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December 4, 2024

Mr. Steve Copp
Mirror Nova Scotia Limited
600 Otter Lake Drive
Lakeside, NS B3T 2E2

Dear Mr. Copp,

Re: November 2024 Performance Audit
Otter Lake Waste Processing & Disposal Facility

In November 2024, Strum Consulting was retained by Mirror Nova Scotia Limited (Mirror) to oversee a Performance Audit at the Otter Lake Waste Processing & Disposal Facility (Otter Lake) located at 600 Otter Lake Drive in Lakeside, NS.

The purpose of the Quarterly Performance Audit is to characterize the incoming residential waste stream and assess the percentage of compostable waste in this stream by mass. The audit also captures the incoming percentage of white goods and household hazardous waste (HHW). This letter report provides a summary of the Performance Audit completed on November 13, 2024.

SUMMARY

Based on 10 samples being collected during the November 2024 Performance Audit, the total compostable waste percentage per area ranged from a minimum of 7.02% to a maximum of 25.61%. The total weighted Compostable Waste Percentage for the November 2024 Audit is calculated to be 10.01%.

Using the combined data collected during the May 2024, August 2024, and November 2024 Performance Audits, the total compostable waste percentage ranged from a minimum of 7.70% to a maximum of 33.92%. For the three quarterly audits completed to date, using the calculated 95% confidence interval, the percentage of Estimated Annual Compostable Waste is calculated to be between 7.67% and 13.75%, with a total weighted Compostable Waste Percentage value of 10.71%. The long-term cumulative goal (i.e., Performance Target) for Otter Lake includes compostable waste not exceeding 10% of the total amount of municipal solid waste landfilled, by mass.

As additional sampling will be completed during future quarterly audits, it is expected that the statistical data will vary as more audit data becomes available.

BACKGROUND

In March 2022, Nova Scotia Environment & Climate Change (NSECC) issued an updated Municipal Approval for Otter Lake, allowing the Front End Processor and Waste Stabilization Facility (FEP/WSF) to be deactivated upon the submission and acceptance of a Compliance Plan in accordance with the Approval requirements.

As per the Approval, the Performance Targets for Otter Lake include (but are not limited to) a long-term goal of compostable waste not exceeding 10% of the total amount of municipal solid waste landfilled, by mass. In September 2023, NSECC approved the following timeline for working towards this long-term Performance Target of maximum per cent compostable waste in the garbage stream:

- March 31, 2024 - 11.61% Compostable Waste
- March 31, 2025 - 10.81% Compostable Waste
- March 31, 2026 - 10.0% Compostable Waste

The Compliance Plan outlines how Quarterly Performance Audits will be completed as a means to quantify the presence of compostable waste being received in the residential waste stream at Otter Lake. White goods and HHW were added to the audits based on comments received from NSECC after their review of the draft Compliance Plan.

METHODOLOGY

The methodology followed for the November 2024 Performance Audit reflects best practices identified in the Divert NS Waste Audit Manual and Field Procedures Guide (2017), as well as site specific processes established by Halifax Regional Municipality (HRM) and is summarized below.

Sample Load Identification

Residential curbside collection is divided into eight collection areas in HRM and condominium properties which are also considered to be residential. The geographic descriptions of the various areas are described in Table A, below.

Table A: Collection Area Descriptions

Waste Collection Area	Area Description
1	Halifax (former city limits); Spryfield
2	Dartmouth (former city limits)
3	Bedford; Hammonds Plains; Pockwock
4	Beechville-Timberlea; Herring Cove; Prospect; Peggy's Cove; St. Margaret's Bay to Hubbards
5	Sackville; Beaver Bank; Fall River; Waverley, Wellington; Dutch Settlement
6	Cole Harbour; Westphal; Cherry Brook; Eastern Passage; Cow Bay
7	Porters Lake; Lawrencetown; Chezzetcook; Lake Echo; Preston
8	Middle Musquodoboit; Musquodoboit Harbour; Elderbank; Sheet Harbour; Eastern Shore
Condos	Multi-residential style properties located in various communities

Based on residential curbside collection schedules for each specific collection area and the scheduled audit date and time, sample loads are selected ahead of time by HRM staff. A random number generator is used to choose which vehicle will be sampled.

The Alberta Provincial Waste Characterization Framework (2005) was reviewed and used to guide the number and weight of the samples to be collected. A minimum annual sample number of 40 samples is recommended, and as such, two samples from collection Area 3 and one sample from all other curbside collection areas (Areas 1-2, 4-8, and Condos), for a total of 10 samples, were assessed as part of the November 2024 Performance Audit. To avoid skewing the annual data, any duplicate samples are averaged to give a single value per area for each audit.

The selected loads were visually inspected at the tip face upon arrival and photographs were taken as shown in the attached photo log (Attachment 1). The following information was recorded for each load:

- Collection vehicle and route numbers
- Date/Time of arrival
- Date/Time sample taken
- Gross and tare weight of truck
- Weight of sample
- Number/type of bulky items observed
- Names of persons taking the sample
- Date/Time of sorting

Sample Size

Photographs of the auditing process are provided as Attachment 1. Once emptied from the vehicle, multiple sections of the load were selected in order to draw a sample that was representative of the load. Each sample was to contain a mix of clear and black bags. Containers shown in Photo 1 (Attachment 1) were used to collect a sample between 90 and 135 kg.

Records documenting the identifying information of each vehicle sampled (scale tickets - Attachment 2) and the Performance Audit Record field data sheets (Attachment 3) are also attached to this report.

Material Categories

The categories that were used to define the different types of compostable waste are consistent with the Approval and are outlined below in Table B.

Table B: Compostable Waste Sorting Categories

Category	Sub-Category	Examples
Fibre	Newsprint/Paper	The Chronicle Herald, The Coast, Masthead News, The Cobequid/Dartmouth/Cole Harbour Wire, flyers
	Corrugated Cardboard/Boxboard	Consumer boxes (e.g., from appliances, storage, filing, and shipping)
Organics	Food Waste (Putrescible)	Whole vegetables, fruit, meat, fish, leftover food waste, eggshells, peels, oils, bones, fat, packaged food (if most of it consists of food)
	Yard Waste	Grass, leaves, brush, branches, wood chips, soil

Materials which did not fall into one of the above noted categories were counted, weighed, and categorized as one of the following:

- Other garbage
- HHW including lead-acid (automotive) batteries, post-consumer paint products, ethylene glycol, used oil, used glycol, used oil filters, glycol containers, and oil containers.
- White goods (items such as toasters, microwaves, and coffee makers that would be mostly composed of metal materials that can be disposed of in garbage bags). It should be noted that the majority of white goods are not marketable from a recycling perspective.

Sorting Procedure

The sorting team consisted of several Mirror staff. All staff were briefed on the sorting protocols, including familiarity with example materials for each sorting category. Strum staff were designated as “Lead” and responsible for quality control and data collection.

The audit space consisted of an open area set up with tables for sorting waste materials, containers clearly labeled for each of the waste categories, and digital scales for weighing the waste materials. The containers used for sorting were weighed prior to commencing the audit and recorded on the data sheets to allow for net sample weights to be determined.

To maintain consistency, the Lead was responsible for weighing and recording the data on dedicated data sheets for each area, each time a container was filled. The process continued for each respective area until the full sample was properly sorted and weighed.

PREVIOUS ASSESSMENTS

A baseline was developed through previous Performance Audits that were completed for the 2022/23 fiscal year in May 2022 (report dated June 22, 2022), August 2022 (report dated November 4, 2022), November 2022 (report dated February 2, 2023), and February 2023 (report dated April 6, 2023). Using the combined data collected during the 2022/23 quarterly Performance Audits, the total weighted Compostable Waste Percentage value of 12.41% was found.

Performance Audits for the 2023/24 fiscal year began in May 2023 (report dated June 26, 2023), with additional audits completed in August 2023 (report dated October 30, 2023), November 2023 (report dated January 9, 2024), and February 2024 (report dated March 18, 2024). Using the combined data collected during the 2023/24 quarterly Performance Audits, the total weighted Compostable Waste Percentage value of 11.64% was found.

Performance Audits for the 2024/25 fiscal year began in May 2024 (report dated June 18, 2024), with an additional audit completed in August 2024 (report dated September 24, 2024). Using the combined data collected during the 2024/25 quarterly Performance Audits completed to date, the total weighted Compostable Waste Percentage value of 11.06% was found.

NOVEMBER 2024 PERFORMANCE AUDIT SUMMARY

A summary of the November 2024 Performance Audit completed at Otter Lake is provided below in Table C. The November 2024 Performance Audit field data sheets containing the data collected respective to each waste collection area during the audit are attached to this report as Attachment 3.

Table C: November 2024 Performance Audit Results

Waste Collection Area	Category Percentage (%)							
	Garbage/ Residue	HHW	White Goods	Fibre - Newsprint/ Paper	Fibre - Corrugated Cardboard	Organics - Food/ Putrescible Waste	Organics - Yard Waste	Total Compostable Waste
1	91.43%	0.11%	0.23%	3.20%	2.86%	1.94%	0.00%	8.00%
2	91.06%	0.00%	1.79%	0.56%	0.89%	5.47%	0.11%	7.04%
3A	84.12%	0.00%	0.12%	2.47%	4.71%	8.24%	0.12%	15.53%
3B	87.50%	0.00%	0.38%	1.88%	2.00%	6.50%	0.00%	10.38%
4	89.15%	0.38%	0.57%	1.98%	3.58%	3.87%	0.09%	9.53%
5	89.36%	0.32%	1.60%	2.23%	1.91%	2.87%	0.00%	7.02%
6	90.04%	0.33%	0.58%	1.99%	1.83%	4.48%	0.08%	8.38%
7	87.93%	0.00%	1.12%	1.81%	3.53%	5.43%	0.00%	10.78%
8	71.04%	0.00%	2.62%	4.34%	4.25%	17.01%	0.00%	25.61%
Condos	82.58%	0.00%	1.97%	2.88%	4.24%	7.27%	0.00%	14.39%

Notes:
1. Total compostable waste percentage based on aggregate of four compostable waste category percentages.

Using the data in Table C above, the total compostable waste percentage ranged from a minimum of 7.02% (Area 5) to a maximum of 25.61% (Area 8), based on the 10 samples collected during the November 2024 Performance Audit.

Average Total Compostable Waste Percentage

A summary of the Total Compostable Waste percentage for the May 2024, August 2024, and November 2024 Performance Audits completed at Otter Lake is provided below in Table D. Using this data, the Average Total Compostable Waste percentage was calculated for each area.

Table D: Average Total Compostable Waste

Waste Collection Area	Three Year Waste Average (Tonnes)	May 2024 Total Compostable Waste	August 2024 Total Compostable Waste	November 2024 Total Compostable Waste	Average Total Compostable Waste Per Area
1	10014.25	18.71%*	7.32%	8.00%	11.34%
2	6841.50	9.95%	6.12%**	7.04%	7.71%
3	4433.34	18.36%	5.95%	12.95%***	12.42%
4	5334.37	6.51%	6.93%	9.53%	7.65%
5	8637.86	11.78%	7.57%	7.02%	8.79%
6	5150.89	11.26%	4.29%	8.38%	7.98%
7	2930.93	8.91%	3.41%	10.78%	7.70%
8	3298.51	11.76%	1.79%	25.61%	13.06%
Condos	2351.13	72.35%	15.00%	14.39%	33.92%

Notes:

1. Data used to calculate three-year average provided by Mirror and included tonnage from the fiscal years 2021/2022, 2022/2023, and 2023/2024.
2. *May 2024 Total Compostable Waste percentage for Area 1 is based on average of the two samples (1A and 1B) collected during the May 2024 waste audit.
3. ** August 2024 Total Compostable Waste percentage for Area 2 is based on average of the two samples (2A and 2B) collected during the August 2024 waste audit.
4. *** November 2024 Total Compostable Waste percentage for Area 3 is based on average of the two samples (3A and 3B) collected during the November 2024 waste audit.

Based on the data in Table D above, the average total compostable waste percentage ranges from a minimum of 7.70% (Area 7) to a maximum of 33.92% (Condos).

Overall Compostable Waste

November 2024

As shown in Table E below, given the November 2024 total compostable waste percentage per area and the three-year average of waste tonnage per area, the estimated compostable waste tonnage per year has been calculated. Using the total of the Estimated Annual Compostable Waste (4902.46 tonnes) and the three-year waste average total (48,992.77 tonnes), the weighted Compostable Waste Percentage is calculated to be 10.01%. Supporting data is provided as Table 1 (Attachment 4).

Table E: Estimated Annual Compostable Waste based on November 2024 Data

Waste Collection Area	Three Year Waste Average (Tonnes)	November 2024 Total Compostable Waste	Estimated Annual Compostable Waste (Tonnes)
1	10014.25	8.00%	801.14
2	6841.50	7.04%	481.58
3	4433.34	12.95%*	574.22
4	5334.37	9.53%	508.27
5	8637.86	7.02%	606.49
6	5150.89	8.38%	431.73
7	2930.93	10.78%	315.83
8	3298.51	25.61%	844.78
Condos	2351.13	14.39%	338.42
Total	**48992.77**	**N/A**	**4902.46**
Weighted Compostable Waste Percentage = (4902.46/48992.77) X 100 = 10.01%			

Notes:
1. Data used to calculate three-year average provided by Mirror and included tonnage from the fiscal years 2020/2021, 2021/2022, and 2022/2023.
2. *November 2024 Total Compostable Waste percentage for Area 3 is based on average of the two samples (3A and 3B) collected during the November 2024 waste audit.

Based on the data in Table E above, the Estimated Annual Compostable Waste per area ranges from a minimum of 315.83 tonnes (Area 7) to a maximum of 844.78 tonnes (Area 8), with a mean of 544.72 tonnes.

May 2024, August 2024, and November 2024

As shown in Table F below, given the average (May 2024, August 2024, and November 2024) total compostable waste percentage per area and the three-year average of waste tonnage per area, the estimated compostable waste tonnage per year has been calculated. Using the totals of the Estimated Annual Compostable Waste (5245.74 tonnes) and the three-year waste average total (48,992.77 tonnes), the weighted Compostable Waste Percentage is calculated to be 10.71%. Supporting data is provided as Table 2 (Attachment 4).

Table F: Estimated Annual Compostable Waste – May 2024, August 2024, and November 2024

Waste Collection Area	Three Year Waste Average (Tonnes)	Three Year Waste Average (% Total)	Average Total Compostable % Per Area	Estimated Annual Compostable Waste (Tonnes)
1	10014.25	20.44%	11.34%	1135.92
2	6841.50	13.96%	7.71%	527.17
3	4433.34	9.05%	12.42%	550.60
4	5334.37	10.89%	7.65%	408.32
5	8637.86	17.63%	8.79%	759.14
6	5150.89	10.51%	7.98%	410.91
7	2930.93	5.98%	7.70%	225.66
8	3298.51	6.73%	13.06%	430.62
Condos	2351.13	4.80%	33.92%	797.40
Total	**48992.77**	**100.00%**	**N/A**	**5245.74**
Compostable Waste Percentage = (5245.74/48992.77) X 100 = 10.71%				

Notes:
1. Data used to calculate three-year average provided by Mirror and included tonnage from the fiscal years 2020/2021, 2021/2022, and 2022/2023.

Based on the data in Table F above, the Estimated Annual Compostable Waste per area ranges from a minimum of 225.66 tonnes (Area 7) to a maximum of 1135.92 tonnes (Area 1), with a mean of 582.86 tonnes.

DESCRIPTIVE STATISTICS

A descriptive statistical analysis was completed on the Estimated Annual Compostable Waste tonnage and the Estimated Annual Food/Putrescible Waste calculated per area from the November 2024 Performance Audit. The statistical analysis was completed using the Microsoft Excel Analysis ToolPak Descriptive Statistics analysis tool. Supporting data for the statistical analysis is provided as Tables 1 – 4 (Attachment 4).

Compostable Waste

At 95% confidence interval, the Estimated Average Annual Compostable Waste tonnage per area is calculated to be between 417.47 tonnes (lower bound) and 748.26 tonnes (upper bound). The confidence interval was calculated by subtracting/adding the calculated 95% confidence level (165.39) from the mean (582.86 tonnes).

By multiplying the lower bound (417.47 tonnes) and the upper bound (748.26 tonnes) of the 95% confidence interval by nine (for each area), the Total Estimated Annual Compostable Waste would have a calculated range of 3757.19 tonnes to 6734.30 tonnes. By dividing the lower and upper range of the Total Estimated Annual Compostable Waste by the three-year waste average total (48,992.77 tonnes), and multiplying the values by 100%, the percentage of Estimated Annual Compostable Waste is calculated to be between 7.67% and 13.75%.

Food/Putrescible Waste

At 95% confidence interval, the Estimated Average Annual Food/Putrescible Waste tonnage per area is calculated to be between 195.15 tonnes (lower bound) and 420.10 tonnes (upper bound). The confidence interval was calculated by subtracting/adding the calculated 95% confidence level (168.63) from the mean (324.08 tonnes).

By multiplying the lower bound (195.15 tonnes) and the upper bound (420.10 tonnes) of the 95% confidence interval by nine (for each area), the Total Estimated Annual Food/Putrescible Waste would have a calculated range from 1756.35 tonnes to 3780.93 tonnes. By dividing the lower and upper range of the Total Estimated Annual Food/Putrescible Waste by the three-year waste average total (48,992.77 tonnes), and multiplying the values by 100%, the percentage of Estimated Annual Food/Putrescible Waste is calculated to be between 3.58% and 7.72%. The estimated annual Food Waste percentage is calculated to be 5.65%. Supporting data is provided as Tables 5-8 (Attachment 4).

The above noted statistical analyses are based on a total of 30 samples collected during the May 2024, August 2024, and November 2024 Performance Audits. As additional sampling will be completed during future audits, it is expected that the statistical data will vary as more data becomes available.

CLOSURE

This report was prepared by [redacted], and was reviewed by [redacted] Should additional information become available, Strum requests that this information be brought to our attention immediately so that we can re-assess the conclusions presented in this report.

This Report and any use of the Report is subject to the terms herein (see attached Statement of Qualifications and Limitations).

If you have any questions, please contact us.

Thank you,

[redacted]

[redacted]

STATEMENT OF QUALIFICATIONS AND LIMITATIONS

This Report (the "Report") has been prepared by Strum Consulting ("Consultant") for the benefit of Mirror Nova Scotia Limited ("Client") in accordance with the agreement between Consultant and Client, including the scope of work detailed therein (the "Agreement").

The information, data, recommendations, and conclusions contained in the Report (collectively, the "Information"):

- is subject to the scope, schedule, and other constraints and limitations in the Agreement and the qualifications contained in the Report (the "Limitations")
- represents Consultant's professional judgement in light of the Limitations and industry standards for the preparation of similar reports
- may be based on information provided to consultant which has not been independently verified
- has not been updated since the date of issuance of the Report and its accuracy is limited to the time period and circumstances in which it was collected, processed, made or issued
- must be read as a whole and sections thereof should not be read out of such context
- was prepared for the specific purposes described in the Report and the Agreement
- in the case of subsurface, environmental, or geotechnical conditions, may be based on limited testing and on the assumption that such conditions are uniform and not variable either geographically or over time

Consultant shall be entitled to rely upon the accuracy and completeness of information that was provided and has no obligation to update such information. Consultant accepts no responsibility for any events or circumstances that may have occurred since the date on which the Report was prepared and, in the case of subsurface, environmental, or geotechnical conditions, is not responsible for any variability in such conditions, geographically or over time.

Consultant agrees that the Report represents its professional judgement as described above and that the Information has been prepared for the specific purpose and use described in the Report and the Agreement, but Consultant makes no other representations, or any guarantees or warranties whatsoever, whether express or implied, with respect to the Report, the Information or any part thereof.

The Report is to be treated as confidential and may not be used or relied upon by third parties, except:

- as agreed in writing by Consultant and Client
- as required by law
- for use by governmental reviewing agencies

Consultant accepts no responsibility, and denies any liability whatsoever, to parties other than Client who may obtain access to the Report or the Information for any injury, loss, or damage suffered by such parties arising from their use of, reliance upon, or decisions or actions based on the Report or any of the Information ("improper use of the Report"), except to the extent those parties have obtained the prior written consent of Consultant to use and rely upon the Report and the Information. Any damages arising from improper use of the Report or parts thereof shall be borne by the party making such use.

ATTACHMENT 1
PHOTOGRAPH LOG

Photo 1: Waste audit sample collected from HRM collection Area 1.
Photo taken on November 1, 2024.

Photo 2: Food waste sample collected from HRM collection Area 1.
Photo taken on November 13, 2024, during waste audit.

Photo 3: Newsprint/paper waste bin of HRM collection Area 1.
Photo taken on November 13, 2024, during waste audit.

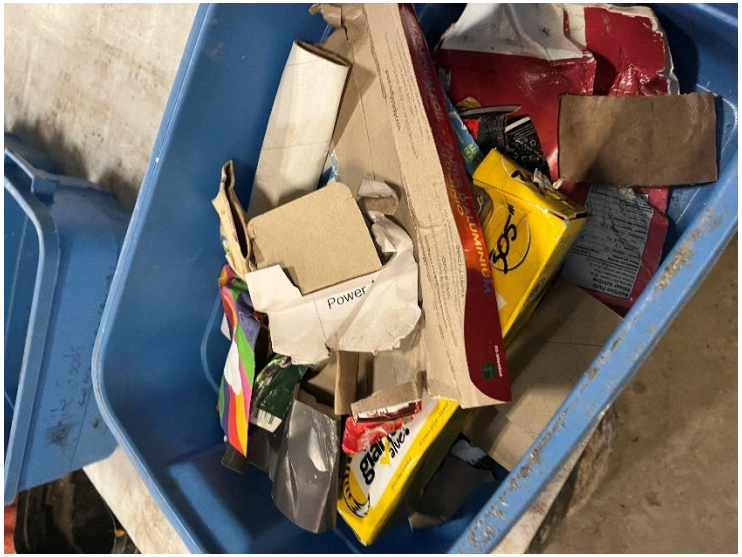

Photo 4: OCC waste bin sorted from HRM collection Area 1.
Photo taken on November 13, 2024, during waste audit.

Photo 5: Waste collection vehicle unloading waste collected from HRM Area 2.
Photo taken on November 4, 2024.

Photo 6: Waste audit sample from HRM collection Area 2.
Photo taken on November 4, 2024, during waste audit.

Photo 7: Yard waste collected from HRM collection Area 2.
Photo taken on November 13, 2024, during waste audit.

Photo 8: White goods collected from HRM collection Area 2.
Photo taken on November 13, 2024, during waste audit.

Photo 9: Waste collection pile from HRM collection Area 3A.
Photo taken on November 5, 2024.

Photo 10: Waste audit sample collected from HRM collection Area 3A.
Photo taken on November 5, 2024.

Photo 11: Cardboard waste bin of HRM collection Area 3A.
Photo taken on November 13, 2024, during waste audit.

Photo 12: White goods waste bin sorted from HRM collection Area 3A.
Photo taken on November 13, 2024, during waste audit.

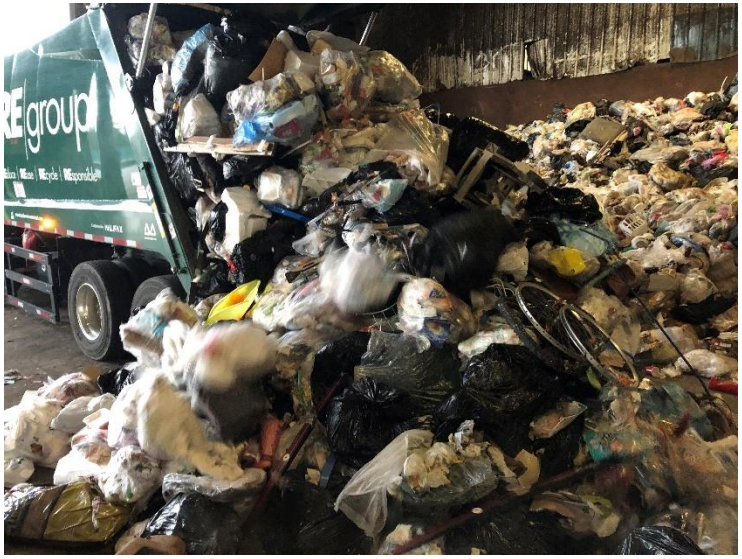

Photo 13: Waste collection vehicle unloading waste collected from HRM Area 3B. Photo collected November 8, 2024.

Photo 14: Yard waste sample from HRM collection Area 3B (extra load). Photo taken on November 13, 2024, during waste audit.

Photo 15: OCC waste bin sorted from HRM collection Area 3B (extra load). Photo taken on November 13, 2024, during waste audit.

Photo 16: Food waste bin sorted from HRM collection Area 3B (extra load). Photo taken on November 13, 2024, during waste audit.

Photo 17: Waste collection vehicle unloading waste collected from HRM Area 4.
Photo taken on November 6, 2024.

Photo 18: Waste audit sample from HRM collection Area 4.
Photo taken on November 6, 2024.

Photo 19: OCC waste sorted from HRM collection Area 4.
Photo taken on November 13, 2024, during waste audit.

Photo 20: Hazardous waste sorted from HRM collection Area 4.
Photo taken on November 13, 2024, during waste audit.

Photo 21: Waste pile HRM collection Area 5.
Photo taken on October 31, 2024.

Photo 22: Hazardous waste sample from HRM collection Area 5.
Photo taken on November 13, 2024, during waste audit.

Photo 23: White goods waste bin sorted from HRM collection Area 5.
Photo taken on November 13, 2024, during waste audit.

Photo 24: Food waste bin sorted from HRM collection Area 5.
Photo taken on November 13, 2024, during waste audit.

Photo 25: Waste collection pile from HRM Area 6.
Photo taken on November 1, 2024.

Photo 26: Yard waste bin separated from HRM collection Area 6.
Photo taken on November 13, 2024, during waste audit.

Photo 27: OCC waste bin separated from HRM collection Area 6.
Photo taken on November 13, 2024, during waste audit.

Photo 28: Newsprint/paper waste bin separated from HRM collection Area 6.
Photo taken on November 13, 2024, during waste audit.

Photo 29: Waste collection pile from HRM Area 7.
Photo taken on November 5, 2024.

Photo 30: Waste audit sample from HRM collection Area 7.
Photo taken on November 13, 2024, during waste audit.

Photo 31: Food waste bin separated from HRM collection Area 7.
Photo taken on November 13, 2024, during waste audit.

Photo 32: White goods waste bin sample from HRM collection Area 7.
Photo taken on November 13, 2024, during waste audit.

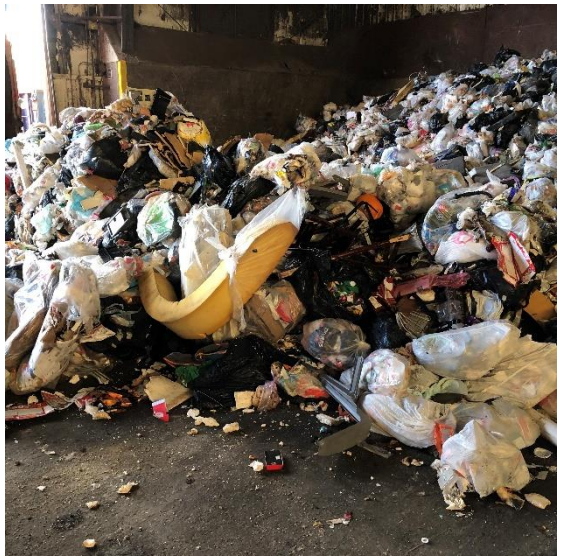

Photo 33: Waste audit sample from HRM collection Area 8.
Photo taken on November 7, 2024.

Photo 34: Newsprint/paper waste sample from HRM collection Area 8.
Photo taken on November 13, 2024, during waste audit.

Photo 35: Food waste bin separated from HRM collection Area 8.
Photo taken on November 13, 2024, during waste audit.

Photo 36: White goods waste sample from HRM collection Area 8 following sorting.
Photo taken on November 13, 2024, during waste audit.

Photo 37: Waste audit sample from HRM collection Area 9 (Condos). Photo taken on November 8, 2024.

Photo 38: Newsprint/paper sample from HRM collection Area 9 (Condos). Photo taken on November 13, 2024, during waste audit.

Photo 39: White goods sample from HRM collection Area 9 (Condos) following sorting. Photo taken on November 13, 2024, during waste audit.

Photo 40: OCC waste sample from HRM collection Area 9 (Condos) following sorting. Photo taken on November 13, 2024, during waste audit.

ATTACHMENT 2
SCALE TICKETS

Halifax Regional Municipality

Scale Slip: 098489
11/01/2024 11:58:10
Clerk: Shelley

Vehicle ID: RE2094
License Plate: 44-087-D
Waste Type: residential
Origin: 1 HALIFAX
Invoice: 0400927
Royal Environmental Group

Gross Weight: 22,500 (kg)
Tare Weight: 15,960 (kg)
Net Weight: 6,540 (kg)

$0.00
Total: $0.00

Halifax Regional Municipality

Scale Slip: 098523
11/04/2024 12:10:35
Clerk: DMS

Vehicle ID: RE1037
License Plate: 56-926-D
Waste Type: residential
Origin: 2 DARTMOUTH
Invoice: 0400927
Royal Environmental Group

Gross Weight: 23,780 (kg)
Tare Weight: 16,540 (kg)
Net Weight: 7,240 (kg)

$0.00

Total: $0.00

Halifax Regional Municipality

Scale Slip: 098565
11/05/2024 14:02:42
Clerk: DMS

Vehicle ID: RE1036
License Plate: 56-925-D
Waste Type: residential
Origin: 3 BEDFORD/HAMMONDS PLAINS
Invoice: 0400927
Royal Environmental Group

Gross Weight: 24,990 (kg)
Tare Weight: 16,490 (kg)
Net Weight: 8,500 (kg)

$0.00

Total: $0.00

Halifax Regional Municipality

Scale Slip:	098667
	11/08/2024 16:17:31
Clerk:	Shelley

Vehicle ID:	RE3013
License Plate:	62795D
Waste Type:	residential
Origin:	3 BEDFORD/HAMMONDS PLAINS
Invoice:	0400927
	Royal Environmental Group

Gross Weight:	20,560 (kg)	
Tare Weight:	16,690 (kg)	
Net Weight:	3,870 (kg)	
		$0.00
Total:		$0.00

Halifax Regional Municipality

Scale Slip:	098607
	11/06/2024 16:37:56
Clerk:	DMS

Vehicle ID:	GFL015
License Plate:	45354D
Waste Type:	residential
Origin:	4 WESTERN COUNTY
Invoice:	0402150
	GFL Environmental Inc

Gross Weight:	27,160 (kg)	
Tare Weight:	16,830 (kg)	
Net Weight:	10,330 (kg)	
		$0.00
Total:		$0.00

Halifax Regional Municipality

Scale Slip: 098459
10/31/2024 12:41:30
Clerk: Shelley

Vehicle ID: RE2104
License Plate: 44-091-D
Waste Type: residential
Origin: 5 SACKVILLE/FALL RIVER
Invoice: 0400927
Royal Environmental Group

Gross Weight: 25,540 (kg)
Tare Weight: 16,160 (kg)
Net Weight: 9,380 (kg)

$0.00

Total: $0.00

Halifax Regional Municipality

Scale Slip: 098497
11/01/2024 12:30:25
Clerk: Shelley

Vehicle ID: RE3011
License Plate: 62544D
Waste Type: residential
Origin: 6 COLE HARBOUR/EASTERN PASSAGE
Invoice: 0400927
Royal Environmental Group

Gross Weight: 25,260 (kg)
Tare Weight: 16,870 (kg)
Net Weight: 8,390 (kg)

$0.00

Total: $0.00

Halifax Regional Municipality

Scale Slip: 098559
11/05/2024 13:04:01
Clerk: DMS

Vehicle ID: MW6830
License Plate: 56483D
Waste Type: residential
Origin: 7 PRESTON/LAWRENCETOWN/LK ECHO
Invoice: 0188466
MILLER WASTE SYSTEMS

Gross Weight: 24,620 (kg)
Tare Weight: 20,400 (kg)
Net Weight: 4,220 (kg)

$0.00

Total: $0.00

Audit Load

Halifax Regional Municipality

Scale Slip:	098626
	11/07/2024 13:39:31
Clerk:	Shelley

Vehicle ID:	RE7001
License Plate:	57-460-D
Waste Type:	residential
Origin:	8 EASTERN COUNTY
Invoice:	0400927
	Royal Environmental Group

Gross Weight:	22,980 (kg)	
Tare Weight:	16,640 (kg)	
Net Weight:	6,340 (kg)	
		$0.00
Total:		$0.00

Halifax Regional Municipality

Scale Slip: 098660
11/08/2024 15:35:26
Clerk: Shelley

Vehicle ID: GFL050
License Plate: 41212D
Waste Type: residential
Origin: HALIFAX CONDOS
Invoice: 0402150
GFL Environmental Inc

Gross Weight: 19,320 (kg)
Tare Weight: 16,170 (kg)
Net Weight: 3,150 (kg)

$0.00

Total: $0.00

ATTACHMENT 3
FIELD DATA SHEETS

Performance Audit Record

Date 13-Nov-24

Name of Supervisor [redacted]

Area 1

Number of Sorters 4

Weighscale Ticket Information

Truck Number/ID	RE2094
Collection Area	Halifax
Date	11-Nov-24
Ticket Time	11:58:10
Gross Weight	22,500 KG
Tare Weight	15,960 KG
Net Weight	6,540 KG

Weigth of Gross Sample 138 KG

Weight of Tote Bin 50 KG

Date of Audit of Sample 13-Nov-24

Net Sample of Trash 88 KG

Sample Audit Time Started 8:45 AM

Number of Bulkies Observed 0

Sample Audit Time Completed 9:15 AM

Material	Empty Bin Weight (KG)	Total Separated Sample Weights (KG)			Net Sample (KG)	Compostables (%)
		1	2	3		
Garbage/Residue	50.00	130.00	-	-	80.00	91.43%
Fibre - Newsprint/Paper	3.30	3.30	1.10	1.70	2.80	3.20%
Fibre - OCC	2.20	2.80	1.90	-	2.5	2.86%
Food/Putrescible Waste	2.20	2.10	1.80	-	1.7	1.94%
Yard Waste	-	-	-	-	-	-
HHW	1.10	1.20	-	-	0.1	0.11%
White Goods	1.10	1.30	-	-	0.2	0.23%
Lost or Gained Mass	**Combined Weight Following Sorting**				0.00	
	137.5					

Notes:

Performance Audit Record

Date 13-Nov-24

Name of Supervisor [redacted]

Area 2

Number of Sorters 6

Weighscale Ticket Information

Truck Number/ID	RE1037
Collection Area	Dartmouth
Date	11-Nov-24
Ticket Time	12:10:35
Gross Weight	23,780 KG
Tare Weight	16,540 KG
Net Weight	7,240 KG

Weigth of Gross Sample 141 KG

Weight of Tote Bin 51 KG

Date of Audit of Sample 13-Nov-24

Net Sample of Trash 90 KG

Sample Audit Time Started 9:!5 AM

Number of Bulkies Observed 0

Sample Audit Time Completed 9:35 AM

Material	Empty Bin Weight (KG)	Total Separated Sample Weights (KG)		Net Sample (KG)	Compostables (%)
		1	2		
Garbage/Residue	51.00	132.50	-	81.50	91.06%
Fibre - Newsprint/Paper	2.20	1.20	1.50	0.5	0.56%
Fibre - OCC	1.10	1.90	-	0.8	0.89%
Food/Putrescible Waste	1.10	6.00	-	4.9	5.47%
Yard Waste	1.10	1.20	-	0.1	0.11%
HHW	-	-	-	-	-
White Goods	1.10	2.70	-	1.6	1.79%
Lost or Gained Mass	**Combined Weight Following Sorting**			0.00	
	140.5				

Notes:

Performance Audit Record

Date 13-Nov-24

Name of Supervisor [redacted]

Area 3A

Number of Sorters 6

Weighscale Ticket Information

Truck Number/ID	RE1036
Collection Area	Bedford/Hammonds Plains
Date	05-Nov-24
Ticket Time	14:02:42
Gross Weight	24,990 KG
Tare Weight	16,490 KG
Net Weight	8,500 KG

Weigth of Gross Sample 135 KG

Weight of Tote Bin 50 KG

Date of Audit of Sample 13-Nov-24

Net Sample of Trash 85 KG

Sample Audit Time Started 9:35 AM

Number of Bulkies Observed 0

Sample Audit Time Completed 10:00 AM

Material	Empty Bin Weight (KG)	Total Separated Sample Weights (KG)		Net Sample (KG)	Compostables (%)
		1	2		
Garbage/Residue	50.00	121.50	-	71.50	84.12%
Fibre - Newsprint/Paper	2.20	2.10	2.20	2.1	2.47%
Fibre - OCC	2.20	2.80	3.40	4	4.71%
Food/Putrescible Waste	2.20	2.30	6.90	7	8.24%
Yard Waste	1.10	1.20	-	0.1	0.12%
HHW	-	-	-	-	-
White Goods	1.10	1.20	-	0.1	0.12%
Lost or Gained Mass	**Combined Weight Following Sorting**			0.00	
	135.0				

Notes:

Performance Audit Recora

Date 13-Nov-24

Name of Supervisor [redacted]

Area 3B

Number of Sorters 6

Weighscale Ticket Information

Truck Number/ID	RE3013
Collection Area	Bedford/Hammonds Plains
Date	08-Nov-24
Ticket Time	16:17:31
Gross Weight	20,560 KG
Tare Weight	16,690 KG
Net Weight	3,870 KG

Weigth of Gross Sample 131 KG

Weight of Tote Bin 51 KG

Date of Audit of Sample 13-Nov-24

Net Sample of Trash 80 KG

Sample Audit Time Started 10:15 AM

Number of Bulkies Observed 0

Sample Audit Time Completed 10:45 AM

Material	Empty Bin Weight (KG)	Total Separated Sample Weights (KG)		Net Sample (KG)	Compostables (%)
		1	2		
Garbage/Residue	51.00	121.00	-	70.00	87.50%
Fibre - Newsprint/Paper	2.20	2.40	1.30	1.5	1.88%
Fibre - OCC	2.20	2.20	1.60	1.6	2.00%
Food/Putrescible Waste	2.20	4.00	3.40	5.2	6.50%
Yard Waste	-	-	-	-	-
HHW	-	-	-	-	-
White Goods	1.10	1.40	-	0.3	0.38%
Lost or Gained Mass	**Combined Weight Following Sorting**			-0.38	
	130.5				

Notes:

Performance Audit Recora

Date 13-Nov-24

Name of Supervisor [redacted]

Area 4

Number of Sorters 6

Weighscale Ticket Information

Truck Number/ID	GFL015
Collection Area	Western County
Date	06-Nov-24
Ticket Time	16:37:56
Gross Weight	27,160 KG
Tare Weight	16,830 KG
Net Weight	10,330 KG

Weigth of Gross Sample 157 KG

Weight of Tote Bin 51 KG

Date of Audit of Sample 13-Nov-24

Net Sample of Trash 106 KG

Sample Audit Time Started 10:45 AM

Number of Bulkies Observed 0

Sample Audit Time Completed 11:05 AM

Material	Empty Bin Weight (KG)	Total Separated Sample Weights (KG)		Net Sample (KG)	Compostables (%)
		1	2		
Garbage/Residue	51.00	145.50	-	94.50	89.15%
Fibre - Newsprint/Paper	2.20	2.60	1.70	2.1	1.98%
Fibre - OCC	2.20	2.20	3.80	3.8	3.58%
Food/Putrescible Waste	2.20	3.40	2.90	4.1	3.87%
Yard Waste	1.10	1.20	-	0.10	0.09%
HHW	1.10	1.50	-	0.40	0.38%
White Goods	1.10	1.70	-	0.6	0.57%
Lost or Gained Mass	**Combined Weight Following Sorting**			0.00	
	157.0				

Notes:

Performance Audit Recora

Date 13-Nov-24

Name of Supervisor [redacted]

Area 5

Number of Sorters 6

Weighscale Ticket Information

Truck Number/ID	RE2104
Collection Area	Sackville/ Fall River
Date	31-Oct-24
Ticket Time	12:41:30
Gross Weight	25,540 KG
Tare Weight	16,160 KG
Net Weight	9,380 KG

Weigth of Gross Sample 144 KG

Weight of Tote Bin 50 KG

Date of Audit of Sample 13-Nov-24

Net Sample of Trash 94 KG

Sample Audit Time Started 11:05 AM

Number of Bulkies Observed 0

Sample Audit Time Completed 11:30 AM

Material	Empty Bin Weight (KG)	Total Separated Sample Weights (KG)		Net Sample (KG)	Compostables (%)
		1	2		
Garbage/Residue	49.50	133.50	-	84.00	89.36%
Fibre - Newsprint/Paper	2.20	2.60	1.70	2.1	2.23%
Fibre - OCC	2.20	2.00	2.00	1.8	1.91%
Food/Putrescible Waste	2.20	3.30	1.60	2.7	2.87%
Yard Waste	-	-	-	-	-
HHW	1.10	1.40	-	0.30	0.32%
White Goods	2.20	1.60	2.10	1.5	1.60%
Lost or Gained Mass	**Combined Weight Following Sorting**			-0.35	
	143.0				

Notes:

Performance Audit Record

Date 13-Nov-24

Name of Supervisor [redacted]

Area 6

Number of Sorters 6

Weighscale Ticket Information

Truck Number/ID	RE3011
Collection Area	Cole Harbour/ Eastern Passage
Date	01-Nov-24
Ticket Time	12:30:35
Gross Weight	25,260 KG
Tare Weight	16,870 KG
Net Weight	8,390 KG

Weigth of Gross Sample 171 KG

Weight of Tote Bin 50 KG

Date of Audit of Sample 13-Nov-24

Net Sample of Trash 121 KG

Sample Audit Time Started 12:35 PM

Number of Bulkies Observed 0

Sample Audit Time Completed 1:10 PM

Material	Empty Bin Weight (KG)	Total Separated Sample Weights (KG)		Net Sample (KG)	Compostables (%)
		1	2		
Garbage/Residue	50.00	158.50	-	108.50	90.04%
Fibre - Newsprint/Paper	2.20	2.90	1.70	2.4	1.99%
Fibre - OCC	2.20	1.70	2.70	2.2	1.83%
Food/Putrescible Waste	2.20	3.10	4.50	5.4	4.48%
Yard Waste	1.10	1.20	-	0.10	0.08%
HHW	1.10	1.50	-	0.40	0.33%
White Goods	1.10	1.80	-	0.7	0.58%
Lost or Gained Mass	**Combined Weight Following Sorting**			-0.29	
	170.0				

Notes:

Performance Audit Record

Date 13-Nov-24

Name of Supervisor [redacted]

Area 7

Number of Sorters 6

Weighscale Ticket Information

Truck Number/ID	MW6830
Collection Area	Preston/ Lawrencetown/Lake Echo
Date	05-Nov-24
Ticket Time	13:04:01
Gross Weight	24,620 KG
Tare Weight	20,400 KG
Net Weight	4,220 KG

Weigth of Gross Sample 166 KG

Weight of Tote Bin 50 KG

Date of Audit of Sample 13-Nov-24

Net Sample of Trash 116 KG

Sample Audit Time Started 1:10 PM

Number of Bulkies Observed 0

Sample Audit Time Completed 1:35 PM

Material	Empty Bin Weight (KG)	Total Separated Sample Weights (KG)		Net Sample (KG)	Compostables (%)
		1	2		
Garbage/Residue	49.50	151.50	-	102.00	87.93%
Fibre - Newsprint/Paper	2.20	1.70	2.60	2.1	1.81%
Fibre - OCC	2.20	3.20	3.10	4.1	3.53%
Food/Putrescible Waste	2.20	5.50	3.00	6.3	5.43%
Yard Waste	-	-	-	-	-
HHW	-	-	-	-	-
White Goods	1.10	2.40	-	1.3	1.12%
Lost or Gained Mass	**Combined Weight Following Sorting**			0.00	
	165.5				

Notes:

Performance Audit Record

Date 13-Nov-24

Name of Supervisor [redacted]

Area 8

Number of Sorters 6

Weighscale Ticket Information

Truck Number/ID	RE7001
Collection Area	Eastern County
Date	07-Nov-24
Ticket Time	13:39:31
Gross Weight	22,980 KG
Tare Weight	16,640 KG
Net Weight	6,340 KG

Weigth of Gross Sample 159 KG

Weight of Tote Bin 48 KG

Date of Audit of Sample 13-Nov-24

Net Sample of Trash 111 KG

Sample Audit Time Started 1:35 PM

Number of Bulkies Observed 0

Sample Audit Time Completed 2:00 PM

Material	Empty Bin Weight (KG)	Total Separated Sample Weights (KG)			Net Sample (KG)	Compostables (%)
		1	2	3		
Garbage/Residue	48.00	126.50	-	-	78.50	71.04%
Fibre - Newsprint/Paper	2.20	4.40	2.60	-	4.80	4.34%
Fibre - OCC	3.30	3.60	2.50	1.90	4.7	4.25%
Food/Putrescible Waste	2.20	13.50	7.50	-	18.8	17.01%
Yard Waste	-	-	-	-	-	-
HHW	-	-	-	-	-	-
White Goods	1.10	4.00	-	-	2.9	2.62%
Lost or Gained Mass	**Combined Weight Following Sorting**				0.00	
	158.5					

Notes:

Performance Audit Recora

Date	13-Nov-24	**Name of Supervisor**	[redacted]
Area	9	**Number of Sorters**	6

Weighscale Ticket Information

Truck Number/ID	GFL050
Collection Area	Halifax Condos
Date	08-Nov-24
Ticket Time	15:35:26
Gross Weight	19,320 KG
Tare Weight	16,170 KG
Net Weight	3,150 KG

Weigth of Gross Sample	116 KG		
Weight of Tote Bin	50 KG	**Date of Audit of Sample**	13-Nov-24
Net Sample of Trash	66 KG	**Sample Audit Time Started**	11:30 AM
Number of Bulkies Observed	0	**Sample Audit Time Completed**	12:00 PM

Material	Empty Bin Weight (KG)	Total Separated Sample Weights (KG)		Net Sample (KG)	Compostables (%)
		1	2		
Garbage/Residue	50.00	104.50	-	54.50	82.58%
Fibre - Newsprint/Paper	2.20	4.10	-	1.9	2.88%
Fibre - OCC	3.30	2.10	4.00	2.8	4.24%
Food/Putrescible Waste	1.10	5.90	-	4.8	7.27%
Yard Waste	-	-	-	-	-
HHW	-	-	-	-	-
White Goods	1.10	2.40	-	1.3	1.97%
Lost or Gained Mass	**Combined Weight Following Sorting**			0.00	
	116.0				

Notes:

ATTACHMENT 4
SUPPORTING DATA

Table 1: Total Compostable Waste Percentage Per Area (November 2024) *Project # 22-8641*

Waste Collection Area	% Organics From November 13, 2024 Waste Audit	Average Based On Previous Three Fiscal Years (Tonnes)	Estimated Annual Compostable Waste (Tonnes)
1	8.00%	10014.25	801.14
2	7.04%	6841.50	481.58
3	12.95%	4433.34	574.22
4	9.53%	5334.37	508.27
5	7.02%	8637.86	606.49
6	8.38%	5150.89	431.73
7	10.78%	2930.93	315.83
8	25.61%	3298.51	844.78
Condos	14.39%	2351.13	338.42
	TOTAL	48992.77	4902.46

Mean	11.52%	-	544.72
Min	7.02%	-	315.83
Max	25.61%	-	844.78

Compostable Waste Percentage	(4902.46/48992.77)*100% = 10.01%

Notes: % Organic for Area 3 is based on average of the two samples (3A and 3B) collected during the November 2024 waste audit.

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CONSULTING

Table 2: Average Total Compostable Waste Percentage Per Area (May 2024, August 2024, and November 2024) *Project # 22-8641*

Waste Collection Area	% Organics From May 15, 2024 Waste Audit	% Organics From August 28, 2024 Waste Audit	% Organics From November 13, 2024 Waste Audit	% Organics Average	Average Based On Previous Three Fiscal Years (Tonnes)	Estimated Annual Compostable Waste (Tonnes)
1	18.71%	7.32%	8.00%	11.34%	10014.25	1135.92
2	9.95%	6.12%	7.04%	7.71%	6841.50	527.17
3	18.36%	5.95%	12.95%	12.42%	4433.34	550.60
4	6.51%	6.93%	9.53%	7.65%	5334.37	408.32
5	11.78%	7.57%	7.02%	8.79%	8637.86	759.14
6	11.26%	4.29%	8.38%	7.98%	5150.89	410.91
7	8.91%	3.41%	10.78%	7.70%	2930.93	225.66
8	11.76%	1.79%	25.61%	13.06%	3298.51	430.62
Condos	72.35%	15.00%	14.39%	33.92%	2351.13	797.40
				TOTAL	48992.77	5245.74

Mean	12.28%	-	582.86
Min	7.65%	-	225.66
Max	33.92%	-	1135.92

Compostable Waste Percentage	(5245.74/48992.77)*100% = 10.71%

Notes:

1. % Organic for Area 1 based on average of the two samples (1A and 1B) collected during the May 2024 waste audit.
2. % Organic for Area 2 is based on average of the two samples (2A and 2B) collected during the August 2024 waste audit.
3. % Organic for Area 3 is based on average of the two samples (3A and 3B) collected during the November 2024 waste audit.

Table 3: Estimated Annual Compostable Waste Per Area *Project # 22-8641*

Audit	Waste Collection Area	% Organics	Average Waste Based On Previous Three Fiscal Years (Tonnes)	Estimated Annual Compostable Waste (Tonnes)
May 2024 Performance Audit	1	18.71%	10014.25	1873.54
	2	9.95%	6841.50	681.00
	3	18.36%	4433.34	813.99
	4	6.51%	5334.37	347.12
	5	11.78%	8637.86	1017.25
	6	11.26%	5150.89	579.86
	7	8.91%	2930.93	261.20
	8	11.76%	3298.51	388.06
	Condos	72.35%	2351.13	1701.11
August 2024 Performance Audit	1	7.32%	10014.25	733.07
	2	6.12%	6841.50	418.93
	3	5.95%	4433.34	263.60
	4	6.93%	5334.37	369.57
	5	7.57%	8637.86	653.68
	6	4.29%	5150.89	221.14
	7	3.41%	2930.93	99.95
	8	1.79%	3298.51	59.03
	Condos	15.00%	2351.13	352.67
November 2024 Performance Audit	1	8.00%	10014.25	801.14
	2	7.04%	6841.50	481.58
	3	12.95%	4433.34	574.22
	4	9.53%	5334.37	508.27
	5	7.02%	8637.86	606.49
	6	8.38%	5150.89	431.73
	7	10.78%	2930.93	315.83
	8	25.61%	3298.51	844.78
	Condos	14.39%	2351.13	338.42
	Mean	12.28%	-	582.86
	Min	1.79%	-	59.03
	Max	72.35%	-	1873.54

Notes:
1. % Organic for Area 1 based on average of the two samples (1A and 1B) collected during the May 2024 waste audit.
2. % Organic for Area 2 is based on average of the two samples (2A and 2B) collected during the August 2024 waste audit.
3. % Organic for Area 3 is based on average of the two samples (3A and 3B) collected during the November 2024 waste audit.

Table 4: Compostable Waste Descriptive Statistics *Project 22-8641*

Mean	582.8603837
Standard Error	80.46329326
Median	481.5804469
Mode	#N/A
Standard Deviation	418.0995362
Sample Variance	174807.2222
Kurtosis	3.871111279
Skewness	1.830627035
Range	1814.517272
Minimum	59.02596842
Maximum	1873.54324
Sum	15737.23036
Count	27
Confidence Level(95.0%)	165.394668
Upper Confidence Interval	748.2550517
Lower Confidence Interval	417.4657156

Table 5: Total Food Waste Percentage Per Area (November 2024) *Project # 22-8641*

Waste Collection Area	% Food Waste From November 13, 2024 Waste Audit	Average Based On Previous Three Fiscal Years (Tonnes)	Estimated Annual Food Waste (Tonnes)
1	1.94%	10014.25	194.56
2	5.47%	6841.50	374.56
3	7.37%	4433.34	326.63
4	3.87%	5334.37	206.33
5	2.87%	8637.86	248.11
6	4.48%	5150.89	230.83
7	5.43%	2930.93	159.18
8	17.01%	3298.51	561.19
Condos	7.27%	2351.13	170.99
	TOTAL	48992.77	2472.39

Mean	6.19%	-	274.71
Min	1.94%	-	159.18
Max	17.01%	-	561.19

Food Waste Percentage	(2472.39/48992.77)*100% = 5.05%

Notes: % Food waste for Area 3 is based on average of the two samples (3A and 3B) collected during the November 2024 waste audit.

Table 6: Average Total Food Waste Percentage Per Area(May 2024, August 2024, and November 2024) *Project # 22-8641*

Waste Collection Area	% Food Waste From May 15, 2024 Waste Audit	% Food Waste From August 28, 2024 Waste Audit	% Food Waste From November 13, 2024 Waste Audit	% Food Waste Average	Average Based On Previous Three Fiscal Years (Tonnes)	Estimated Annual Food Waste (Tonnes)
1	6.70%	3.92%	1.94%	4.19%	10014.25	419.33
2	5.53%	2.01%	5.47%	4.34%	6841.50	296.83
3	9.51%	3.14%	7.37%	6.67%	4433.34	295.72
4	3.44%	3.66%	3.87%	3.66%	5334.37	195.11
5	5.48%	5.19%	2.87%	4.51%	8637.86	389.96
6	6.59%	1.26%	4.48%	4.11%	5150.89	211.61
7	4.77%	0.83%	5.43%	3.68%	2930.93	107.73
8	6.35%	0.95%	17.01%	8.10%	3298.51	267.33
Condos	62.94%	4.43%	7.27%	24.88%	2351.13	585.01
				TOTAL	48992.77	2768.64

Mean	7.13%	-	307.63
Min	3.66%	-	107.73
Max	24.88%	-	585.01

Compostable Waste Percentage	(2768.64/48992.77)*100% = 5.65%

Notes:

1. % Food waste for Area 1 based on average of the two samples (1A and 1B) collected during the May 2024 waste audit.
2. % Food waste for Area 2 is based on average of the two samples (2A and 2B) collected during the August 2024 waste audit.
3. % Food waste for Area 3 is based on average of the two samples (3A and 3B) collected during the November 2024 waste audit.

Table 7: Estimated Annual Food Waste Per Area *Project # 22-8641*

Audit	Waste Collection Area	% Food Waste	Average Waste Based On Previous Three Fiscal Years (Tonnes)	Estimated Annual Compostable Waste (Tonnes)
May 2023 Performance Audit	1	6.70%	10014.25	670.72
	2	5.53%	6841.50	378.33
	3	9.51%	4433.34	421.53
	4	3.44%	5334.37	183.77
	5	5.48%	8637.86	473.55
	6	6.59%	5150.89	339.28
	7	4.77%	2930.93	139.71
	8	6.35%	3298.51	209.55
	Condos	62.94%	2351.13	1479.83
August 2024 Performance Audit	1	3.92%	10014.25	392.72
	2	2.01%	6841.50	137.58
	3	3.14%	4433.34	138.99
	4	3.66%	5334.37	195.24
	5	5.19%	8637.86	448.23
	6	1.26%	5150.89	64.72
	7	0.83%	2930.93	24.31
	8	0.95%	3298.51	31.25
	Condos	4.43%	2351.13	104.20
November 2024 Performance Audit	1	1.94%	10014.25	194.56
	2	5.47%	6841.50	374.56
	3	7.37%	4433.34	326.63
	4	3.87%	5334.37	206.33
	5	2.87%	8637.86	248.11
	6	4.48%	5150.89	230.83
	7	5.43%	2930.93	159.18
	8	17.01%	3298.51	561.19
	Condos	7.27%	2351.13	170.99
	Mean	7.13%	-	307.63
	Min	0.83%	-	0.00
	Max	62.94%	-	1479.83

Notes:
1. % Food waste for Area 1 based on average of the two samples (1A and 1B) collected during the May 2024 waste audit.
2. % Food waste for Area 2 is based on average of the two samples (2A and 2B) collected during the August 2024 waste audit.
3. % Food waste for Area 3 is based on average of the two samples (3A and 3B) collected during the November 2024 waste audit.

Table 8: Food Waste Descriptive Statistics *Project 22-8641*

Mean	307.6263168
Standard Error	54.71910095
Median	209.5524
Mode	#N/A
Standard Deviation	284.328789
Sample Variance	80842.86024
Kurtosis	10.9497022
Skewness	2.874590452
Range	1455.517048
Minimum	24.3118341
Maximum	1479.828882
Sum	8305.910553
Count	27
Confidence Level(95.0%)	112.4767229
Upper Confidence Interval	420.1030396
Lower Confidence Interval	195.1495939