90% 308	36.07% 259	21.03% 151	718	1.78

Table 2.2 – Confidence Levels in Survey #2

Communication Tools

Q34 Please indicate which communication methods or platforms you have used in gaining knowledge or understanding about the program (select all that apply):

Answered: 714 Skipped: 19



What communication methods/platforms have you used to gain knowledge or understanding?

“Reading the Information Guide that was delivered with the kitchen bin” (86.7%)

“Using the kitchen bin sticker decal that was delivered with the kitchen bin” (56.6%)

“Reading the pilot newsletters (info, updates, tips, links, resources, etc.)” (47.2%)

“Reading information on the pilot participants’ website at Kamloops.ca/OrganicsPilot” (39.1%)

“Waste Wise app” (28.2%)

“Viewing/downloading a document from Kamloops.ca/OrganicsPilot” (20.9%)

“Calling Civic Operations and speaking with a City staff member”) (6.4%)

“Attended an online information session with City staff in August/Sept. 2021” (3.5%)

“Emailing Civic Operations at civicoperations@kamloops.ca” (3.5%)

“Other” (3.5%) See comments below

“Directly contacting a City Councillor/Mayor” (0.3%)

Of the 3.5% (25 people) that chose the “Other” answer option:

Relevant comments here included “Other neighbours and composters”, “Facebook community page”, “Local Media – Armchair Mayor”.

The data here corroborate many aspects of the pilot communication plan including a robust Information Guide delivered prior to the program start, a decal delivered with the kitchen bin, topical newsletters to a targeted audience, and a dedicated website and web content for organics. It is also encouraging to see that over 28% of respondents use the Waste Wise app.

Next, we asked respondents for their comments and suggestions specifically around pilot program communications tools and resources.

Q35 Thinking about the pilot program communication tools and resources, do you have any comments or suggestions?

Answered: 368 Skipped: 365

There were many comments reflecting positive feedback on the communication.

Some relevant comments for enhanced communication include or reference:

A preference of paper copies to be available for those with limited technology (e.g. seniors)

Educating the public on why it is important to get organics out of the landfill

Live demos

Use of social media for info and tips

Information sessions on a regular basis until everyone is educated on the program

Statistics on the amount (composted) and comparisons to previous years

A guide showing the process – pick up, drop-off, and where it ends up

Friendly reminders and encouragement to participate for those who forget or are resistant

Dispelling myths (such as rodent activity)

Clarity that organics information is available on the Waste Wise app

Fridge magnet

How-to videos, short videos on local TV

Info sheets (guides) for multiple suites in a house

Newsletters/reminders sent by email

Feedback from this question will be taken into account in the design of a communications and outreach program to support the launch of a community-wide organics program.

The final question was an open-ended question inviting additional thoughts, concerns, and comments.

Q36 Do you have any additional thoughts, concerns, or comments about the pilot program, or a community-wide organic collection program, that you would like to share?

Answered: 468 Skipped: 265

There were 468 responses to this question. As well, comments from previous survey questions that included “other” comment boxes where the respondent included a comment that did not relate to the question were compiled into this section. In addition, if some comments included several concerns, each concern was noted. There was a total of 595 comments/ concerns tallied into the following categories:

Positive comments	114
Concern with bi-weekly garbage and recycling	68
Concern with bi-weekly garbage	46
Will not participate/ do not support	44
Would like to see more options for bin liners	41
Concern with bi-weekly recycling	40
Ideas/ concerns about communications	31
Concerns about costs	29
Backyard composters/ opt-out	27
Bin size (too large or too small)	24
Timing of the survey	23
Odours and insects	18
Bears	16
Cart cleanliness	14
Material stuck	13
Negative comment	13
Recycling program concerns	11
Seasonal bi-weekly organics	10
Processing	9
Kitchen bin concerns	4

Below are some representative comments pulled from the survey:

"I didn't want it originally, but, once we started using it, it's been the best thing ever. This program should be implemented for the whole community for sure!"

"I'm very happy with this program. I once thought it would be a bother to throw waste in another bin but I find the little bin very useful under the sink...Convenient to the sink / counters / chopping board when working with food, it's handy to throw food into."

"Create incentives. Bin liners, weekly service for all bins or choice is left up to household depending on the needs that week. Save us money. Stop looking for way to charge residents more money."

"There are only 2 of us in our household and we don't have enough organic waste. I would be more amenable if I could use compostable plastic bags."

"I really don't understand why the city is cutting both recycling and garbage pickup to have weekly organics pickup. I know that some cities like Kelowna, replace one or the other once a month to allow yard waste pickup. I can't store the bin outside. It would be close to my neighbours front door and I like the neighbors! It seems like a huge waste of space during the winter when I suspect many people would not have enough organic household waste to come close to filling it."

"I don't want to have to pay for something good I'm trying to do. Especially now that my garbage and recycling are now half of what I've been paying for."

"We have not yet gone through a spring/summer with this program, so the real impact from rodents, bears, insects/maggots, etc. cannot be properly assessed. Cleaning the inside of my recycling bin poses problems since there is no easy way to clean/hose it out without creating waste on/in my lawn/driveway that is not easily dealt with. Also, the inside organics bin is not large enough for a family of four and often has to be emptied more than once a day."

"A larger one for spring and fall clean-up. There could be trouble without a newspaper!!"

"I could not afford any extra cost. Don't like the mess and smell. Don't like that garbage is only picked up biweekly."



City of Kamloops Organics Pilot 2021 Waste Composition Study



PRESENTED TO
City of Kamloops

FEBRUARY 7, 2022
ISSUED FOR REVIEW
FILE: 704-SWM.PLAN03216-02

This "Issued for Review" document is provided solely for the purpose of client review and presents our interim findings and recommendations to date. Our usable findings and recommendations are provided only through an "Issued for Use" document, which will be issued subsequent to this review. Final design should not be undertaken based on the interim recommendations made herein. Once our report is issued for use, the "Issued for Review" document should be either returned to Tetra Tech Canada Inc. (Tetra Tech) or destroyed.

TABLE OF CONTENTS

1.0	INTRODUCTION	1
2.0	METHODOLOGY	1
2.1	Sampling Plan – Selected Homes	1
2.2	Collection from Selected Homes	2
2.3	Material Categories	3
3.0	RESULTS	4
3.1	Set Outs and Collection	4
3.2	Waste Generation and Composition	4
3.2.1	Waste Generation	4
3.2.2	Pilot Organic Waste Composition	6
3.2.3	Comparison Pilot and Control Garbage Waste Composition	6
3.2.4	Organic Waste Diversion and Reduction Potential	8
3.3	Waste Generation by Zone	9
3.4	Organic Waste Diversion and Reduction Potential by Zone	10
3.5	SSO Truck Load	11
4.0	SUMMARY AND RECOMMENDATIONS	13
5.0	CLOSURE	15

LIST OF TABLES IN TEXT

Table 2-1: Summary of Homes Sampled	2
Table 3-1: Set Outs and Set Out Rates	4
Table 3-2: Weekly Waste Generated per Household (kg/HH/week)	5
Table 3-3: Overall Garbage Composition in Kg per Household (kg/hh)	7
Table 3-4: Organic Waste Diversion and Reduction Potential	8
Table 3-5: Pilot and Control Garbage Waste Generation per Zone	9
Table 3-6: Diversion Reduction Potential Across 5 Zones	11

LIST OF FIGURES IN TEXT

Figure 2-1: Sample Collection	3
Figure 3-1: Weekly Waste Generation Comparison	5
Figure 3-2: Overall Organic Waste Composition	6
Figure 3-3: Overall Pilot and Control Garbage Composition	8
Figure 3-4: Waste Generation Comparison Across 5 Zones	10
Figure 3-5: SSO Truck Load Contamination	12

APPENDIX SECTIONS

APPENDICES

Appendix A	Limitations on the Use of This Document
Appendix B	Acceptable Materials
Appendix C	Selected Photographs
Appendix D	Maps
Appendix E	Material Categories
Appendix F	Waste Composition Results

ACRONYMS & ABBREVIATIONS

Acronyms/Abbreviations	Definition
City	City of Kamloops
EOW	Every-other-week
GHG	Greenhouse Gas
HH	Household
SSO	Source Separated Organics
Tetra Tech	Tetra Tech Canada Inc.

LIMITATIONS OF REPORT

This report and its contents are intended for the sole use of the City of Kamloops and their agents. Tetra Tech Canada Inc. (Tetra Tech) does not accept any responsibility for the accuracy of any of the data, the analysis, or the recommendations contained or referenced in the report when the report is used or relied upon by any Party other than the City of Kamloops, or for any Project other than the proposed development at the subject site. Any such unauthorized use of this report is at the sole risk of the user. Use of this document is subject to the Limitations on the Use of this Document attached in Appendix A or Contractual Terms and Conditions executed by both parties.

NOTE TO THE READER

The samples collected and characterized for this study are “snapshots” in time, meaning the reported quantities are estimates and only represent the conditions for the period of time in which they were collected. Annual variability, weather, and other factors can affect the amount and composition of waste and recyclables generated by the various sectors at any given time. Even with combined educational, regulatory and financial initiatives the reader should not assume that it is necessarily easy, practical, or economical to recover a substantial portion of a disposed material from a mixed waste stream or at its source.

1.0 INTRODUCTION

Tetra Tech Canada Inc. (Tetra Tech) was retained by the City of Kamloops (City) to conduct a comprehensive residential curbside organic waste composition study. This part of the study examined the organics composition in curbside residential garbage once the organics waste collection program has been implemented.

The City launched the Curbside Organic Waste Collection Pilot Program for a select number of homes in September 2021. The City provided a source separated organics (SSO) collection service to five (5) collection zones – one zone for each collection day of the week. This waste composition study measured and compared waste management practices in two areas, pilot areas and control areas.

- **Pilot area:** single-family properties that receive curbside SSO collection.
- **Control area:** homes with no curbside SSO collection (current service level in the City).

This study was conducted to characterize the amount of organic and non-organic materials that are being discarded in garbage and organics streams. The collected data will allow the City to better understand how residents are adapting to the new curbside pilot organic collection program, inform initiatives to prevent wasted food, highlight opportunities for municipal policy and program work related to food waste and organic waste, and reduce greenhouse gas (GHG) emissions. A list of acceptable materials for the organics stream provided by the City is shown on Appendix B.

Project objectives consist of the following:

- Examine the organic composition of curbside collected garbage and SSO streams;
- Examine the SSO participation rate in the pilot areas; and
- Examine the contamination in a SSO load.

2.0 METHODOLOGY

The following section describes the methodology that was undertaken to conduct this study. Appendix C includes selected photos that highlight some of the activities.

2.1 Sampling Plan – Selected Homes

Tetra Tech worked with City staff to select a total of 272 homes for the study (152 in the pilot area and 120 in the control area). The selected pilot homes were spread out across 5 pilot zones with different collection days, refer to Appendix D for details. To compare results with the pilot areas, a total of 120 control homes were selected that were in close proximity from the pilot homes. Table 2-1 summarizes the number of homes (both pilot and control areas), designated zone, collection date, and the general characteristics by zone. It is important to note that the pilot areas have garbage collected every-other-week (EOW) and organics collected weekly. Whereas for the control areas, garbage is collected weekly and there is no organic collected.

Table 2-1: Summary of Homes Sampled

Collection Day	Zone	Pilot	Control	Total Number of Homes
Wednesday, Dec. 8	Zone 3	14 homes in a row (one side) 17 homes in a row (backyards connected with a back alley lane)	10 homes in a row (one side) 13 homes in a row (backyards connected with a back alley lane)	54
Thursday, Dec. 9	Zone 4	17 homes in a row within a cul-de-sac 14 homes in a row (one side)	11 homes in a row (one side) 12 homes in a row (one side)	54
Friday, Dec. 10	Zone 5	13 homes in a row (one side) 13 homes in a row (one side)	10 homes in a row (one side) 14 homes in a row within a cul-de-sac	50
Monday, Dec. 13	Zone 1	15 homes in a row within a cul-de-sac 17 homes in a row within a cul-de-sac	12 homes in a row (one side) 14 homes in a row (one side)	58
Tuesday, Dec. 14	Zone 2	16 homes in a row (backyards connected with a back alley lane) 16 homes in a row (backyards connected with a back alley lane)	10 homes in a row (one side) 14 homes in a row (one side)	56
Total		152	120	272

2.2 Collection from Selected Homes

Before any material is collected, Tetra Tech staff would conduct a safety tailgate meeting and then scan the area to identify potential safety hazards. Staff would then record the number of garbage, SSO, and recycling set outs from the selected homes. During collection, staff would also record general observations and resident encounters. Recorded observations would also include any additional materials placed outside the garbage cart or if there was a large amount of contamination (e.g., building materials) in or around the garbage set out.

Tetra Tech staff would transfer the contents within each household's 120 to 360 litres garbage cart and 120 litres organics cart into large separate bags. Only materials that are placed inside the bag would be characterized (as shown on Figure 2-1). Each bag had a sample label inside for identification purposes. All home addresses were confidential and were only provided to the field supervisor for coordination purposes. Measures were taken to ensure all data collected remains anonymous and results were aggregated.

Once the samples were collected, Tetra Tech staff would check that all samples were secured before transporting the collected samples to the designated sorting area. Samples were then unloaded at the designated sorting area. The sorting team would organize the sample bags to ensure all samples are accounted for, labelled properly, and secured to ensure samples were not mixed or co-mingled. Before samples were hand sorted, staff would weigh each sample to determine the pre-weight and results are recorded. Each sample were hand sorted into its respective material category. After sorting each sample, the sorted material categories are weighted and the results are recorded. Photos are also taken before and after sorting to maintain a photo record. All of the sorted garbage and organics were discarded into its designated bin provided by the City.



Figure 2-1: Sample Collection

2.3 Material Categories

Material categories were developed in consultation with the City. Appendix E provides a description of each category and includes examples. There are two primary categories: organics and non-organics. The non-organic are not broken down further into secondary categories and generally consist of materials that are not compostable. The organics category consists of compostable materials and are broken down further into the following 10 secondary categories:

- Food-soiled paper;
- Compostable or biodegradable bags;
- Yard waste in compostable bags;
- Yard waste-loose;
- Other yard waste;
- Food waste in compostable bags;
- Food waste in unacceptable bag;
- Food waste-loose;
- Clean wood; and
- Other compostable organics.

3.0 RESULTS

The following section discusses and summarizes the results from the December 2021 sorting event. Details of the waste composition results are presented in Appendix F.

3.1 Set Outs and Collection

The following subsection discusses observed participation rates by summarizing the average number of set out, calculating set out rates and recording number of homes where garbage and organics were collected.

Table 3-1 lists the number of set outs from the selected home and calculates set out rate (percent of households that set out their garbage and/or organics carts). Only carts that were placed along the curb or alleyway for easy access by the collection truck is considered set out.

- For the garbage stream, the average set out rate was 74% in the pilot areas and 79% in the control areas.
- For the SSO stream, the average set out rate was 43%. This suggests that a little over half of the households that set out their garbage also use the SSO program.

Table 3-1: Set Outs and Set Out Rates

Zone	Pilot Area					Control Area		
	Number of Homes Selected	Average Number of Homes with a Garbage Set Out	Garbage Set Out Rate (%)	Average Number of Homes with an Organics Set Out	Organics Set Out Rate (%)	Number of Homes Selected	Average Number of Homes with Garbage Set Out	Garbage Set Out Rate (%)
Zone 1	16	11.5	72%	6.5	41%	13	11	85%
Zone 2	16	9	56%	5	31%	12	8	66%
Zone 3	15.5	11.5	76%	4	27%	11.5	9.5	82%
Zone 4	15.5	13	84%	9	60%	11.5	9.5	83%
Zone 5	13	11	85%	7	54%	12	9	79%
Average	15.2	11.2	74%	6.3	43%	12	9.4	79%

3.2 Waste Generation and Composition

3.2.1 Waste Generation

Table 3-2 summarizes the calculated amount of waste generated on a weekly basis, in kilograms per household (HH) per week. The following discusses the results of each stream from their respective areas.

- For the organics stream, the average amount of material collected from households that set out organic carts was 3.37 kg/HH/week. The composition of the organics stream is 3.32 kg/HH compostable material and 0.05 kg/HH non-organic material.

- For garbage in the pilot areas, the average amount of garbage collected from households that set out garbage carts waste 17.1 kg/HH. This garbage is collected EOW in the pilot areas, the amount of garbage is for a two week period. Therefore the calculated amount of garbage in the pilot area is 8.55 kg/HH/week. The composition of the garbage is calculated to be 3.04 kg/HH compostable materials and 5.51 kg non-organic materials.
- For the control area where garbage is collected weekly, the average amount of garbage collected is 14.87 kg/HH/week. The composition of the control garbage stream is 7.37 kg/HH compostable material and 7.50 kg non-organic material.

Table 3-2: Weekly Waste Generated per Household (kg/HH/week)

	Pilot Area		Control Area
	Organics (kg/HH)	Garbage (kg/HH) ¹	Garbage (kg/HH)
Compostable	3.32	3.04	7.37
Non-Organics	0.05	5.51	7.50
Total	3.37	8.55	14.86

¹ Calculated figure since garbage from the pilot area is collected EOW and consists of garbage that has accumulated over a 2 week period.

Figure 3-1 illustrates the average weekly collection on a per household basis for each stream collected. To provide a representative comparison of the average materials discarded per household, the amount of control garbage (14.86 kg/HH) can be compared to the combined amount of pilot organic and pilot garbage (11.92 kg/HH). It is also interesting to note that the control garbage contained more compostable material than the combine compostable material in the pilot organics and pilot garbage streams.

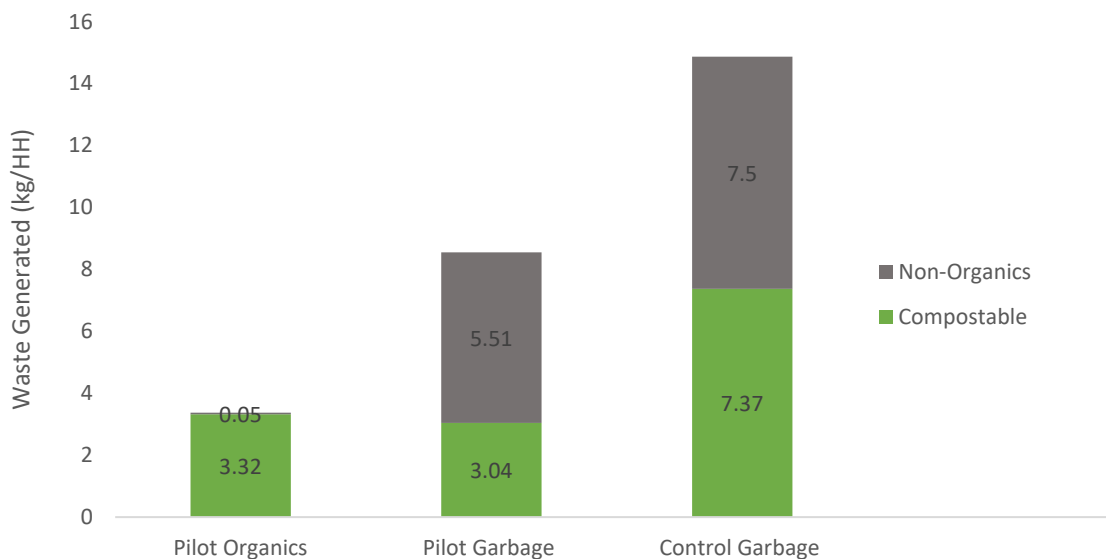


Figure 3-1: Weekly Waste Generation Comparison

3.2.2 Pilot Organic Waste Composition

Figure 3-2 shows the organic waste stream composition for all five zones. 98% of the organics stream is considered compostable. The majority of the compostable material is loose food waste (40%), loose yard waste (24%), and food waste in compostable bags (20%). These three secondary categories represent 84% of the organics waste stream. This is a snapshot of the types and relative quantities of materials that were discarded by residents in the organics cart at this time of the year and at this stage of the pilot project.

Contamination rate in the organics stream is 2%. Contaminants are non-organic materials (i.e., plastics, glass, and metal). It should also be noted that there were a significant amount of food waste in unacceptable bags (7% of organics stream). Unacceptable bag includes compostable and biodegradable plastic bags and are not accepted the composting facility that the City contracts with. These items takes much longer to breakdown and leave microplastics behind reducing the quality of the compost product.

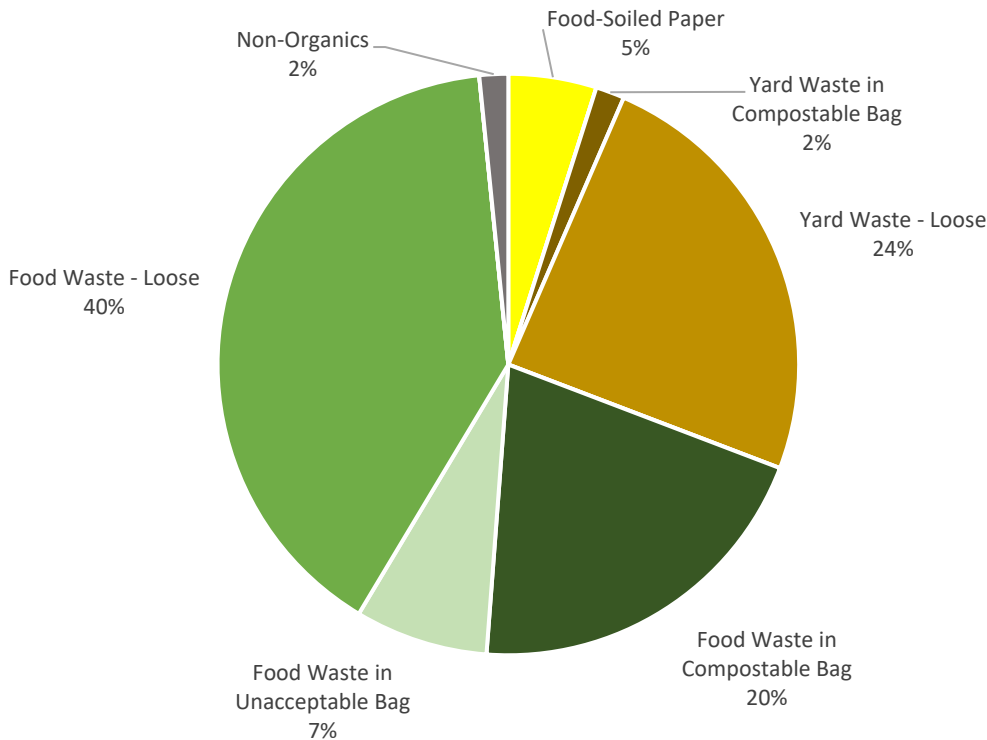


Figure 3-2: Overall Organic Waste Composition

3.2.3 Comparison Pilot and Control Garbage Waste Composition

Table 3-3 summarizes and compares the garbage composition for the pilot and control areas. This is a snapshot of the types and relative quantities of materials that were discarded by residents in thier garbage cart. Breakdown of compostable organics is shown to identify the amount and composition of compostables in garbage stream.

Overall, the households in the control areas generated more garbage than the households in the pilot areas (8.55 kg/HH/week vs. 14.86 kg/HH/week). Households in the control areas have no organics collection service and

discarded more than twice the amount of compostables compared to household in the pilot areas (7.37 kg/HH vs. 3.04 kg/HH).

Table 3-3: Overall Garbage Composition in Kg per Household (kg/hh)

	Pilot Garbage (kg/HH)	Control Garbage (kg/HH)
Compostable	3.04	7.37
Food-Soiled Paper	0.42	0.74
Compostable or Biodegradable Bags	0.00	0.01
Yard Waste in Compostable Bag	0.19	0.13
Yard Waste - Loose	0.04	0.24
Other Yard Waste	0.01	0.22
Food Waste in Compostable Bag	0.05	0.11
Food Waste in Unacceptable Bag	1.32	2.52
Food Waste - Loose	0.96	3.38
Clean Wood	0.04	0.01
Other Compostable Organics	0.01	0.01
Non-Organics	5.51	7.50
Total	8.55	14.86

Figure 3-3 compares the composition of pilot and control garbage in percentage to demonstrate if there are difference between the two areas.

Non-organics make up the majority of the pilot area and control area garbage (pilot - 64% and control - 50%). Compostables in pilot garbage stream consists primarily of food waste in unacceptable bag (15%), food waste-loose (11%), and food-soiled paper (5%). Compostable in control garbage consist primarily of food waste-loose (23%), food waste in unacceptable bag (17%), and food-soiled paper (5%). Comparing the compostable materials between the two areas shows that the most significant difference is on the amount of loose food waste (12% difference). The overall difference of compostable between pilot and control garbage is also 14%.

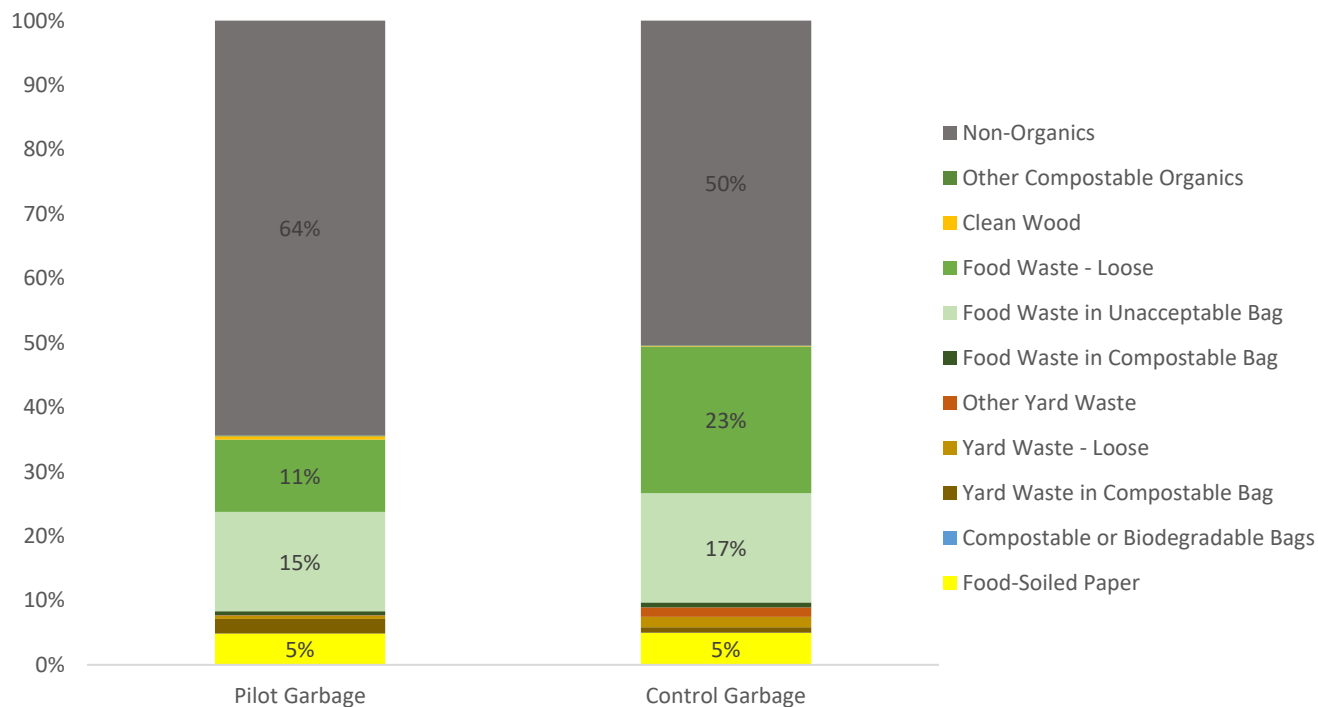


Figure 3-3: Overall Pilot and Control Garbage Composition

3.2.4 Organic Waste Diversion and Reduction Potential

This section summarizes the overall organic waste diversion and reduction potential as shown in Table 3-4. The average amount of waste (garbage + organics) discarded is 11.93 kg/HH. 3.37 kg/HH was diverted into the organics stream which is calculated to be 28% of the materials discarded. The amount of organic materials in pilot garbage stream is 3.04 kg/HH (35.6% of garbage). The percent capture rate is 53%, it was calculated by dividing the amount of organics diverted by the sum of the amount organics diverted and organic materials still in the garbage. The sum of the organics is the amount of organics that could potentially be diverted into the organics waste stream. Contamination rate is low which is at 1.6% of the amount of organic waste diverted.

Only households that use organics cart in pilot areas were collected and sorted. These households only represented 43% as per the organic set-out rate. As a result, diversion rate is not representative of the pilot area. The calculated diversion rate only applies to household that used their organics cart. Pilot household that don't use organics cart would have a similar result with control household.

Table 3-4: Organic Waste Diversion and Reduction Potential

Parameter – Every-Other-Week	Values
Pilot - Organics diverted (kg/HH)	3.37
Pilot Garbage disposed (kg/HH)	8.55
Pilot - Total waste (garbage and organics) (kg/HH)	11.93
Control - Garbage (kg/HH)	14.86

Parameter – Every-Other-Week	Values
% diversion (excluding recyclables)	28%
% organics in pilot garbage	35.6%
Organic materials in garbage (kg/HH)	3.04
% capture or recovery rate	53%
% contamination (%)	1.6%

3.3 Waste Generation by Zone

Table 3-5 summarizes the amount of waste generated in kilograms per household by zone. In the pilot areas, Zone 4 has the most amount of organics diverted and Zone 3 has the least amount. In the pilot areas, garbage in Zone 2 has the most amount of garbage discarded and Zone 1 has the least amount. In the control areas, garbage in Zone 2 has the most amount of garbage and Zone 5 has the least amount. Overall, Zone 2 generates more garbage compared to other zones.

Figure 3-4 compares the waste generated from the pilot and control areas across five zones. The overall average was shown in horizontal line to show the comparison between zones and the overall waste generated. Fluctuations could be observed when comparing zone by zone.

Table 3-5: Pilot and Control Garbage Waste Generation per Zone

Zone	Pilot Organics (kg/HH)	Pilot Garbage (kg/HH)	Control Garbage (kg/HH)
Zone 1	3.68	6.31	16.97
Zone 2	3.90	10.39	17.85
Zone 3	1.41	10.05	14.59
Zone 4	4.11	7.71	12.98
Zone 5	3.78	8.31	11.93
Overall Average	3.37	8.55	14.86

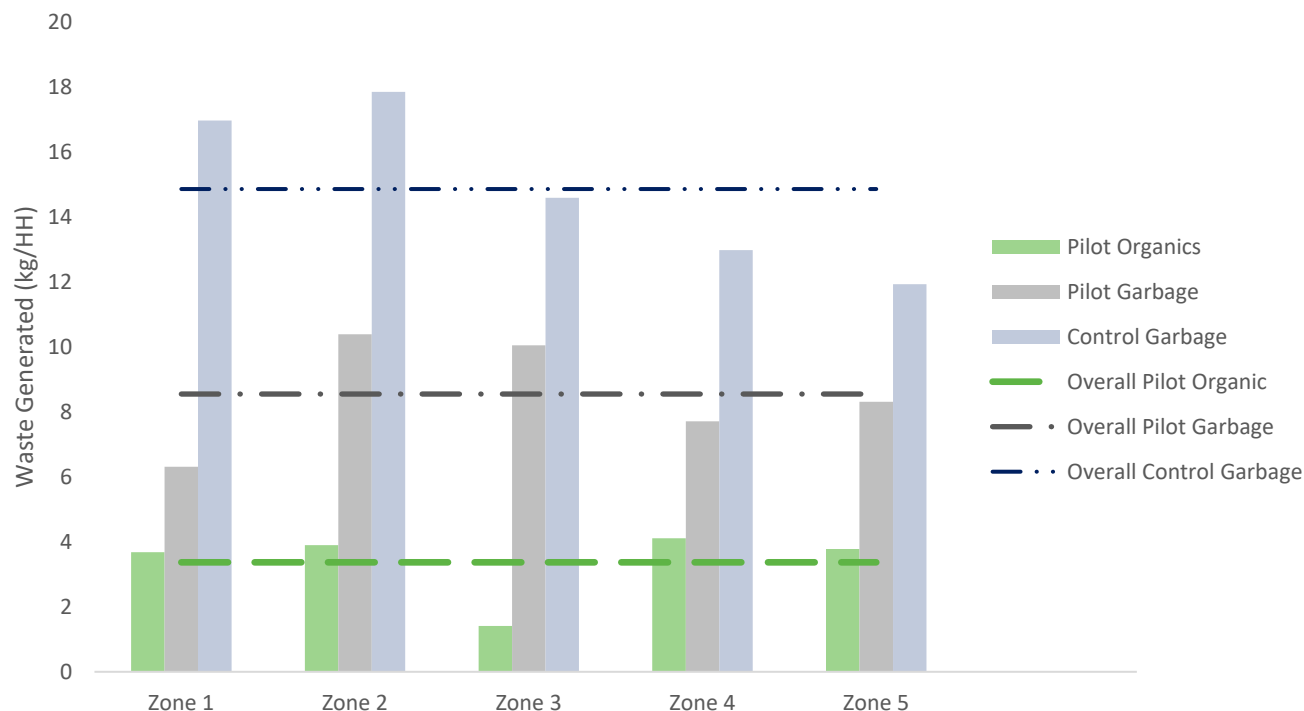


Figure 3-4: Waste Generation Comparison Across 5 Zones

3.4 Organic Waste Diversion and Reduction Potential by Zone

Table 3-6 summarizes the diversion and reduction potential across the five zones. Notable metrics are discussed below:

- The amount of organic waste diverted is within 1.41 kg/HH to 4.11 kg/HH.
- The total amount of discarded waste (garbage and organics) ranges from 9.99 kg/HH to 14.29 kg/HH.
- Diversion rate is within 12% to 37% across 5 zones.
- The amount of organic materials in pilot garbage is within 1.46 kg/HH to 5.23 kg/HH or 23.2% to 50.3%.
- The percent capture rate is within 28% to 72% range.
- Contamination rate is relatively low and ranges from 0.3% to 2.1% of the amount of organic waste diverted.

Only households that use organics cart in pilot areas across five zones were collected and sorted. These households represented 27% to 60% as per the organic set-out rate. As a result, diversion rate is not representative of the pilot area. The calculated diversion rate only applies to household that used their organics cart. Pilot household that don't use organics cart would have a similar result with control household.

Table 3-6: Diversion Reduction Potential Across 5 Zones

Parameter - Weekly	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Overall
Pilot - Organics diverted (kg/HH)	3.68	3.90	1.41	4.11	3.78	3.37
Pilot Garbage disposed (kg/HH)	6.31	10.39	10.05	7.71	8.31	8.55
Pilot - Total waste (garbage and organics) (kg/HH)	9.99	14.29	11.46	11.81	12.08	11.93
Control - Garbage (kg/HH)	16.97	17.85	14.59	12.98	11.93	14.86
% diversion (excluding recyclables)	37%	27%	12%	35%	31%	28%
% organics in pilot garbage	23.2%	50.3%	36.0%	31.5%	29.9%	35.6%
Organic materials in garbage (kg/HH)	1.46	5.23	3.62	2.43	2.49	3.04
% capture or recovery rate	72%	43%	28%	63%	60%	53%
% contamination (%)	2.0%	1.8%	2.0%	0.3%	2.1%	1.6%

3.5 SSO Truck Load

Figure 3-5 illustrates the composition of contaminants in the SSO truck load. The total weight of the SSO truck load was 1,490 kg. Approximately 23.20 kg of contaminants were found and pulled out from the sample. The SSO truck load is primarily composed of organics (98.4%) and contaminants (1.6%). This load may not be as contaminated as compared to other SSO truck load.

The SSO load was collected from Zone 1, and is comparable with the contamination rate of Zone 1 sorted pilot organics. There is a 0.4% decrease in the amount of contaminant in the SSO truck load (1.6%) when compared to Zone 1 contamination rate (2.0%). Contaminants found in the SSO load includes batteries, plastic film, garbage bags, painted wood, and sanitary products (diapers). Examples are shown on the photos below (Photos 1 to 6).

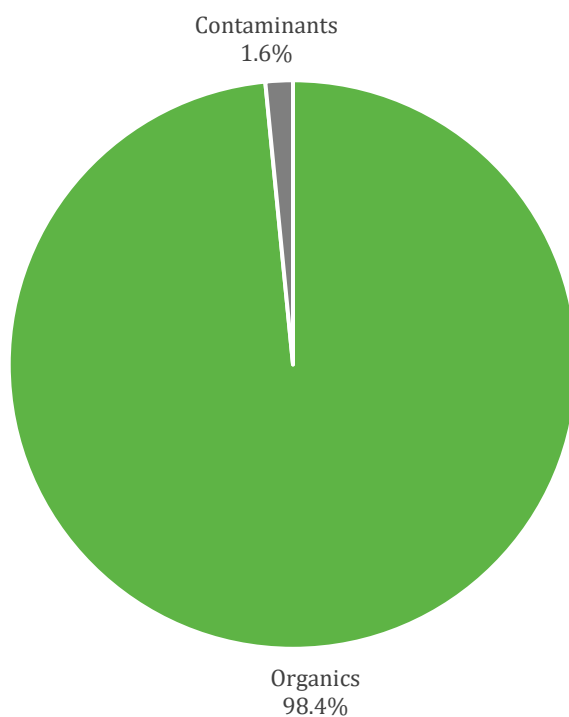


Figure 3-5: SSO Truck Load Contamination



Photo 1: Entire Load from SSO Truck



Photo 2: Plastic Film



Photo 3: Treated Wood and Mixed Packaging Materials



Photo 4: Batteries



Photo 5: Bags of Garbage



Photo 6: Plastic Packaging Materials

4.0 SUMMARY AND RECOMMENDATIONS

The following are commentary for on-site observations and interpretation of the results obtained.

- Early indications suggest that residents in the Organics Pilot Study are using their green carts and diverting organic materials out of the garbage stream and into the SSO stream. Based on waste composition results, compostable organics represented 50% of the garbage stream in the control areas whereas the pilot areas compostable organics represented 36%, a 14% decrease in compostable organics in the garbage stream.
- In the SSO stream, food waste-loose was the most common organic material discarded in all zones. Tetra Tech's observation in other municipalities, the green cart roll-out has a quick uptake and higher use for yard waste. Usually, yard waste is easily distinguished by residents as SSO material and often generates fewer concerns about the "yuck or ick" factor often associated with kitchen scraps and food waste. But considering that the sorting event occurred in winter month (December) it is expected that less yard waste was generated at this time of the year at households.

Tetra Tech has identified the following recommendations, including opportunities for education and communication to support the future roll out of a city-wide organic collection program.

- Communication to residents should be consistent and easy-to-understand, regarding program changes and expectations. Consider the use of images and infographics to support written information (i.e., how to use the cart, what materials can go into the cart, how to place your cart out for collection, cart collection date).
- Communication to target and address seasonal variations, especially on food and yard waste (i.e., what to do with fallen leaves, garden waste, other yard waste in the fall; holiday food waste disposal options; frozen materials in the carts in winter).
- To minimize potential impact of service to residents, provide additional resources and operational support to front line staffs involved with program changes, especially before and after rollout of the program.
- Develop a list of Frequently Asked Questions (FAQs), How-To Guide, or other supporting education and communication materials in advance of the program rollout. Hire and train customer service staff in advance of the rollout and be prepared to revise or update materials as feedback is received.

Establish which materials are acceptable or unacceptable in the organics stream (largely based on processing options) and maintain consistency with what is communicated to residents in order to avoid confusion or frustration with frequent changes over time.

- Provide residents with advance notice of a timeframe when they can expect their rollout carts to be delivered and be flexible in case of delays with cart delivery or deployment.
- Remind residents to empty food waste out of containers (glass or plastic), rinse containers prior to placing into the recycling stream, and to place food waste into the green cart.
- Focus on food and kitchen waste diversion options (especially in the winter season) as well as remind residents about the seasonal top up program available for yard waste.
- Carts are only distinguishable by its lid colour, It is recommended that a sticker would be applied on the side to avoid pick-up mistakes by truck drivers, especially in winter season where lids could be covered in snow and there is less light early in the mornings.

5.0 CLOSURE

We trust this document meets your present requirements. If you have any questions or comments, please contact the undersigned.

Respectfully submitted,
Tetra Tech Canada Inc.

ISSUED FOR REVIEW
FILE: 704-SWM.PLAN03216-02
FILE: 704-SWM.PLAN03216-02
FILE: 704-SWM.PLAN03216-02

ISSUED FOR REVIEW
FILE: 704-SWM.PLAN03216-02
FILE: 704-SWM.PLAN03216-02
FILE: 704-SWM.PLAN03216-02

Prepared by:
Francis Tantia
Project Technologist
Solid Waste Management Practice
Direct Line: 587.969.3352
Francis.Tantia@tetrattech.com

Prepared by:
Kentson Yan, M.Sc., P.Eng.
Project Engineer
Solid Waste Management Practice
Direct Line: 403.723.1556
Kentson.Yan@tetrattech.com

ISSUED FOR REVIEW
FILE: 704-SWM.PLAN03216-02
FILE: 704-SWM.PLAN03216-02
FILE: 704-SWM.PLAN03216-02

Reviewed by:
Wilbert Yang, P.Eng.
Senior Planning Engineer
Solid Waste Management Practice
Direct Line: 604.608.8648
Wilbert.Yang@tetrattech.com

/lc

APPENDIX A

LIMITATIONS ON THE USE OF THIS DOCUMENT

LIMITATIONS ON USE OF THIS DOCUMENT

GEOENVIRONMENTAL

1.1 USE OF DOCUMENT AND OWNERSHIP

This document pertains to a specific site, a specific development, and a specific scope of work. The document may include plans, drawings, profiles and other supporting documents that collectively constitute the document (the "Professional Document").

The Professional Document is intended for the sole use of TETRA TECH's Client (the "Client") as specifically identified in the TETRA TECH Services Agreement or other Contractual Agreement entered into with the Client (either of which is termed the "Contract" herein). TETRA TECH does not accept any responsibility for the accuracy of any of the data, analyses, recommendations or other contents of the Professional Document when it is used or relied upon by any party other than the Client, unless authorized in writing by TETRA TECH.

Any unauthorized use of the Professional Document is at the sole risk of the user. TETRA TECH accepts no responsibility whatsoever for any loss or damage where such loss or damage is alleged to be or, is in fact, caused by the unauthorized use of the Professional Document.

Where TETRA TECH has expressly authorized the use of the Professional Document by a third party (an "Authorized Party"), consideration for such authorization is the Authorized Party's acceptance of these Limitations on Use of this Document as well as any limitations on liability contained in the Contract with the Client (all of which is collectively termed the "Limitations on Liability"). The Authorized Party should carefully review both these Limitations on Use of this Document and the Contract prior to making any use of the Professional Document. Any use made of the Professional Document by an Authorized Party constitutes the Authorized Party's express acceptance of, and agreement to, the Limitations on Liability.

The Professional Document and any other form or type of data or documents generated by TETRA TECH during the performance of the work are TETRA TECH's professional work product and shall remain the copyright property of TETRA TECH.

The Professional Document is subject to copyright and shall not be reproduced either wholly or in part without the prior, written permission of TETRA TECH. Additional copies of the Document, if required, may be obtained upon request.

1.2 ALTERNATIVE DOCUMENT FORMAT

Where TETRA TECH submits electronic file and/or hard copy versions of the Professional Document or any drawings or other project-related documents and deliverables (collectively termed TETRA TECH's "Instruments of Professional Service"), only the signed and/or sealed versions shall be considered final. The original signed and/or sealed electronic file and/or hard copy version archived by TETRA TECH shall be deemed to be the original. TETRA TECH will archive a protected digital copy of the original signed and/or sealed version for a period of 10 years.

Both electronic file and/or hard copy versions of TETRA TECH's Instruments of Professional Service shall not, under any circumstances, be altered by any party except TETRA TECH. TETRA TECH's Instruments of Professional Service will be used only and exactly as submitted by TETRA TECH.

Electronic files submitted by TETRA TECH have been prepared and submitted using specific software and hardware systems. TETRA TECH makes no representation about the compatibility of these files with the Client's current or future software and hardware systems.

1.3 STANDARD OF CARE

Services performed by TETRA TECH for the Professional Document have been conducted in accordance with the Contract, in a manner

consistent with the level of skill ordinarily exercised by members of the profession currently practicing under similar conditions in the jurisdiction in which the services are provided. Professional judgment has been applied in developing the conclusions and/or recommendations provided in this Professional Document. No warranty or guarantee, express or implied, is made concerning the test results, comments, recommendations, or any other portion of the Professional Document.

If any error or omission is detected by the Client or an Authorized Party, the error or omission must be immediately brought to the attention of TETRA TECH.

1.4 DISCLOSURE OF INFORMATION BY CLIENT

The Client acknowledges that it has fully cooperated with TETRA TECH with respect to the provision of all available information on the past, present, and proposed conditions on the site, including historical information respecting the use of the site. The Client further acknowledges that in order for TETRA TECH to properly provide the services contracted for in the Contract, TETRA TECH has relied upon the Client with respect to both the full disclosure and accuracy of any such information.

1.5 INFORMATION PROVIDED TO TETRA TECH BY OTHERS

During the performance of the work and the preparation of this Professional Document, TETRA TECH may have relied on information provided by third parties other than the Client.

While TETRA TECH endeavours to verify the accuracy of such information, TETRA TECH accepts no responsibility for the accuracy or the reliability of such information even where inaccurate or unreliable information impacts any recommendations, design or other deliverables and causes the Client or an Authorized Party loss or damage.

1.6 GENERAL LIMITATIONS OF DOCUMENT

This Professional Document is based solely on the conditions presented and the data available to TETRA TECH at the time the data were collected in the field or gathered from available databases.

The Client, and any Authorized Party, acknowledges that the Professional Document is based on limited data and that the conclusions, opinions, and recommendations contained in the Professional Document are the result of the application of professional judgment to such limited data.

The Professional Document is not applicable to any other sites, nor should it be relied upon for types of development other than those to which it refers. Any variation from the site conditions present, or variation in assumed conditions which might form the basis of design or recommendations as outlined in this report, at or on the development proposed as of the date of the Professional Document requires a supplementary exploration, investigation, and assessment.

TETRA TECH is neither qualified to, nor is it making, any recommendations with respect to the purchase, sale, investment or development of the property, the decisions on which are the sole responsibility of the Client.

1.7 NOTIFICATION OF AUTHORITIES

In certain instances, the discovery of hazardous substances or conditions and materials may require that regulatory agencies and other persons be informed and the client agrees that notification to such bodies or persons as required may be done by TETRA TECH in its reasonably exercised discretion.

APPENDIX B

ACCEPTABLE MATERIALS

Figure B-1: Acceptable Materials in Organics Cart

What Can Go In Your Organics Cart?

✓ All Food (Raw & Cooked):

- plate scrapings
- fruit and vegetables, including pits—remove stickers and put them in your garbage
- meat, poultry, and bones
- fish, seafood, shellfish, and shells
- bread, grains, pasta, rice, and cereal
- pastries, cookies, cakes, and muffins
- eggs and eggshells
- cheese, sour cream, and dairy products
- cooking oil, fats, and grease—soak liquids in paper towel or allow to solidify before adding to the cart
- condiments, sauces, gravy, and jams

✓ Food-Soiled Paper:

- used paper plates
- greasy/dirty pizza boxes (clean boxes can go into recycling)
- food-soiled paper packaging (e.g. paper take-out containers without wax or plastic lining)
- newspaper holding food scraps
- coffee grounds, filters, and tea bags
- food-soiled paper towels and napkins
- used tissue (e.g. Kleenex)
- used paper towel

✓ Yard Waste:

- leaves, cones, needles, and berries
- plants, tree fruits, and flowers
- small branches, twigs, and prunings no larger than 30 cm in length (1 foot) and 2 cm in diameter (~1 inch)
- grass clippings and weeds (**note:** no noxious weeds, such as knapweed, or invasive plants—take these to the landfill for free; for a list of noxious weeds and invasive plants, visit [Kamloops.ca/invasivespecies](https://kamloops.ca/invasivespecies))
- potting soil and untreated mulch
- hay, straw, and coconut planter liners

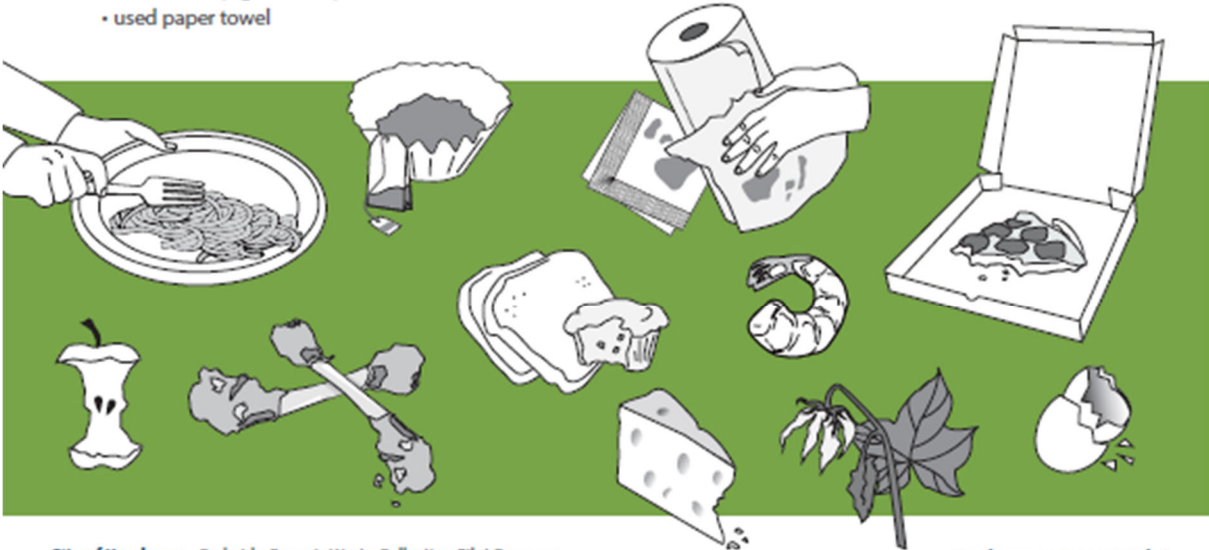
✓ Pet-Related Waste:

- animal bedding from pet cages (hamsters, guinea pigs, birds, etc.)
- pet fur, hair, and feathers
- pet food and treats

✓ Other Items:

- wood shavings—must be placed and secured in a paper bag
- wood popsicle sticks, chopsticks, skewers, and toothpicks





City of Kamloops - Curbside Organic Waste Collection Pilot Program

Kamloops.ca/OrganicsPilot

Figure B-2: Unacceptable Materials in Organics Cart

What Can't Go In Your Organics Cart?


 Canada's Tournament Capital

 NO plastic bags or bin liners Plastic bags, packaging, and soft plastics can be taken to a Recycle BC depot.	 NO straws, twist ties, or elastic bands These items belong in the garbage.
 NO compostable or biodegradable plastics Compostable plastics go in the garbage. Even if the bag is labelled as compostable, it is NOT accepted in our program. Items marked as "compostable" or "biodegradable" do not fully break down in the composting facility and leave behind small pieces of plastic. Contamination reduces the quality of the finished compost.	 NO painted or treated wood These items can be recycled at City landfills. This includes pressure-treated wood, manufactured wood (plywood, particle board, oriented strand board [OSB], wood paneling, and furniture), wood, bamboo, and wicker.
 NO plastic plates or cutlery These items belong in the garbage. This includes plastic plates; plastic spoons, forks, and knives; and compostable plastic takeout containers (cups, plates, bowls, utensils, etc.).	 NO clothing, textiles, or fabrics These items can be donated in textile bins. This includes clothes, fabric, linens, cushions, and pillows.
 NO food or beverage packaging <i>(except food-soiled paper containers as noted in accepted items)</i> These can be rinsed and recycled in your recycling cart or at a depot. This includes coffee cups, meat trays, metal food cans, plastic containers and tubs, plastic bottles, and jars.	 NO diapers or personal hygiene items These items belong in the garbage. This includes cleaning wipes, cotton swabs/Q-tips, diapers, wipes (baby wipes, cosmetic wipes, etc.), tampons, applicators, sanitary napkins and menstrual pads, and cotton balls.
 NO styrofoam cups and containers Styrofoam cups, containers, plates, and packaging materials can be taken to a Recycle BC depot.	 NO rocks or dirt Rocks and dirt can be taken to City landfills. Loads must be free of any contaminants such as garbage, branches, and construction waste.
 NO animal waste Items such as pet feces and cat litter belong in the garbage.	

City of Kamloops - Curbside Organic Waste Collection Pilot Program

[Kamloops.ca/OrganicsPilot](https://kamloops.ca/OrganicsPilot)

APPENDIX C

SELECTED PHOTOGRAPHS



Photo 1: Field staff sorting a sample at the sorting area



Photo 2: Field staff collecting materials from the curb



Photo 3: A typical pilot area garbage sample



Photo 4: A typical control area garbage sample



Photo 5: A typical pilot area organics sample



Photo 6: Source separated organics from a truck load sample



Photo 7: Example of contamination - food waste in unacceptable bags



Photo 8: Example of food-soiled paper



Photo 9: Example of yard waste in compostable bag



Photo 10: Example of yard waste in an unacceptable bag (plastic garbage bag)



Photo 11: Example of other compostable organics



Photo 12: Example of loose yard waste



Photo 13: Example of loose food waste



Photo 14: Example of food waste in compostable bag



Photo 15: Example of clean wood



Photo 16: Example of compostable or biodegradable bag



Photo 17: Example of other yard waste



Photo 18: Example of non-organics: non-recyclable plastic

APPENDIX D

MAPS

Figure D-1: City of Kamloops Zone Boundaries

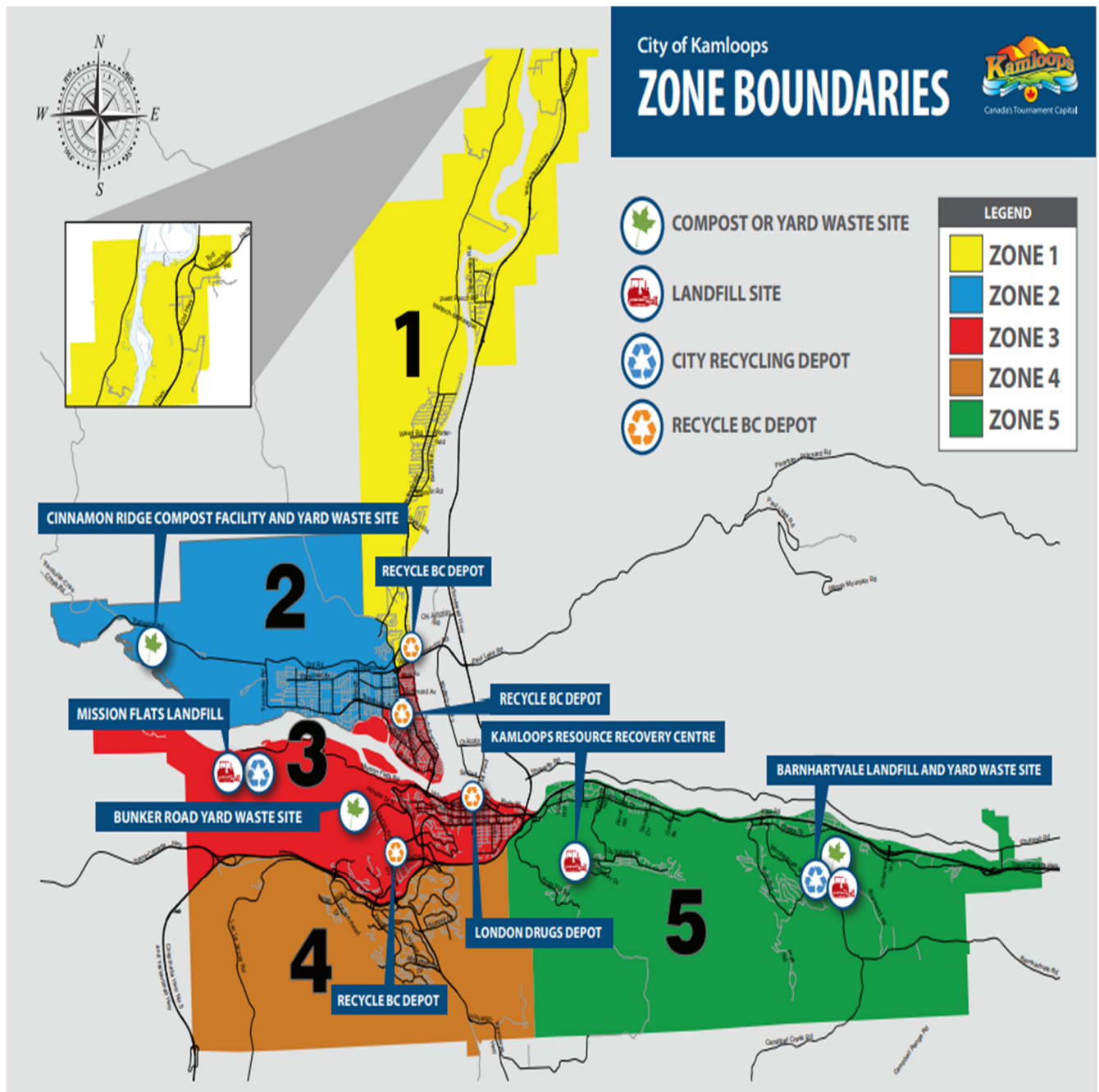


Figure D-2: Zone 1 Pilot Area

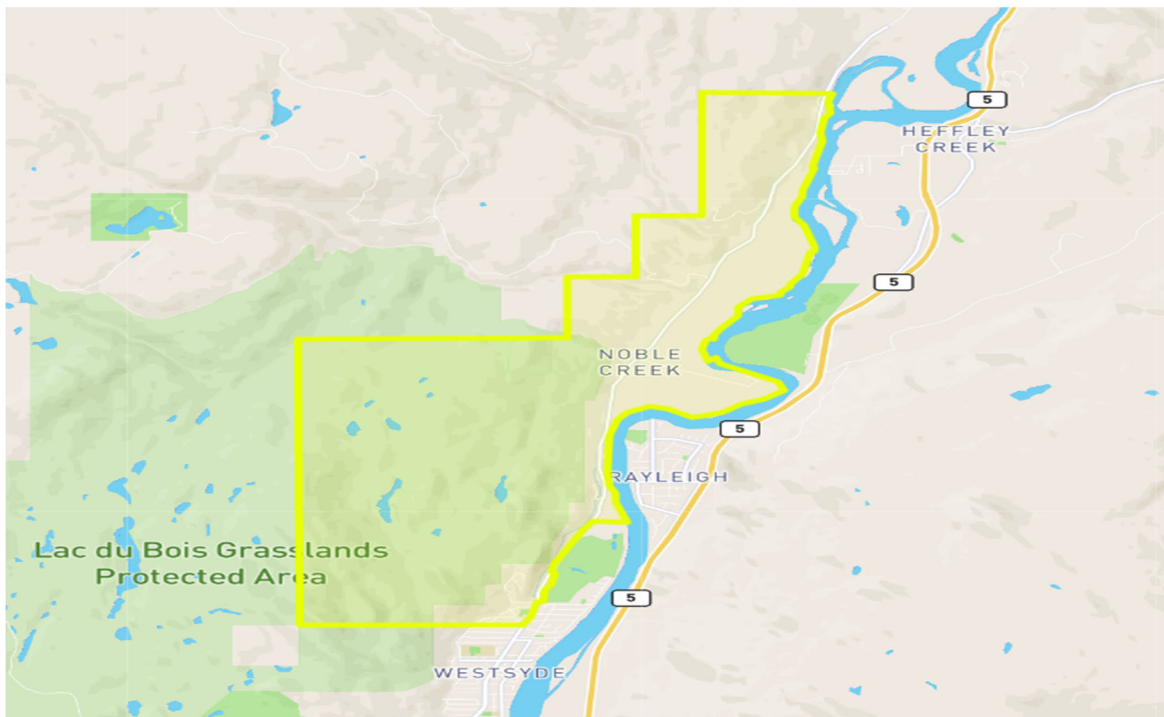


Figure D-3: Zone 2 and 3 Pilot Area



Figure D-4: Zone 4 Pilot Area

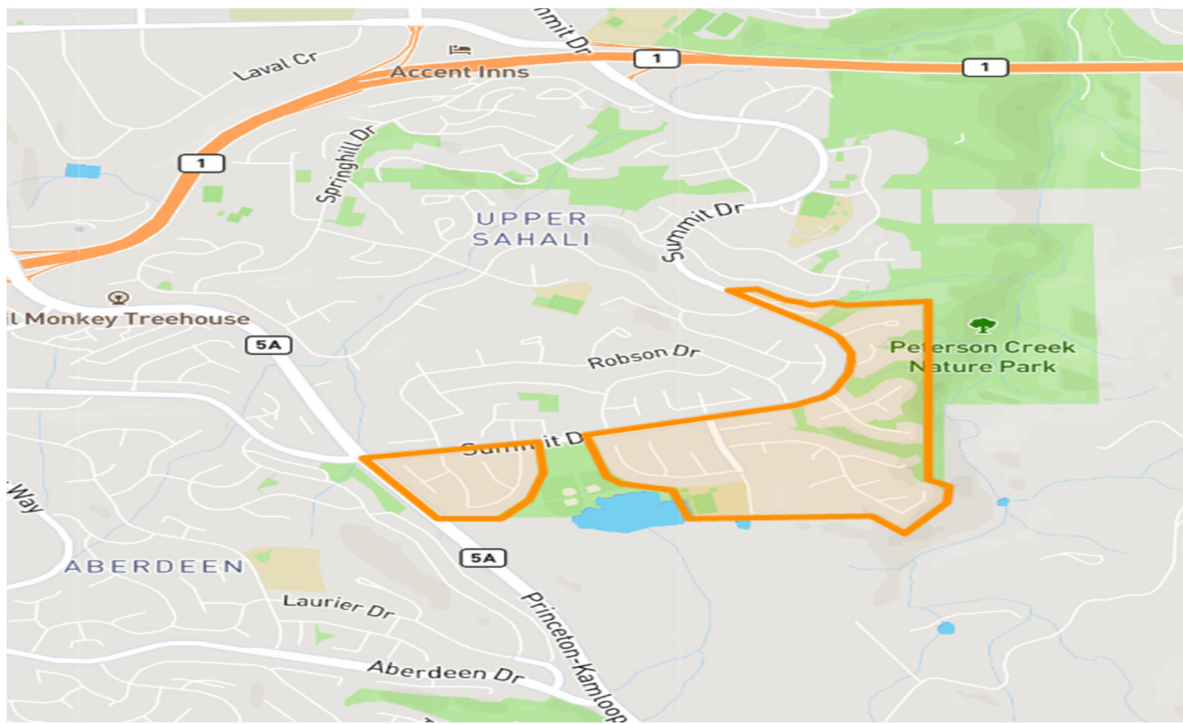
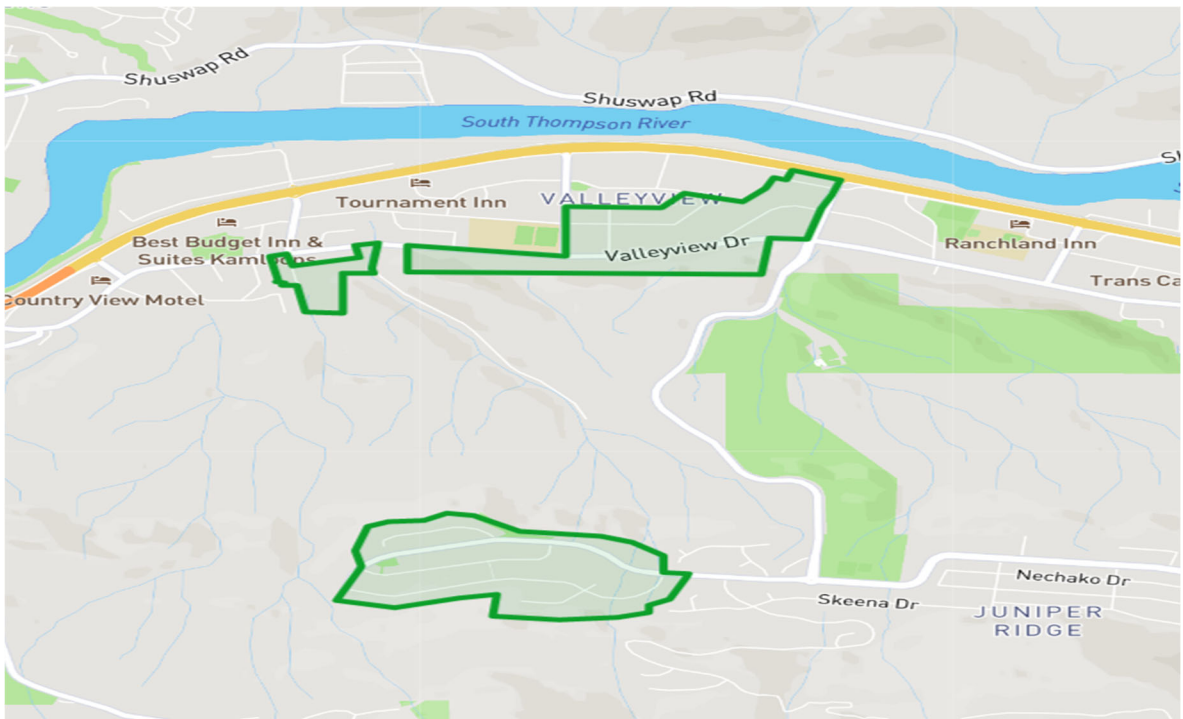


Figure D-5: Zone 5 Pilot Area



APPENDIX E

MATERIAL CATEGORIES

Table E-1: Description of Sorting Categories

#	Primary Category	Secondary Categories	Description and/or Examples
01	Non-Organics	Recyclable Paper	Office paper, fine paper, newsprint, flyers & inserts, telephone books, catalogues, calendars, envelopes, bills, cash register receipts, gift wrap, magazines, shredded paper, office & writing paper, cash register receipts, Cardboard boxes, pizza boxes Boxboard, moulded pulp, craft paper - cereal boxes, egg cartons, takeout food containers (clean), paper bags including multiple paper layers, paper cups, paper packaging
02	Non-Organics	Non-Recyclable Paper	Paper lined or coated with other materials including plastic, foil and wax (multilayered packaging, waxed cardboard, laminated paper, photographs, sandpaper, padded paper mailing envelopes). Tissues and paper soiled with body fluids or cleaning products (not appropriate for composting)
03	Organics	Food Soiled Paper	Food Soiled paper towels, tissues, paper plates and containers
04	Non-Organics	Recyclable Glass	Glass deposit beverage container, bottles, jars
05	Non-Organics	Other Glass	Broken glass, ceramics, sheet glass, drinking glass, etc.
06	Non-Organics	Recyclable Metal	Metal deposit beverage container, Metal packaging (ferrous and non-ferrous), cans, aluminum foil, foil tray, empty aerosol can
07	Non-Organics	Other Metal	Pots and pan, coat hangers, metal parts, nails and screws, metal fixtures, etc.
08	Non-Organics	Recyclable Plastic	Plastic deposit beverage container, plastic containers, clamshells, shampoo bottles, yogurt tubs, garden pots, plastic film, grocery bags, rigid flexible plastic packaging, rigid plastic packaging, plastic cups, plastic jars, etc.
09	Organics	Compostable or Biodegradable bags	Plastics labeled "compostable" or "biodegradable"
10	Non-Organics	Non-Recyclable Plastic	Polystyrene products, plastic plates and cutlery, straws, chip bags, wrappers, motor oil containers, plastic paint cans, toys, garden hose, rope, single use mask, cleaning wipes, etc
11	Organics	Yard Waste in Compostable Bag	Yard waste (grass, leaves, etc.) in compostable paper bag
12	Organics	Yard Waste-Loose	Loose yard waste (grass, leaves, etc.)
13	Organics	Other Yard Waste	Hay, straw, wood shavings, dirt, etc.
14	Organics	Food Waste in Compostable Bag	Food waste in compostable paper bag or packaging and food waste wrapped in compostable paper
15	Organics	Food Waste in Unacceptable Bag	Food waste in plastic bags, plastic packaging or unacceptable bag (including compostable or biodegradable bag)
16	Organics	Food Waste-Loose	Lose food waste
17	Organics	Clean Wood	Clean with no paint, stain or glue, unpainted pallets or skids, chopsticks
18	Organics	Other Compostable Organics	Animal carcasses, pet fur, hair
19	Non-Organics	Animal Waste	Animal manure, Kitty litter, animal bedding material, puppy training pads, pet food and treats
20	Non-Organics	Diapers, Personal Hygiene, HHW	Household hazardous waste, diapers, sanitary napkins, tampons, dental floss, Q-tips, etc.
21	Non-Organics	Textiles	Clothing (natural fibres, blends, polyester, Gore-Tex, fleece, nylon, etc.), Bedding, shoes, stuffed toy, pillows, rags, cloth towels
22	Non-Organics	Painted or Treated Wood	Painted, stained or treated wood. Plywood, wood shingles, particle board, laminate flooring, wood furniture
23	Non-Organics	Other	Electronics, building material, tires, batteries, fines, etc.

APPENDIX F

WASTE COMPOSITION RESULTS

Table F-1: Waste Composition Results for Zone 1

Category		Weekly Pilot Organics (kg/HH)	Every Other Week Pilot Garbage (kg/HH)	Weekly Control Garbage (kg/HH)
01	Recyclable Paper	0.05	0.51	0.60
02	Non-Recyclable Paper	0.02	0.24	0.24
03	Food-Soiled Paper	0.22	0.47	0.70
04	Recyclable Glass	0.00	0.34	0.24
05	Other Glass	0.00	0.08	0.12
06	Recyclable Metal	0.00	0.13	0.21
07	Other Metal	0.00	0.06	0.15
08	Recyclable Plastic	0.00	0.35	0.44
09	Compostable and Biodegradable Bag	0.00	0.00	0.00
10	Non-Recyclable Plastic	0.01	1.33	1.13
11	Yard Waste in Compostable Bag	0.01	0.00	0.01
12	Yard Waste - Loose	0.91	0.03	0.55
13	Other Yard Waste	0.00	0.00	0.00
14	Food Waste in Compostable Bag	1.08	0.05	0.15
15	Food Waste in Unacceptable Bag	0.25	1.18	2.32
16	Food Waste - Loose	1.14	1.15	4.66
17	Clean Wood	0.00	0.01	0.01
18	Other Compostable Organics	0.00	0.04	0.02
19	Animal Waste	0.00	4.85	1.84
20	Diapers, Personal Hygiene, HHW	0.00	1.13	0.69
21	Textiles	0.00	0.29	0.46
22	Painted or Treated Wood	0.00	0.02	0.49
23	Other	0.00	0.36	1.92
	Total	3.68	12.62	16.97

Table F-2: Waste Composition Results for Zone 2

Category		Weekly Pilot Organics (kg/HH)	Every Other Week Pilot Garbage (kg/HH)	Weekly Control Garbage (kg/HH)
01	Recyclable Paper	0.06	1.00	1.19
02	Non-Recyclable Paper	0.01	0.29	0.19
03	Food-Soiled Paper	0.12	0.97	0.88
04	Recyclable Glass	0.00	0.67	0.21
05	Other Glass	0.00	0.16	0.02
06	Recyclable Metal	0.00	0.28	0.18
07	Other Metal	0.00	0.05	0.37
08	Recyclable Plastic	0.00	0.69	0.67
09	Compostable and Biodegradable Bag	0.00	0.00	0.00
10	Non-Recyclable Plastic	0.00	1.44	1.22
11	Yard Waste in Compostable Bag	0.26	1.89	0.00
12	Yard Waste - Loose	0.85	0.15	0.48
13	Other Yard Waste	0.00	0.00	0.00
14	Food Waste in Compostable Bag	0.44	0.23	0.29
15	Food Waste in Unacceptable Bag	0.29	3.95	3.89
16	Food Waste - Loose	1.87	3.15	3.70
17	Clean Wood	0.00	0.06	0.02
18	Other Compostable Organics	0.00	0.05	0.02
19	Animal Waste	0.00	1.11	1.25
20	Diapers, Personal Hygiene, HHW	0.00	2.05	1.02
21	Textiles	0.00	0.78	0.78
22	Painted or Treated Wood	0.00	0.68	0.03
23	Other	0.00	1.13	1.44
	Total	3.90	20.79	17.85

Table F-3: Waste Composition Results for Zone 3

Category		Weekly Pilot Organics (kg/HH)	Every Other Week Pilot Garbage (kg/HH)	Weekly Control Garbage (kg/HH)
01	Recyclable Paper	0.01	0.87	1.20
02	Non-Recyclable Paper	0.01	0.24	0.16
03	Food-Soiled Paper	0.07	1.10	0.74
04	Recyclable Glass	0.00	0.34	0.33
05	Other Glass	0.00	0.15	0.16
06	Recyclable Metal	0.00	0.30	0.17
07	Other Metal	0.00	0.15	0.15
08	Recyclable Plastic	0.00	0.76	0.77
09	Compostable and Biodegradable Bag	0.00	0.00	0.01
10	Non-Recyclable Plastic	0.00	1.32	0.82
11	Yard Waste in Compostable Bag	0.00	0.00	0.03
12	Yard Waste - Loose	0.47	0.07	0.01
13	Other Yard Waste	0.00	0.04	0.02
14	Food Waste in Compostable Bag	0.12	0.15	0.06
15	Food Waste in Unacceptable Bag	0.32	2.92	2.72
16	Food Waste - Loose	0.39	2.94	2.96
17	Clean Wood	0.00	0.01	0.01
18	Other Compostable Organics	0.00	0.00	0.01
19	Animal Waste	0.00	3.51	2.16
20	Diapers, Personal Hygiene, HHW	0.00	2.60	1.06
21	Textiles	0.00	1.01	0.45
22	Painted or Treated Wood	0.00	0.02	0.01
23	Other	0.00	1.61	0.62
	Total	1.41	20.10	14.59

Table F-4: Waste Composition Results for Zone 4

Category		Weekly Pilot Organics (kg/HH)	Every Other Week Pilot Garbage (kg/HH)	Weekly Control Garbage (kg/HH)
01	Recyclable Paper	0.00	0.62	0.49
02	Non-Recyclable Paper	0.00	0.26	0.15
03	Food-Soiled Paper	0.21	0.80	0.78
04	Recyclable Glass	0.00	0.73	0.26
05	Other Glass	0.00	0.21	0.16
06	Recyclable Metal	0.00	0.23	0.17
07	Other Metal	0.00	0.26	0.01
08	Recyclable Plastic	0.00	0.65	0.55
09	Compostable and Biodegradable Bag	0.00	0.01	0.01
10	Non-Recyclable Plastic	0.01	1.70	0.84
11	Yard Waste in Compostable Bag	0.00	0.04	0.00
12	Yard Waste - Loose	0.24	0.02	0.02
13	Other Yard Waste	0.00	0.03	0.00
14	Food Waste in Compostable Bag	1.43	0.10	0.06
15	Food Waste in Unacceptable Bag	0.17	2.61	1.99
16	Food Waste - Loose	2.04	1.22	3.74
17	Clean Wood	0.00	0.03	0.01
18	Other Compostable Organics	0.00	0.02	0.02
19	Animal Waste	0.00	1.73	0.98
20	Diapers, Personal Hygiene, HHW	0.00	2.08	1.34
21	Textiles	0.00	0.99	0.19
22	Painted or Treated Wood	0.00	0.15	0.02
23	Other	0.00	0.96	1.22
	Total	4.11	15.42	12.98

Table F-5: Waste Composition Results for Zone 5

Category		Weekly Pilot Organics (kg/HH)	Every Other Week Pilot Garbage (kg/HH)	Weekly Control Garbage (kg/HH)
01	Recyclable Paper	0.07	0.80	0.46
02	Non-Recyclable Paper	0.00	0.27	0.13
03	Food-Soiled Paper	0.20	0.83	0.58
04	Recyclable Glass	0.00	0.28	0.18
05	Other Glass	0.00	0.11	0.25
06	Recyclable Metal	0.00	0.20	0.18
07	Other Metal	0.00	0.12	0.10
08	Recyclable Plastic	0.00	0.54	0.34
09	Compostable and Biodegradable Bag	0.00	0.00	0.01
10	Non-Recyclable Plastic	0.00	1.23	0.77
11	Yard Waste in Compostable Bag	0.00	0.00	0.61
12	Yard Waste - Loose	1.63	0.15	0.14
13	Other Yard Waste	0.00	0.00	1.08
14	Food Waste in Compostable Bag	0.37	0.01	0.01
15	Food Waste in Unacceptable Bag	0.23	2.53	1.69
16	Food Waste - Loose	1.28	1.13	1.85
17	Clean Wood	0.00	0.32	0.01
18	Other Compostable Organics	0.00	0.01	0.01
19	Animal Waste	0.00	2.35	0.97
20	Diapers, Personal Hygiene, HHW	0.01	2.71	1.29
21	Textiles	0.00	0.81	0.72
22	Painted or Treated Wood	0.00	0.92	0.06
23	Other	0.00	1.29	0.50
	Total	3.78	16.62	11.93

CITY OF KAMLOOPS

BYLAW NO. 40-68

A BYLAW TO AMEND SOLID WASTE AND RECYCLABLES BYLAW NO. 40-67

The Municipal Council of the City of Kamloops, in open meeting assembled, enacts as follows:

1. This Bylaw may be cited as "Solid Waste and Recyclables Amendment Bylaw No. 40-68, 2022".
2. Solid Waste and Recyclables Bylaw No. 40-67, 2021, is hereby amended in Part 1, Section 1.4 Definitions by
 - (a) adding the following definitions:

"APPROVED ORGANICS BAGS" means a bag or liner that is certified compostable and intended to be used to contain food scraps inside a kitchen bin.

"FOOD SCRAPS" means compostable material acceptable at a composting facility, including but not limited to, plate scrapings, fruits and vegetables, cooked and raw foods, meat, poultry, bones, fish, seafood, shellfish, shells, bread, grains, pasta, rice, cereal, pastries, cookies, cakes, muffins, eggs, eggshells, dairy products, cooking oil, fats, grease, condiments, sauces, gravy, jams, used paper plates, greasy pizza boxes, food-soiled paper packaging, paper straws, coffee grounds and filters, tea bags, food-soiled paper towels and napkins, used tissue, used paper towel, and newspaper used to hold food scraps.

"ORGANICS" means Food Scraps and other compostable material, including but not limited to, small pet cage fill materials, hair, fur, wood shavings, wood popsicle sticks, wood stir sticks, wood skewers, wood toothpicks, wood cutlery, leaves, cones, needles, berries, plants, tree fruit, flowers, small branches, twigs and prunings (no larger than 30 cm in length and 2 cm in diameter), grass clippings, weeds, potting soil, untreated mulch, hay, straw, and coconut planter liners; and excluding noxious weeds, infested vegetation, cat feces, or dog feces.
 - (b) repealing the definition of "Solid Waste" in its entirety and replacing the following:

"SOLID WASTE" means household-generated waste (including Garbage, Yard Waste, Food Scraps, and Recyclables), Commercial Waste, and DRC Waste.

3. Solid Waste and Recyclables Bylaw No. 40-67, 2021, is hereby amended in Part 2, Section 2.3 Single-family Dwellings and Duplex by repealing Subsection (a) in its entirety and replacing it with the following:
 - (a) Property Owners and Occupiers of Single-family Dwellings or Duplex Dwellings shall use Automated Collection Service for removal of Garbage, Recyclables, and Organics.
4. Solid Waste and Recyclables Bylaw No. 40-67, 2021, is hereby amended in Part 2, Section 2.4 Multi-family Dwellings and Commercial Premises by repealing in its entirety and replacing with the follow:
 - 2.4 Multi-family Dwellings
 - (a) Property Owners and Occupiers of Multi-family Dwellings may apply to the Civic Operations Director for use of Automated Collection Service for removal of Garbage, Recyclables, and Organics.
 - (b) Upon receiving an application, the Civic Operations Director may authorize the provision of Automated Collection Service if the Civic Operations Director is satisfied that:
 - (i) the Multi-family Dwelling is within City boundaries;
 - (ii) the collection vehicle will have convenient and safe access to and from the Multi-family Dwelling in general, and to and from the designated collection point in particular; and
 - (iii) the anticipated amount, frequency, and type of Garbage, Recyclables, and Organics will be compatible with Automated Collection Service.
 - (c) If the Civic Operations Director authorizes the provision of Automated Collection Service pursuant to section 2.4(b), then they may provide the Multi-family Dwelling with whatever Solid Waste Containers they deem appropriate for Automated Collection Service.
 - (d) Property Owners and Occupiers shall not place Recyclables into Solid Waste Containers intended for Garbage Disposal.
 - (e) Multi-family Dwelling Property Owners shall provide collection services for Recyclables at a scale and frequency that is equivalent to or exceeds the Automated Collection Service provided for by the City, and such service may be provided by the City or by a private service provider, at the discretion of the Property Owner.

5. Solid Waste and Recyclables Bylaw No. 40-67, 2021, is hereby amended in Part 2 by adding Section 2.5 Commercial Premises as follows:

2.5 Commercial Premises

- (a) Property Owners and Occupiers of the Commercial Premises may apply to the Civic Operations Director for use of Automated Collection Service for removal of Garbage and Recyclables.
 - (b) Upon receiving an application, the Civic Operations Director may authorize the provision of Automated Collection Service if the Civic Operations Director is satisfied that:
 - (i) the Commercial Premises is within City boundaries;
 - (ii) the collection vehicle will have convenient and safe access to and from the Commercial Premises in general, and to and from the designated collection point in particular; and
 - (iii) the anticipated amount, frequency, and type of Garbage and Recyclables will be compatible with Automated Collection Service.
 - (c) If the Civic Operations Director authorizes the provision of Automated Collection Service pursuant to section 2.4(b), then they may provide the Commercial Premises with whatever Solid Waste Containers they deem appropriate for Automated Collection Service.
 - (d) Property Owners and Occupiers shall not place Recyclables into Solid Waste Containers intended for Garbage Disposal.
6. Solid Waste and Recyclables Bylaw No. 40-67, 2021, is hereby amended in Part 3, Section 3.2 by adding Section 3.2 (f) as follows:
- (f) items other than Organics have been deposited in a Solid Waste Container designated for Organics.
7. Solid Waste and Recyclables Bylaw No. 40-67, 2021, is hereby amended in Part 3, Section 3.3 Waste That Will Not Be Accepted by:
- (a) repealing Subsection (a)(xxii) in its entirety;
 - (b) repealing Subsection (b) in its entirety and replacing with the following:
 - (b) Pet waste, sawdust, sweepings, vacuum contents, dusty materials, hygiene products, cleaning cloths, disposable wipes, face masks, gloves, and other items that have the potential to contain pathogens shall be enclosed in Approved Garbage Bags prior to being placed in any Solid Waste Container intended for Garbage Disposal.

- (c) adding Subsection (d) as follows:
 - (d) All Organics shall be separated from Garbage and placed in loose or in Approved Organics Bags in Solid Waste Containers designated for Organics.
- 8. Solid Waste and Recyclables Bylaw No. 40-67, 2021, is hereby amended in Part 3, Section 3.4 by:
 - (a) repealing Subsections (h), (i), and (j)(vii) in their entirety and replacing them with the following:
 - (h) Solid Waste Carts are owned and distributed by the City and are to be used exclusively for the storage and collection of Garbage, Recyclables, and Organics; and shall not contain any other material or be used for any other purpose.
 - (i) Automated Collection Service for Solid Waste Carts shall consist of one collection every two weeks for Garbage and Recyclables and one collection every week for Organics, or as otherwise directed by the Civic Operations Director.
 - (j) (vii) remove all Solid Waste Carts from the collection point by 7 pm on collection day;
 - (b) adding Subsection (j)(viv) as follows:
 - (j) (viv) ensure that Solid Waste Carts are stored securely and made inaccessible to wildlife.
- 9. Solid Waste and Recyclables Bylaw No. 40-67, 2021, is hereby amended in Part 4, Section 4.1 Solid Waste Utility Fees by repealing Subsection (b) in its entirety and replacing it with the following:
 - (b) The Solid Waste utility fees for Garbage, Recyclables, and Organics imposed herein shall be calculated in accordance with the fees specified in Schedule "A", and are payable whether or not:
 - (i) any of the Dwelling(s) situated on the real property are used or occupied;
 - (ii) the Property Owner makes use of the Automated Collection Service; or
 - (iii) the Automated Collection Service is interrupted or altered in any manner.
- 10. Solid Waste and Recyclables Bylaw No. 40-67, 2021, is hereby amended in Part 7 Schedules by repealing Schedules "A" and "B" in their entirety and replacing it with Schedules "A" and "B" attached to and forming part of this bylaw.

READ A FIRST TIME the _____ day of _____, 2022.

READ A SECOND TIME the _____ day of _____, 2022.

READ A THIRD TIME the _____ day of _____, 2022.

ADOPTED this _____ day of _____, 2022.

MAYOR

CORPORATE OFFICER

DRAFT

MAYOR

CORPORAT

Schedule "A" - Solid Waste Collection Fees

Solid Waste Cart Collection						
Annual Fees	Effective January 1, 2022			Effective January 1, 2023		
Utility Description	Residential	Multi-family	Commercial	Residential	Multi-family	Commercial
Minimum annual Garbage utility fee	\$78.00	n/a	n/a	\$78.00	n/a	n/a
Minimum annual Recyclables utility fee	\$12.00	n/a	n/a	\$12.00	n/a	n/a
120 L Solid Waste Cart (Garbage) lease	\$7.00	\$7.00	\$7.00	\$7.00	\$7.00	\$7.00
120 L Solid Waste Cart (Garbage) collection fee	\$78.00	\$78.00	\$78.00	\$78.00	\$78.00	\$78.00
180 L Solid Waste Cart (Garbage) lease	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00
180 L Solid Waste Cart (Garbage) collection fee	\$113.00	\$113.00	\$113.00	\$113.00	\$113.00	\$113.00
245 L Solid Waste Cart (Garbage) lease	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00
245 L Solid Waste Cart (Garbage) collection fee	\$140.00	\$140.00	\$140.00	\$140.00	\$140.00	\$140.00
360 L Solid Waste Cart (Garbage) lease	\$12.00	\$12.00	\$12.00	\$12.00	\$12.00	\$12.00
360 L Solid Waste Cart (Garbage) collection fee	\$230.00	\$230.00	\$230.00	\$300.00	\$300.00	\$300.00
245 L Solid Waste Cart (Recyclables) lease	no lease fee	no lease fee	no lease fee	no lease fee	no lease fee	no lease fee
245 L Solid Waste Cart (Recyclables) collection fee	\$12.00	\$12.00	\$50.00	\$12.00	\$12.00	\$50.00
360 L Solid Waste Cart (Recyclables) lease	n/a	no lease fee	no lease fee	no lease fee	no lease fee	no lease fee
360 L Solid Waste Cart (Recyclables) collection fee	n/a	\$20.00	\$75.00	\$20.00	\$20.00	\$75.00
120 L Solid Waste Cart (Organics) lease	n/a	n/a	n/a	no lease fee	no lease fee	n/a
120 L Solid Waste Cart (Organics) collection fee	n/a	n/a	n/a	\$12.00	\$12.00	n/a
Fee for multi-family set out / set back service (per cart)	n/a	\$50.00	n/a	n/a	\$50.00	n/a
Fee for medical set out / set back services	no fee	n/a	n/a	no fee	n/a	n/a
Fee for non-medical set out / set back services	\$100.00	n/a	n/a	\$100.00	n/a	n/a
Additional Fees	Effective January 1, 2021			Effective January 1, 2022		
Surplus Garbage Tag	\$2.00 per tag			\$5.00 per tag		
Solid Waste Cart replacement fee	\$75.00 per cart			\$75.00 per cart		
Solid Waste Cart exchange administration fee*	\$50.00 per request			\$50.00 per request		
*Exchange fees do not apply for downsizing Solid Waste Carts or new homeowner requests within the first three months of ownership.						

Schedule "A" (Continued) - Solid Waste Collection Fees

Solid Waste Bin Collection Commercial								
<u>Fees</u>	<u>Effective January 1, 2022</u>				<u>Effective January 1, 2023</u>			
<u>Size (cubic yard - yd³)</u>	<u>3 yd³</u>	<u>4 yd³</u>	<u>6 yd³</u>	<u>8 yd³</u>	<u>3 yd³</u>	<u>4 yd³</u>	<u>6 yd³</u>	<u>8 yd³</u>
Solid Waste Bin (Cardboard) monthly rental	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Solid Waste Bin (Cardboard) pickup (per tip)	\$14.00	\$22.00	\$30.00	\$40.00	\$14.00	\$22.00	\$30.00	\$40.00
Solid Waste Bin (Garbage) monthly rental fee	\$45.00	\$60.00	\$80.00	\$105.00	\$45.00	\$60.00	\$80.00	\$105.00
Solid Waste Bin (Garbage) pickup (per tip)	\$17.00	\$27.00	\$37.50	\$42.50	\$21.00	\$33.00	\$45.00	\$60.00
Solid Waste Bin (Compacted Garbage) pickup (per tip)	\$24.00	\$32.00	\$50.00	\$67.00	\$24.00	\$32.00	\$50.00	\$67.00

[illegible]

Solid Waste Bin Collection Multi-family								
<u>Fees</u>	<u>Effective January 1, 2022</u>				<u>Effective January 1, 2023</u>			
<u>Size (cubic yard – yd³)</u>	<u>3 yd³</u>	<u>4 yd³</u>	<u>6 yd³</u>	<u>8 yd³</u>	<u>3 yd³</u>	<u>4 yd³</u>	<u>6 yd³</u>	<u>8 yd³</u>
Solid Waste Bin (Garbage) monthly rental, includes one pickup per week	\$45.00	\$60.00	\$80.00	\$105.00	\$45.00	\$60.00	\$80.00	\$105.00
Solid Waste Bin (Garbage) pickup (per tip)	\$17.00	\$27.00	\$37.50	\$42.50	\$21.00	\$33.00	\$45.00	\$60.00
Solid Waste Bin (Compacted Garbage) pickup (per tip)	\$22.00	\$30.00	\$48.00	\$64.00	\$22.00	\$30.00	\$48.00	\$64.00
Solid Waste Bin (Recyclables) monthly rental, includes one pickup per week	\$20.00	\$30.00	\$40.00	\$60.00	\$20.00	\$30.00	\$40.00	\$60.00
Solid Waste Bin (Recyclables) pickup (per tip)	\$11.00	\$16.50	\$22.00	\$33.00	\$11.00	\$16.50	\$22.00	\$33.00
Solid Waste Bin (Recyclables) bi-weekly collection monthly rental	\$11.00	\$16.50	\$22.00	\$33.00	\$11.00	\$16.50	\$22.00	\$33.00

[illegible]

**Schedule “B”
Solid Waste Disposal Fees**

Mission Flats Landfill (MFL) and Kamloops Resource Recovery Centre (KRRC)						
<u>Mixed loads are charged at the highest applicable fee (Effective January 1, 2022)</u>						
<u>Materials Accepted</u>	<u>Accepted Sites</u>			<u>Fees (Weight Based)</u>		
	<u>MFL</u>	<u>KRRC</u>	<u>BHV¹</u>	<u>Fee MFL</u>	<u>Fee KRRC</u>	<u>Unit Fee</u>
Refuse	yes	yes ²	yes	\$80.00	\$80.00	Tonnes
Bulky Furniture	yes	yes	yes	\$10.00	\$25.00	Surcharge
Mattresses and box springs	yes	yes	yes	\$20.00	\$25.00	Surcharge
Comingled DRC Waste	yes	yes	yes	\$200.00	\$200.00	Tonnes
Land Clearing Waste	yes	yes	yes	\$200.00	\$200.00	Tonnes
Wood Waste	yes	yes	yes	\$100.00	\$50.00	Tonnes
Gypsum	yes	yes	yes	\$100.00	\$100.00	Tonnes
Crushable Material	yes	yes	no	\$20.00	\$20.00	Tonnes
Asphalt Roofing	yes	yes	no	\$125.00	\$75.00	Tonnes
Yard Waste	yes	yes	yes	\$500.00	\$500.00	Tonnes
Freon-containing Appliances - Commercial	yes	yes	no	\$15.00	\$30.00	Item
Tires on rims (passenger vehicles)	yes	no	yes	\$3.00	N/A	Tire
Clean Fill (dumping body)	yes	yes	yes	\$10.00	\$10.00	Tonnes

¹ Residential only

² Putrescible (kitchen and food) waste is not accepted

**Schedule “B” (Continued)
Solid Waste Disposal Fees**

<u>Mission Flats Landfill (MFL) and Kamloops Resource Recovery Centre (KRRC)</u>						
(Effective January 1, 2022)						
<u>Waste Requiring Special Handling</u>	<u>Accepted Sites</u>			<u>Fees (Weight Based)</u>		<u>Unit Fee</u>
	<u>MFL</u>	<u>KRRC</u>	<u>BHV³</u>	<u>Fee MFL</u>	<u>Fee KRRC</u>	
Registered hens	yes	no	yes	\$5.00	\$5.00	Hen
Asbestos ⁴	yes	no	no	\$250.00	\$250.00	Tonnes
Bulky Waste	yes	yes	yes	\$200.00	\$200.00	Tonnes
Carcasses ⁵	yes	no	yes	\$180.00	n/a	Tonnes
Creosote-treated wood (max 1.5 m length)	yes	yes	no	\$160.00	\$160.00	Tonnes

³ Residential only

⁴ Minimum fee \$50 on commercial loads

⁵ Minimum fee \$50

Schedule “B” (Continued)
Solid Waste Disposal Fees

<u>Barnhartvale Landfill (BHV) Refuse Fees</u>				
(Volume Based)			<u>Extended Sides</u>	
	<u>Half Load</u>	<u>Full Load</u>	<u>Half Load</u>	<u>Full Load</u>
Cars and SUVs	\$5.00	\$10.00	n/a	n/a
Pick-up Trucks	\$12.50	\$25.00	\$20.00	\$40.00
Trailers:				
1.8 m – 3.6 m in length	\$15.00	\$30.00	\$25.00	\$50.00
Greater than 3.6 m in length	\$22.50	\$45.00	\$40.00	\$80.00
Dump bodies:				
1 tonnes single axle	\$40.00	\$80.00	\$60.00	\$120.00
5 tonne single axle	\$200.00	\$400.00	\$300.00	\$600.00
Tandem axle	\$400.00	\$800.00	\$600.00	\$1,200.00
Carcasses:				
Registered Hen	\$5.00	item	n/a	n/a
Small	\$50.00	item	n/a	n/a
Large	\$100.00	item	n/a	n/a

<u>Speciality Items</u>			<u>Effective January 1, 2022</u>	
Bulky Furniture			\$10.00	item
Mattresses and box springs			\$20.00	item
Tires on Rims (passenger vehicles)			\$3.00	item
Separated Wood Waste and Gypsum is 1.2 x fee				
Comingled DRC Waste is 2 x fee				

**Schedule "B" (Continued)
Solid Waste Disposal Fees**

Mission Flats Landfill (MFL), Kamloops Resource Recovery Centre (KRRC), and Barnhartvale Landfill (BHV)			
<u>Accepted FREE Material When Source Separated</u>			
	<u>MFL</u>	<u>KRRC</u>	<u>BHV</u>
Batteries	yes	no	yes
Cardboard	yes	no	yes
Clean Fill (non-dumping body)	yes	yes	yes
Domestic pesticides	yes	no	no
Electronics	yes	no	yes
Electrical appliances and power tools	yes	no	yes
Flammable liquids	yes	no	no
Freon-containing appliances (residential)	yes	no	yes
Gasoline in approved container	yes	no	no
Infested Vegetation and Noxious Weeds	yes	yes	yes
Large exercise equipment	yes	no	no
Lights and light fixtures*	yes	no	no
Metal	yes	no	yes
Packaging and paper products	yes	no	yes
Paint and paint aerosols (residential)*	yes	no	yes
Propane tanks*	yes	no	yes
Thermostats	yes	no	no
Tires off rims*	yes	no	yes
*Residential quantities only. Check City website for details.			

<u>Sale of Compost from Cinnamon Ridge Compost Facility</u>	
Loaded by the Facility Operator	\$20 per m ³
Standard receptacle loaded by the purchaser (approximately 100 L)	\$2 per receptacle

A BYLAW TO AMEND MUNICIPAL TICKET INFORMATION BYLAW NO. 43-15

CORPORATE OFFICER

Schedule “Q” Solid Waste and Recyclables Bylaw No. 40-67		
Column 1 OFFENCE	Column 2 SECTION	Column 3 PENALTY
Failure to comply with waste storage and removal requirements	2.2 (a) – (h)	\$100
Disposal of Recyclables in Solid Waste Containers intended for Garbage Disposal	2.4 (d)	\$100
Insufficient recycling service at Multi-family Dwelling	2.4 (e)	\$500
Disposal of prohibited waste in Solid Waste Container	3.3 (a)	\$100
Failure to properly bag Solid Waste	3.3 (b)	\$100
Failure to properly separate or dispose of Recyclables	3.3 (c)	\$100
Failure to properly separate or dispose of Organics	3.3 (d)	\$100
Failure to comply with Automated Collection Service requirements for Solid Waste Carts	3.4 (a), (b), (c), (e), (h) and (j)	\$100
Failure to comply with Automated Collection Service requirements for Solid Waste Bins	3.5 (a), (c), (e) and (f)	\$100
Impermissible scavenging from Solid Waste Containers	3.6 (b)	\$100
Failure to comply with Facilities rules or with direction from Facility Operator	5.3 (a) – (m)	\$100
Impermissible removal or salvage of Solid Waste from a Facility	5.6	\$100
Children or animals at large at Facility	5.9	\$100
Hindering, delaying, or obstructing Civic Operations Director, Community Services Officer or Facility Operator in exercise of their duties	6.3	\$100

MINUTES of a Junior Council Meeting, held in Council Chambers, 7 Victoria Street West, Kamloops, BC, on Wednesday, June 1, 2022, at 3:30 pm.

PRESENT:

**S. Wong, Sahali Secondary School
J. Wilson, South Kamloops Secondary School
M. Dick, Solid Waste Services Analyst, City of Kamloops
S. Hunter, Councillor, City of Kamloops
C. Roberts, Executive Assistant to the Chief Administrative Officer, City of Kamloops,
Recording Secretary**

1. APPROVAL OF THE AGENDA

The agenda was approved as presented.

2. MINUTES

Moved by Junior Councillor Wilson, seconded by Junior Councillor Wong that the minutes of April 25, 2022, Junior Council meeting be adopted.

CARRIED.

3. NEW BUSINESS

Community Wide Curbside Residential Organic Waste Collection Program

Solid Waste Services Analyst Dick presented the community wide residential organics waste collection program. The program is currently in a pilot phase and the City is seeking direction as it relates to switching to a bi-weekly collection schedule for garbage and recycling and the option to opt out of organics collection for residents who backyard compost or otherwise divert organics landfill.

Phase one of the project took place in September 2020 to June 2021 to complete research and gather public consultation. The pilot program started in phase two from September 2021 to August 2022 and phase three would take place in July of 2023 and implement curbside organic waste collection for all single and multi family households.

During the pilot data has been collected and studies have been done to evaluate the program. Capture rates highlight the proportion of organic waste diverted from garbage is 53% in December and the program would increase the landfill life expectancy by 3 years. Engagement with residents shows a consistent level of support for the program throughout all phases from initial discussion to pilot role out. Surveys show that biweekly garbage and recycling collection would only significantly affect approximately 25% of residents.

The Civic Operations Committee are recommending that Council authorize:

- a) Solid Waste and Recyclables Amendment Bylaw No. 40-68, 2022

- b) Municipal Ticket Information Amendment Bylaw No. 43-17, 2022, be introduced and read a first, second, and third time
- c) subject to adoption of Bylaw No. 40-68:
 - I. \$1,200,400 from the Solid Waste Reserve for additional capital costs including \$120,000 for City-provided kitchen bin liners for community-wide implementation
 - II. the addition of four FTEs to support administration and operations

Junior Councillor Wilson noted that the program is a good initiative and would be a great addition to the City although he did express some concerns around shifting to a bi-weekly collection schedule as from personal experience he found garbage and recycling cans are always full on a weekly schedule.

Solid Waste Services Analyst Dick advised that during the pilot program it was observed that although cans were generally full during collection on a weekly schedule it is often partly due to improper filling of cans. The City has begun educational videos for the public on the importance of properly filling cans to guarantee max capacity.

Junior Councillor Wong expressed he feels the program is a good idea but noted that more education is needed on how to properly reduce waste. He feels that with the addition of the organics waste collection program, adjusting to a bi-weekly collection schedule would be sufficient service as it should reduce the amount of waste.

Moved by Junior Councillor Wilson, seconded by Junior Councillor Wong to support the Community Wide Curbside Residential Organic Waste Collection Program.

Affirmative: Junior Councillor Wilson and Wong

Opposed: none

CARRIED

Review Presentation to Council Junior Council Members

Junior Council discussed coordinated of the year end presentation to Council on June 14th. Councillor Hunter noted it would be beneficial to include feedback on the program and what could be improved. Councillor Hunter and Executive Assistant Roberts provided any support needed.

5. ROUND TABLE

Executive Assistant Roberts reminded Junior Council of the New Employee Tour on June 17th. The tour will start at McArthur Island and visit City facilities including the Sewer Treatment Plant, TCC, Fire Hall #7 and Civic Ops yard among other stops.

It was also noted that the Human Resources and Safety department has a temporary job opportunity for someone to assist the department with project work related to digitizing of filing systems. The position runs from June to September and hours are flexible to work around student schedules.

6. **NEXT MEETING**

This is the final meeting for the 2021/2022 term.

7. **ADJOURNMENT**

The meeting adjourned at 4:23 pm.

Certified Correct:

**C. Roberts, Recording Secretary
Executive Assistant to the Chief
Administrative Officer**

**J. Wilson, South Kamloops Secondary
School
Chairperson**