



Report to: General Committee

Date Report Authored: July 10, 2016

SUBJECT: Multi-residential Bulk Collection Services Update
PREPARED BY: Claudia Marsales, Environmental Services ext. 3560

RECOMMENDATION:

- 1) THAT the report entitled "Multi-residential Bulk Collection Services Update" be received; and
- 2) AND THAT Staff be authorized to include multi-residential bulk collection services (including the multi-residential collection system enhancements outlined in this report) in the collection contract with Miller Waste Systems, in a form satisfactory to the Commissioner, Community & Fire Services and the City Solicitor;
- 3) AND THAT the Mayor and City Clerk be authorized to execute the multi-residential bulk collection services contract with Miller Waste Systems, in a form satisfactory to the Commissioner, Community & Fire Services and the City Solicitor;
- 4) AND THAT the Diversion Sub Committee develop a multi-residential diversion program including expanded on site diversion opportunities for textiles, electronics and household goods;
- 5) AND FURTHER THAT Staff be authorized and directed to do all things necessary to give effect to this resolution.

PURPOSE:

The purpose of this report is: to provide an update on the service level review of multi-residential bulk collection services and Miller Waste Systems contract negotiations conducted by Environmental Services Staff; to obtain authorization to execute a contract with Miller Waste Systems for multi-residential bulk collection services; and to develop a program to increase multi-residential participation and diversion.

BACKGROUND:

It is well recognized that there are increased challenges in implementing and achieving participation in waste diversion programs in multi-residential buildings. Although Markham and many GTA municipalities are achieving strong participation and diversion from single family households, much lower diversion rates are being achieved in the multi-residential sector.

As of 2015, Markham has experienced significant growth in the multi-residential sector with 119 buildings containing 17,219 units. Of the 119 buildings, 85 have been converted to 3-stream collection using a combination of front end and cart collection containers

served by Miller Waste Systems. The remaining 34 are older buildings in the process of conversion to 3- stream recycling.

Lack of data from multi-residential sector impedes diversion progress

Waste Diversion Ontario has invested significant resources in sharing best practices and improving performance of recycling programs in multi-residential buildings across Ontario. A document entitled *Guidelines for Implementing Best Practices in Municipal Multi-Residential Recycling Programs* identified the Best Practices listed below.

1. Develop design requirements for new building developments that are designed to achieve increased diversion. Municipal approval for new building developments should be subject to meeting these mandatory requirements;
2. Provide adequate recycling bin capacity;
3. Build and maintain a database of all multi-residential properties;
4. Benchmark performance and monitor on a regular basis;
5. Provide ongoing promotion & education materials.

Markham has implemented many of the recommended best practices. Since 2002, it has been the policy and practice in Markham that all developments conform to strict standards developed by Markham's Waste Management Department and receive municipal collection services. These standards include internal waste rooms, 3-stream recycling, and mandatory tri-sorter chute systems. Multi-residential developments are not permitted to opt out of receiving municipal collection services to ensure all residents can participate in Markham's diversion programs, whether they live in a condo, townhome or single or semi-detached dwelling.

Improved data information for multi-residential sector

As part of the service level review of multi-residential collection services and negotiation for the multi-residential section of the collection contract with Miller Waste Systems, Staff identified the need for improved data collection, service verification, and benchmarking from Markham's growing multi-residential sector. Specifically, the lack of 3-stream weight data from individual buildings and municipal facilities made it impossible to determine multi-residential diversion achievements and verify the invoicing for bulk collection services.

As part of the contract negotiations, Markham requested the integration of new software technology into the collection vehicles to enable the accurate recording of data for all garbage, organic and recycling containers at all municipal facilities and multi-residential locations. York Region was an active partner in the development, design, and integration of the new technology.

After much investigation and trials, Miller Waste Systems agreed to purchase and place into service “Fleetmind Systems” to support Markham’s multi-residential collection services, at no additional cost to Markham. Fleetmind Systems is a leading provider of software solutions and technical services, specializing in the software development and system integration of logistics chain solutions able to track bulk waste collection from multi-residential and ICI (Industrial/Commercial/Institutional) locations.

Included in the Fleetmind Systems is all the hardware and software required to record data from all garbage and recycling containers collected at each location, including time, date, property information, and material weights for each individual pick-up. All recycling and organic carts will be equipped with RFID (radio-frequency identification) tags that enable Staff to track location and servicing confirmation. Knowing the weight of the material collected is a necessary component to calculate diversion rates for individual buildings.

RFID technology systems have been in use since World War II, being utilized to distinguish between friendly and enemy aircrafts. RFID technology uses electromagnetic fields to identify and track tags attached to objects. The tags contain electronically stored information. In the waste industry, it is now being adopted to track and bill for multi-residential collection services. In typical industry applications, inexpensive RFID tags are affixed to carts and commercial containers, while the collection vehicles are equipped with RFID readers. When a cart or container is serviced, the RFID reader recognizes and records the RFID tag. The RFID tag and the geo-coordinates for the location of the service are then sent back to a central database to improve customer service, billing accuracy and calculate weight data. Weight data from carts would be calculated using an agreed to formula based on standard weights for the material collected as the weight technology cannot be utilized on carts or totes, only front-end containers.

All data is fed in real time to a web site developed by Fleetmind, Miller Waste Systems and Markham’s ITS Department.

Fleetmind and RFID system now completely integrated in Markham

Markham is the first municipality in York Region to have “live” multi-residential collection data, which enables Markham to track, document, and verify multi-residential material weights for each building receiving municipal collection services.

The Fleetmind System allows for reporting of key performance indicators, for each property, including: waste generation rates (kg/unit/week), weight of material collected (kg), waste volume collected to calculate diversion rates.

Weight data allows Staff to determine trends and averages across the multi-residential sector in an effort to determine if an appropriate standard level of service can be determined and potentially generate a building specific report card for each service

location. The report card will be able to evaluate and report building performance trends over time and compare a building's performance to similar buildings across Markham.

Opportunity to further increase diversion in Markham's multi-residential sector

Municipal experience has shown that convenience and accessibility drives increased resident participation in diversion programs in the multi-residential sector. To that end, Staff recommend that the Diversion Sub Committee develop a multi-residential diversion program including expanded on-site diversion opportunities for textiles, electronics and household goods.

FINANCIAL CONSIDERATIONS AND TEMPLATE: (external link)

Negotiation of the multi-residential collection services section of the collection contract with Miller Waste Systems has resulted in:

No increase in the bulk collection rates paid by Markham to Miller Waste Systems. Bulk collection rates (i.e. per lift rates) for multi-residential collection service have remained unchanged since the previous collection contract, except for an annual CPI adjustment. The multi-residential collection service represents approximately 8% of the Miller Waste Systems collection contract with Markham.

Proof of service enhancements at no additional costs to Markham. No additional capital or operating funding for the multi-residential collection system enhancements is required. Miller Waste Systems has supplied all the necessary components of the multi-residential collection system enhancements as part of the multi-residential collection service. The Fleetmind System provides collection data to verify service and billing accuracy. No additional Staff will be required for on-going system monitoring and billing verification

HUMAN RESOURCES CONSIDERATIONS

Not Applicable

ALIGNMENT WITH STRATEGIC PRIORITIES:

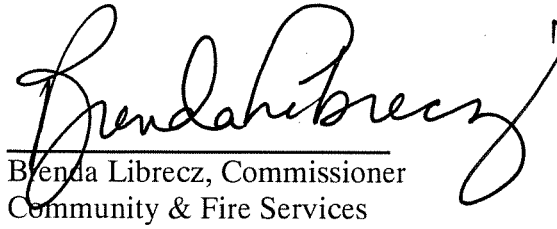
Not Applicable

BUSINESS UNITS CONSULTED AND AFFECTED:

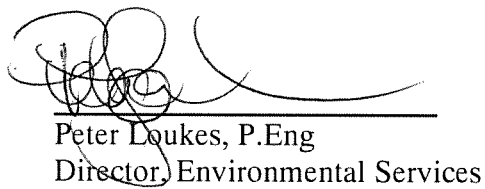
Finance Department has been consulted.

Legal Department has been consulted.

**RECOMMENDED
BY:**



Brenda Librecz, Commissioner
Community & Fire Services



Peter Loukes, P.Eng
Director, Environmental Services

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