



# Closing the loop: On-site composting at Concordia University

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# About this consultation



Today

Introductory consultation



'17 Jan-  
onwards

Follow-up meetings  
(with interested stakeholders)



Spring

On-site composting plan



# Context

# History

2006-2007

## Program Beginnings

Educationally-oriented,  
academically-rooted



2008-2011

## Expansion

Industrial Composter &  
widened community impact



2012-2014

## Capacity Limits

A full composter reaches the  
end of its useful life



2015-2016

## Current status

Off-site composting,  
continued expansion of  
collection, Waste not Want  
not Campaign



2017-

## Next steps

Renewed On-site  
Composting



# Education

**Waste Not Want Not**  
**COMPOST**

**ORGANICS**  
43% are the largest component of waste at Concordia.

188 TONNES OF ORGANIC WASTE WAS SENT TO THE LANDFILL IN 2014-2015.

**COMPOSTING**  
produces nutrient rich soil that is used to grow food.

Learn how and where to compost on campus!  
#CUcompost  
www.concordia.ca/compost

67 TONNES OF CONCORDIA'S ORGANIC WASTE WAS COMPOSTED IN 2014-2015.

Concordia

The infographic features a central illustration of a grey building with a hand reaching out to a pile of brown compost. To the left, a grey truck is shown with a pile of black trash bags. To the right, there are green plants with red tomatoes and carrots. The background is light blue with white clouds.





# Exploring the options

# Composter options

Option A:  
Manual Small



Green Mountain  
Earth Box



Jora NE127,  
NE271, NE401

Option B:  
Manual medium-scale



Green Mountain  
Earth Tub

Option C:  
Automated indoor  
medium-scale



Vertal CityPOD



The Rocket



Jora NE20T

Option D:  
Automated outdoor  
medium-scale



Green Mountain  
Intermodal Earth Flow

# Factors of selection

- Capacity
- Quality of compost produced
- Time for compost to be produced
- Types of organics accepted
- Odour control
- Ease of operation
- Space limitations
- Winterization (for outdoor composting)



# Operational Challenges


- Sustaining operations
- Quality control
- Odour control
- Managing maturation stage
- Finding and retaining knowledgeable operators



# SGW

## Legend

### Annexes

-  .5 x  Multi-faith Kitchen
-  .5 x  Offices
-  Planters



### Hall

-  2 x  People's Potato  
The Hive Kitchen
-  3 x  Offices, Event  
Spaces, Public bins,  
Cafes
-  Loading dock
-  Greenhouse
-  Greenhouse,  
Hall basement

### MB

-  2 x  Offices, Event  
Spaces, Public bins,  
Restaurants






### GM

-  2 x  Offices, Public bins,  
Cafes, Restaurants

### LB


-  2 x  Offices, Event  
Spaces, Public bins,  
Cafes, Restaurants

### EV

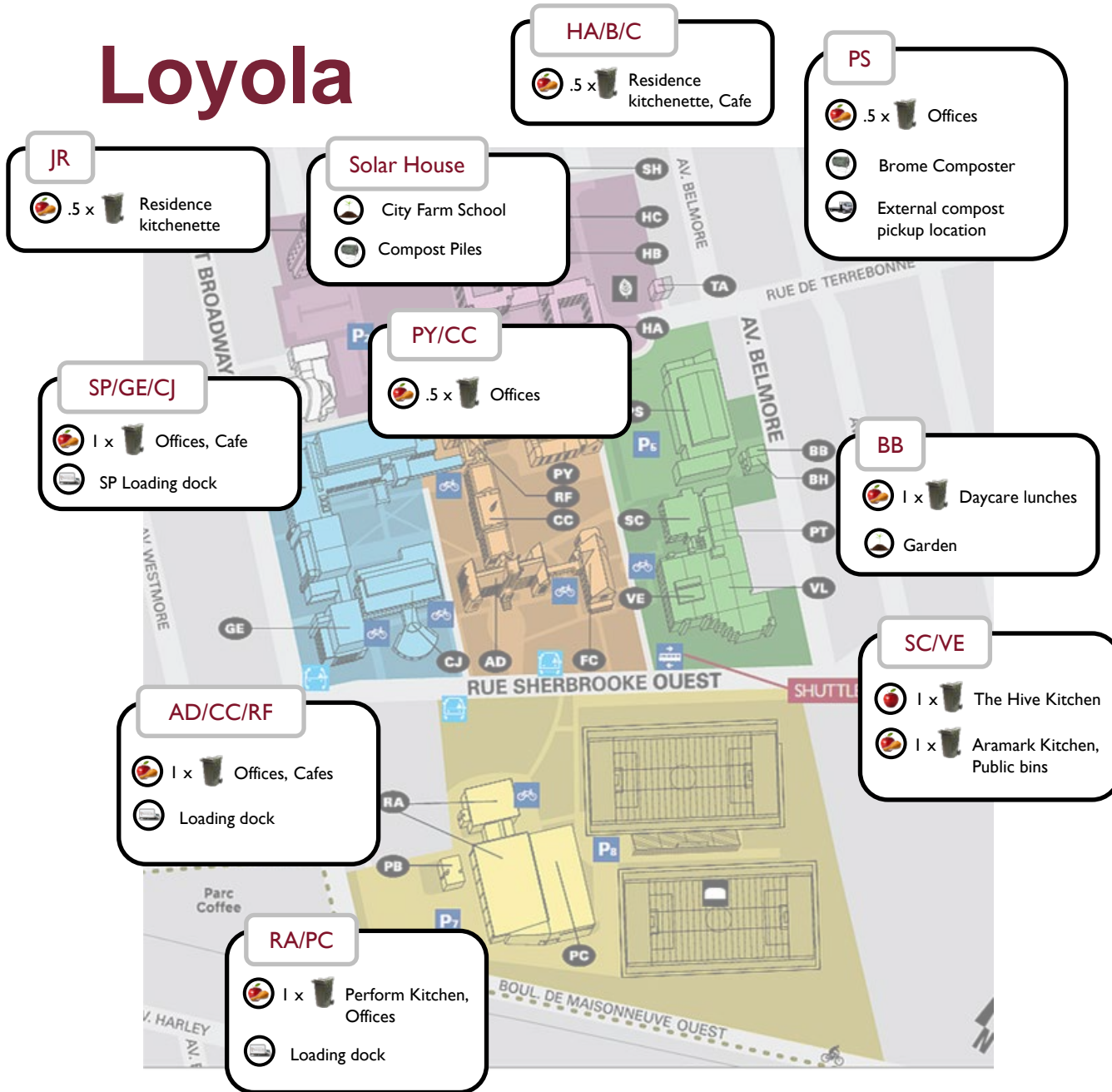
-  1 x  Jugo juice
-  2 x  Offices, Event  
Spaces, Public bins,  
Cafes, Restaurants
-  Loading dock

### Grey Nuns

-  3 x  Aramark kitchen
-  Parking lot
-  Campus potagers,  
GN garden
-  Aramark kitchen,  
parking lot

	Veg. Food Source
	Mixed Food Source
	Distribution truck pickup point
	External truck pickup point
	Prospective composter site
	Compost use site

# Loyola



## Legend

	Veg. Food Source
	Mixed Food Source
	Distribution truck pickup point
	External truck pickup point
	Prospective composter site
	Compost use site

# Discussion

# Questions

**How would you, your department, or organization, like to be involved in on-site composting at Concordia?**

- Generating organic materials for compost
- Operating a composter (or composters) and maturation process
- Using finished compost
- Education
- Research
- Other

# Questions

**What does your dream compost / food waste cycle look like at Concordia?**

# Questions

**Rate how important each of these goals is to you**

- Composting all organics on campus
- Creating high quality compost on-campus for use on campus.
- Giving or selling compost to students and the community
- Creating opportunities for research
- Student involvement in compost operations
- Ability to compost meat/dairy on or off campus
- Ability to compost bioplastics
- Others (write your own goals)



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**Extra**

# External Composting



# GHG Emissions and Reductions

Comparing scenarios for 120 MT of organics:

Landfilling @ Lachenaie: **35 MT CO<sub>2</sub>e emissions**

Composting at Matrec site: **-15 MT CO<sub>2</sub>e captured**

Composting at Loyola: **-17 MT CO<sub>2</sub>e captured**

Based on EPA's WARM model with the following transport distances:

km transported to external compost site	140	<u>transported to Moosecreek, ON</u>
km transported SGW to LOY	9.5	
km transported to landfill site	36	<u>transported to Lachenaie</u>

**Additional CO<sub>2</sub>e savings through compost use:**

0.14 MT CO<sub>2</sub>e / 0.91 MT organics x 120 MT organics\*\*

**-18 MT CO<sub>2</sub>e**

# GHG Emissions and Reductions

Composting at Matrec site: **-15 MT CO<sub>2</sub>e captured**

## GHG Emissions Analysis — Summary Report

(Version 13, 3/15)

Analysis of GHG Emissions from Waste Management

GHG Emissions from Baseline Waste Management Scenario (MTCO <sub>2</sub> E):	34
GHG Emissions from Alternative Waste Management Scenario (MTCO <sub>2</sub> E):	-15
<b>Total Change in GHG Emissions: (MTCO<sub>2</sub>E):</b>	<b>-50</b>

Material	Baseline Scenario					Alternative Scenario						Change (Alt - Base) MTCO <sub>2</sub> E
	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Total MTCO <sub>2</sub> E	Tons Source Reduced	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Total MTCO <sub>2</sub> E	
Mixed Organics	N/A	120	0	0	34	N/A	N/A	0	0	120	-15	<b>-50</b>

Note: A negative value indicates an emission reduction; a positive value indicates an emission increase.

a) For an explanation of the methodology used to develop emission factors, see Documentation for Greenhouse Gas Emission and Energy Factors Used in the Waste Reduction Model (WARM) — available on the Internet at <http://epa.gov/epawaste/conservation/tools/warm/SWMGHGreport.html>

b) Emissions estimates provided by this model are intended to support voluntary GHG measurement and reporting initiatives.

c) Total emissions estimates provided by this model may not sum due to independent rounding.