# Halifax Regional Municipality
# Ragged Lake Source Separated Organics Composting Facility

Community Liaison Committee Meeting

November 23, 2017

AIM ENVIRONMENTAL GROUP

*Intelligent Strategies. One Source. Dependable Results.*

# Meeting Agenda

| # | Agenda Item | Presenter | Time |
|---|---|---|---|
| 1 | Introductions of CLC Members | All | 10 minutes |
| 2 | Review CLC Terms of Reference | AIM | 20 minutes |
| 3 | Discuss the CLC mandate regarding HRM's future plans for organic waste management | HRM | 10 minutes |
| 4 | Appointment of Chair | AIM | 10 minutes |
| 5 | Review of existing facility and operations | AIM | 25 minutes |
| 6 | Recent operating statistics | AIM | 10 minutes |
| 7 | Discuss and plan tour of existing facility | All | 10 minutes |
| 8 | Confirm dates for future meetings | All | 10 minutes |
| 9 | Open discussion, Q&A | All | 15 minutes |

# Introductions

AIM Introductions

HRM Introductions

Public Member Introductions

# Who is AIM Environmental?

AIM Environmental Group Inc.

- AIM began operations in 1989
  - First as a waste management company
  - Then moving into demolition and environmental remediation

- AIM commenced operations of organic waste management facilities in 2006 when Hamilton CCF was commissioned
  - Guelph OWPF commenced operations in 2012
  - Halifax Ragged Lake operations added in 2016
  - Calgary compost facility commenced operations in 2017

- AIM now solely focused on organics waste management
  - Facility design, material pre-processing and post-processing, operations
  - Partnerships with many technology providers, including anaerobic digestion

# CLC Terms of Reference

## Ragged Lake SSO Composting Facility Background

- Facility in operation since 1998
- HRM acquired ownership in December 2015 when the contract with New Era Technologies ended
- Effective October 1, 2016, AIM Environmental Group Inc. (AIM) assumed management of the facility under contract to HRM
  - Contract expires March 31, 2019, with two one-year extensions possible at HRM's sole discretion
- AIM holds the Operating Approval issued by Nova Scotia Environment
- Community engagement is both a requirement under the operating approval, and an important principle guiding the operations of all AIM's facilities

# CLC Terms of Reference

CLC Mandate

- Forum for mutual consultation with residents, business and other stakeholders in our community regarding the impacts of our activities
- Focus on current facility operations
- Acts in an advisory capacity to the proponent (AIM)

- CLC Membership
  - Goal was for balanced representation from AIM, HRM staff, local residents, businesses and District 11 Councillor – 9 members
  - Permanent members – AIM (2), HRM (2), Councillor (1)
  - Public members – interested parties are selected by permanent members for defined terms – Local residents and businesses (2), non-governmental organizations (1), others greater than 2,000 meters away from the facility (1)

# CLC Terms of Reference

CLC Membership (continued)

- Difficult to attract Public Members
  - Newspaper advertisement, website posting, direct mailing, direct personal approach
- Three Public Members Volunteered to Participate
  - 1 local business
  - 2 residents greater than 2000 m from site
- Proposed to operate CLC with eight members
  - Two AIM, two HRM, one Councillor and three public members
- Propose that all memberships run to March 31, 2019
  - Matches AIM's current operating contract

# CLC Terms of Reference

CLC Roles and Responsibilities

- All CLC members are expected to participate fully in meetings and to always engage in mutually respectful, open, and constructive dialogue
- Proponent (AIM)
  - Formally appoints/elects a committee Chair
  - Formally document  meeting minutes
  - Inform committee of proposed facility changes or concerns raised within the community and seek CLC input where appropriate
  - Provide timely responses or take appropriate action in response to issues raised that can’t be addressed during a CLC meeting.

# CLC Terms of Reference

## CLC Roles and Responsibilities (Continued)

- Facility and Property Owner (HRM)
  - Inform committee of proposed facility changes or concerns raised within the community and seek CLC input where appropriate
  - Assist the Chair with the effective functioning of the meeting
  - Work jointly with AIM to provide timely responses or take appropriate action in response to issues raised that can't be addressed during a CLC meeting.
- CLC Members
  - Attend and actively participate in regular CLC meetings
  - Become informed about the Facility and its operation
  - Be open to considering a wide range of views and opinions
  - Convey any input or feedback from the broader community – their perspective, concerns, ideas for improvement opportunities.

# CLC Terms of Reference

## CLC Meeting Schedule and Format

- Propose six quarterly meetings from November 2017 to March 2019
- Expected meeting duration of 2 hours
- Typical agenda items as follows:
  - Review and approval of previous meeting's minutes
  - Update on Facility operations
  - Discussion of CLC issues and concerns
  - Review of issues and complaints received from the public and their resolution
  - Other items as deemed appropriate by the committee
- AIM will prepare draft meeting minutes for review within 7 days of meeting and allow 14 days for member feedback. Final draft will be sent to members within 7 days after. Approval will occur during the next scheduled meeting.
- Other meeting materials for review will be circulated by AIM electronically 72 hours in advance of the meeting.

# CLC Terms of Reference

## Rules of Order

- Half the members plus one (five) constitutes a quorum
- A conflict of interest of any kind regarding a matter being considered by the committee must be declared. Members declaring a conflict of interest must be excused from the proceedings while the matter is being considered
- Only CLC members and committee-approved invited guests may attend CLC meetings.
- Meetings are not open to the public but delegates may make formal application to appear before the committee

# CLC Terms of Reference

Discuss the CLC mandate regarding HRM's future plans for organic waste management

# CLC Terms of Reference

Appointment of Chair

# Facility Overview

# Facility and Operations

# Facility and Operations

## Overview

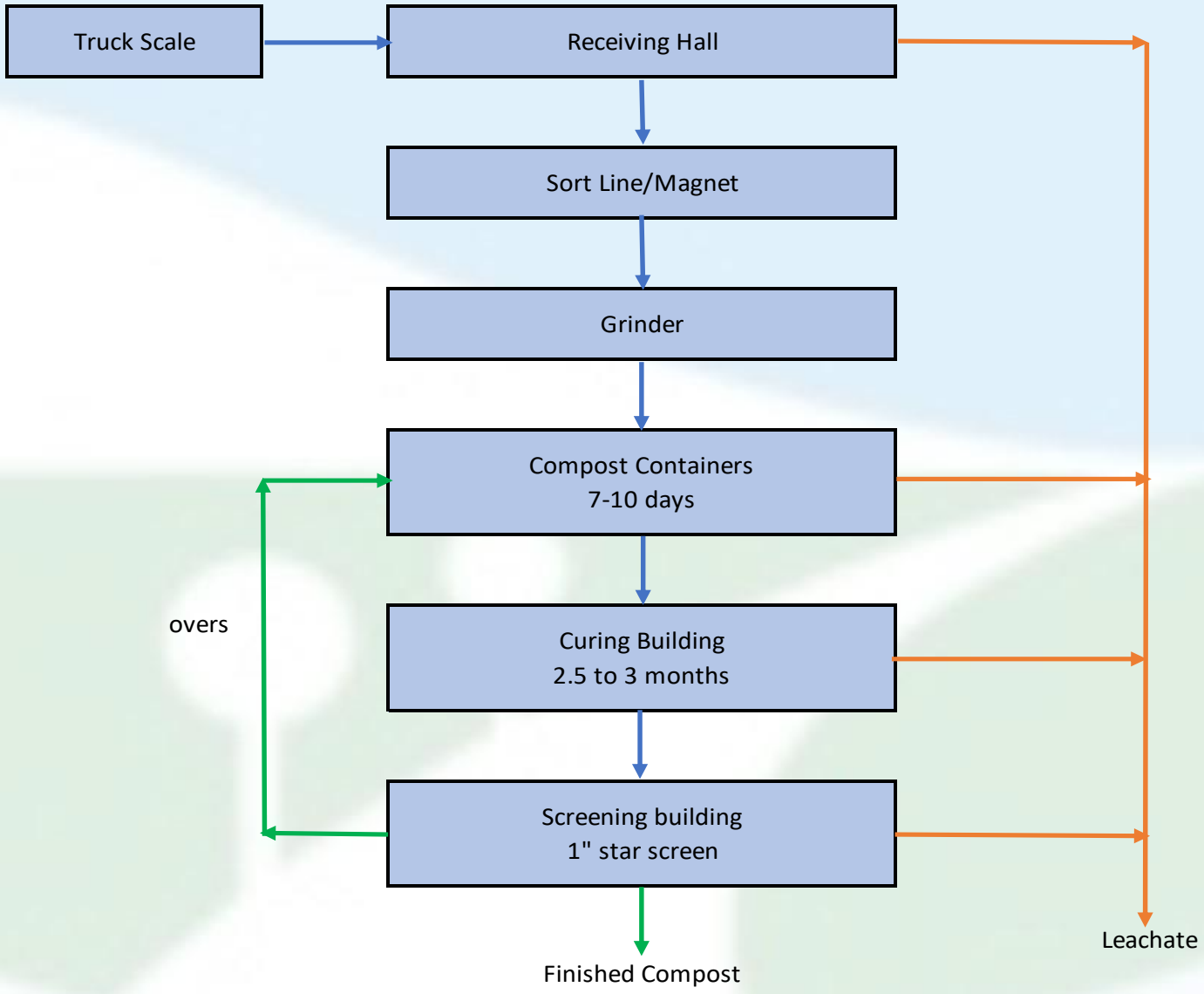
- The Halifax facility is a 25,000 tonne per year aerobic composting facility utilizing a containerized primary composting stage and an enclosed windrow secondary curing (maturation) stage
- Feedstocks are source-separated organics from residential and ICI sources within HRM:
  - Food waste
  - Fat, cooking oil, and grease
  - Coffee grounds, filters, tea bags
  - Food napkins, kitchen paper towels and soiled paper
  - Sawdust and wood shavings
  - Leaf and yard waste

# Facility and Operations

## Overview (continued)

- The plant employs 12 people
  - 3 management staff; and,
  - 9 hourly production workers
- Normal hours of operation are from 8:00 a.m. until 6:00 p.m.
- Some weekend work is required depending on plant needs and HRM collection schedules
- Major equipment
  - Truck scale
  - Sorting (pick) line and grinder
  - Containerized compost system and tilter
  - 1 roll off truck
  - 3 front end loaders
  - 1 dump truck
  - Finished compost screener

# Facility - Process Flow



# Facility and Operations

## Process Flow

- The facility consists of a truck scale, materials receiving building, office, Stinnes-Enerco containerized composting system, curing building, and a screening building.
- The feedstock is weighed and dumped in the receiving hall where it is loaded onto a conveyor belt with a front end loader.
- The feedstock passes through a manual sort station staffed with 2-4 people who remove unacceptable materials.
- The sort line is equipped with a magnet to remove metal.
- The conveyor belt drops the sorted feedstock material into an 8” screened grinder.
- The ground feedstock is mixed with screened over-sized material (and if needed other bulking amendment) using a front end loader and is then placed in specialized composting containers.

# Facility and Operations

## Process Flow (continued)

- The primary composting stage is completed in one of 24 aerated and sealed containers located outdoors. Material is typically left in the container for 7-10 days.
- The containers are controlled by a central control system that monitors air temperature and airflow.
- Leachate is drained from the containers to a storage tank.
- Once this primary compost stage is complete the containers are transported individually by roll off truck to a container tipper in the curing building.
- The material is tipped out of the container and placed onto the aerated curing floor by front end loader.
- The material in the curing hall is turned and advanced down the curing building by front end loader towards the screening building.

# Facility and Operations

## Process Flow (continued)

- The compost remains in the curing building for approximately 2.5 months
- All process water and leachate is collected and stored for trucking off-site to a wastewater treatment facility.
- The cured compost is loaded into a screener by front end loader in the screening building.
- The screening equipment includes a vacuum blower to collect light film plastic etc. for disposal.
- Screened oversized material (>25 mm) is used as bulking amendment for the container composting process.
- Finished compost fines (<25mm) are stockpiled and then loaded by front end loader into customer supplied transport.

# Facility and Operations

| ANNUAL PROCESSING STATISTICS | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Raw Material SSO | | | Product | Waste | | |
| Year | Residential Tonnes | Industrial Commercial Institutional | Total Tonnes | Compost Tonnes | Front End Residue Tonnes | Back End Residue Tonnes | Leachate Liters |
| 2015 | 11,596 | 8,654 | 20,250 | 10,296 | 275 | 629 | 8,138,155 |
| 2016 | 9,456 | 8,019 | 17,475 | 7,381 | 177 | 506 | 6,900,913 |
| 2017 YTD | 10,724 | 7,012 | 17,736 | 7,410 | 143 | 514 | 6,020,139 |

# Facility and Operations

## Compost Product Quality

- Incoming SSO is inspected to reject non-acceptable materials
- Outgoing finished compost is produced, tested and released per the requirements outlined in the facility's Approval to Operate issued by Nova Scotia Environment
  - The Approval specifically references the compost quality and testing requirements outlined in Nova Scotia Environment "Composting Guidelines", 1998 and the CCME document, "Guidelines for Compost Quality", 1996.
  - Finished compost is sampled and tested every 1000 tonnes produced
  - Compost quality analysis is completed by qualified personnel and/or certified independent commercial laboratories

# Facility and Operations

## Environmental Controls – Air/Odour

- All materials are collected, processed and stored in enclosed buildings or in the enclosed composting containers
- Strict rules apply for keeping doors closed
- The buildings are maintained under slight vacuum with mechanical ventilation (fans)
- The air exhausted from the buildings is treated for odour removal via a six cell in-ground biofilter equipped with organic media.
- The excess air exhausted from the composting containers treated for odour removal via six biofilter containers equipped with organic media
- Biofilters are monitored daily for operation and weekly for air pressure, pH, moisture.
- Biofilter media is irrigated, turned and replaced on a regular schedule to optimize odour removal.

# Facility and Operations

## Environmental Controls – Water

- All water that drains out of the organic materials (leachate) as it is received and processed, is collected in a storage tank for transport for treatment at an off-site water treatment facility.
- The site is also equipped with an interceptor trench and any water collected in that trench, as well as any excess irrigation water from the in-ground biofilters, is collected in a storage tank for transport for treatment at an off-site water treatment facility.
- Concrete floors in building are regularly monitored and cracks are repaired and sealed
- The outside paved surfaces are regularly monitored and cracks are repaired and sealed
- Surface storm water is directed to, and collected in, a holding pond where water samples are taken after each major rain event to test for suspended solids, BOD5, and fecal coliforms.

# Facility and Operations

## Environmental Monitoring and Compliance

- Facility must be operated as outlined in the Approval and in accordance with the Nova Scotia Environment Act and Regulations
  - Subject to Air Quality Regulations and must address odour issues and complaints formally
- Any non compliances, spills or releases must be reported immediately
- Wastewater (leachate) must be managed, monitored and treated at an approved facility
- Storm event surface water must be collected, sampled and analyzed for prescribed parameters prior to being approved for release
- 4 surface water locations are monitored semi-annually for prescribed parameters
- 11 groundwater wells are monitored quarterly (6) and annually (5) for prescribed parameters

# Facility and Operations

## Environmental Monitoring and Compliance (continued)

- Building floors must be inspected and repaired per schedule outlined in Approval
- Operating records must be kept and reported annually to NSE:
  - Quantities of feedstock materials, compost, residues, leachate, etc.
  - Water quality results – storm water, surface water, groundwater, leachate and bio water
  - Compost quality
  - Building floor inspection results and repair program activities
  - Registered complaints and corrective actions taken to resolve

# Facility and Operations

## Recent Odour Performance

- 2 odour complaints were registered in 2017:
  - September 2017: compromised container lid seal found
    - All Lids inspected and repaired as necessary
  - November 2017: doors were found open
    - Doors were immediately closed
    - Door policy reviewed with all employees

# Plant Tour and Future Meetings

Plan for Facility Tour

Future Meetings?

- Propose up to a total of six meetings:
  - Nov 2017, Mar. 2018, Jun. 2018, Sept. 2018, Dec 2018, Mar. 2019

# Open Discussions/Q&A

Thank you all for your commitment to public service.