Fleming Waste & Recycling Strategy

Objective: To review our current waste and recycling system at Sutherland, Frost, and Haliburton campuses and provide recommendations for changes that would increase diversion and reduce contamination.

Current Situation: Our current waste and recycling system is made up of a variety of bin types, streams, labels and signage, all of which vary by location and campus. The inconsistencies in our current system make it difficult to understand and thereby, sort effectively.

Main Influences of Waste Sorting Behaviour

- Clarity of receptacle information
- Proximity to receptacles
- Emotions the receptacles evoke (colours, logos, images, graphics)

Key Challenges

- Inconsistent signage across various recycling/garbage bins
- Inconsistent number of recycling streams accepted – ranges from single stream (classrooms) to 3-stream (cafeteria)
- Inconsistent type of streams accepted – i.e. large metal bins unnecessarily separate glass from cans/plastic
- Lack of organics options for "post-consumer" food waste
- Current custodial contract does not include separation of single stream recycling in offices and classrooms
- Too many bins in some areas – not enough in others

Recommendations

Waste Station Design

- **Create consistent signage across <u>all</u> recycling/garbage bins for each stream** – both interior (Phase 1) and exterior (Phase 2) – including:
  - ***Consistent colour-coding by stream*** - green (organics), grey (paper), blue (plastic/cans), black (garbage)
  - ***Consistent wording*** – Organics / Paper Products / Cans l Bottles l Plastics / Landfill-Garbage
  - ***Representative images*** – Utilize campus-specific images of waste items on signage to show acceptable items for each stream

Organics included for Phase 3

- Organics: Food, soiled and compostable paper, image of apple core, sandwich scrap, and a napkin *(as mentioned in 'streams' section below, the 'Organics' stream will not be implemented until Phase 3 when a post-consumer composting solution is identified)*
- Paper Products: cup sleeves, pizza slice holders (if not too soiled), fine paper, magazines, box board, Tim Horton's cup with no lid
- Cans-Bottles-Plastic: milk cartons, tetra packs, glass (image of juice bottle), metal (image of a pop can), plastics (pop bottles and the recycling number logos 1-6)
- Landfill-Garbage- Stop signs with text "STOP: Garbage Only" images of cutlery, straws, chip bar, chocolate bar wrapper, plastic wrap, Tim Horton's lid and soiled materials

Consistent Streams

- **Create a consistent number of waste streams at all waste stations across each campus, for consistency, eliminate bins that don't match the number of streams**

  Frost Campus will continue to utilize the 3-stream blue, metal receptacle; Sutherland will continue to use the 4-stream blue metal receptacles. The 4th stream of the Sutherland bins will be used as a second 'Cans-Bottles-Plastic' bin, as shown in picture, until an organics solution has been arranged (Phase 3).

Organics section used for co-mingle during Phase 1 & 2

Sutherland- 4 streams: Landfill-Garbage / Paper Products / Cans-Plastic-Glass / Cans-Plastic-Glass
Frost- 3 Stream: Landfill-Garbage / Paper Products / Cans-Plastic-Glass

Coffee Cup Conundrum:

Option 1: cups to paper product stream, lids to garbage, coupled with education campaign and clear messaging within bin signage.

Option 2: At Sutherland, use 4th stream as coffee cup collection bin as a means of reducing contamination of other streams. A pilot project with Aramark to have cups taken and recycled will be considered for Phase 2.

For the initial implementation, option 1 will be implemented. A pilot with Aramark should be explored for Phase 2.

Placement / Distribution

- **Interior Corridors** - utilize blue metal bins as centralized waste stations – **approx. every 45 metres** - remove all other bins from all corridors
- **Cafeteria** - utilize current waste stations & locations
- **Classrooms** - remove garbage & recycling bins from all classrooms, with the exception of labs
- **Large lecture halls**- it has been suggested that through phase 1, and possibly beyond, that the large, main lecture halls (3 at Sutherland, 1 at Frost) have the centralized sorting bins inside, in addition to the centralized bins that will be located outside of the main lecture hall entrance. This would only be feasible if extra bins exist.
- **Offices** - Following discussions and consultation with various groups of staff and faculty at both Frost and Sutherland campuses, the original recommendations surrounding bin removal from offices has

changed. Recognizing that having the support of staff and faculty to implement Phase 1 of our College waste strategy is essential for success, other waste options for offices were explored.

After careful consideration, it is recommended that to address the issue of 1-stream recycle collection in offices which contaminates our 2 stream recycling system**, bins should be reorganized within the offices**. Where each desk currently has a recycle bin and a garbage pail, the pails would be reorganized, **providing each office with 2, well labeled recycling bins** (Paper Products & Cans-Bottles-Plastic), **as well as a garbage pail**.

In offices with only 1 person, the second recycling bin would come from those that are pulled from the classrooms. **In open offices of 2-4 people, a centralized location will be selected for the 3 bins.** All additional bins will be removed from the office. For offices of 4 or more people (i.e. Sutherland's Office of the Registrar), bins will be reorganized and shared, (i.e. 1 set of bins for 2-3 desks).

Without the need to purchase additional bins, office bins could simply be reorganized to improve diversion by providing 2-stream recycling.

Implementation Plan

Phase 1:

(Implemented for September 2016)

- Centralized corridor bins (existing blue metal bins), *view maps in appendix*
- Bin signage and labeling for consistency
- Remove both garbage and recycling pails from all classrooms and lecture halls, except labs
- Strong, branded communication strategy to educate Fleming community
- Adjustment to office bins to provide 2 stream recycling in addition to the garbage bin

Phase 2:

- Replace outdoor bins with soccer field style bins (from Clean River) to achieve consistency with interior streams (number of streams and labeling)
- Consider further steps in removing office bins if believed to be necessary
- Coffee cup pilot with Aramark
- Modify 4 stream cafeteria bin openings so each waste stream has a different shape – utilize stainless steel insert

Phase 3:

- Implement organics composting program (pilot at Frost)
- Compost collection for washroom paper towel

Implementation Table

Timing	Task	Responsibility
April/May	Frost & Sutherland Waste Audit	Progressive Waste
April/May	Complete mini waste audit - identify major contamination items	OOS
April/May	Complete signage design ideas-send to marketing	OOS & Marketing
April/May	Develop launch campaign & education materials- send to marketing	OOS & Marketing
May-July	Order signage & colour-coding material for bins – blue metal, cafeteria, office	OOS
May-July	Order marketing material e.g. posters, signage	OOS
May-July	Launch education campaign for staff re: coming changes	OOS
July/August	Install colour coding and signage on current bins – blue metal, cafeteria, office	Physical Resources
July/August	Install and distribute signage and educational materials around campus	OOS
July/August	Remove garbage & recycling bins from classrooms (except labs) Reallocate blue metal bins accordingly	Physical Resources & OOS
July/August	Reorganize office bins	Physical Resources & OOS
July/August	Clean old interior garbage bins	Physical Resources & OOS
September	Launch education campaign to incoming students	OOS/SAC/FSA
September	Host educational events & pop up booths re: waste improvements	OOS
September	Conduct Haliburton waste audit by Frost students	OOS & Melanie Logan's Students
September	Ongoing monitoring & audits	OOS
Jan/Feb	Follow-up mini waste audit	OOS

Table 1. Implementation Timeline

Centralized System: Bin Tally

Bin Removal

The table below shows the current number of bins to be remove (Frost & Sutherland) from the following main areas; classrooms, lecture halls, Sutherland Learning Commons, and any miscellaneous bins from main corridors. A majority of the bins are the small, single-stream plastic blue box and waste bins.
For the purpose of this report, classrooms consist of classrooms, seminar rooms, computer labs, bull pens, meeting rooms, and study rooms. The minimum (min.) listed in the classrooms and lecture hall category indicates the number of rooms, assuming 1 set of bins per room. Some of the rooms and lecture halls will have additional sets.

	Garbage bin  Recycle bin		 Misc. mixed bins
Sutherland			
Learning Commons	19	15	1
Library	4	8	1
Classrooms & Lecture halls	65 min.	65 min.	-
Misc. from main corridors	-	-	4
Cafeteria/Steele Center	-	-	2
Frost			
Library	11	10	-
Classrooms & Lecture halls	25 min.	25 min.	-
Misc. from main corridors	-	-	7
Cafeteria	-	-	1

Table 2. Bins to be removed

Lab room exception

The lab rooms have been identified by those rooms with sinks. Lab rooms will continue to have a garbage bin within to support the need for paper towel and lab material disposal. These rooms will be identified during implementation for GDI staff to ensure ease in adopting the new system.

Lab rooms at Frost- 6
Lab rooms at Sutherland-16

Offices

Offices include academic and administrative offices, bookstore, staff room, info booth and student services.
The number of rooms designated for offices (*based on COFSI report numbers*):
Frost-41
Sutherland- 285
Haliburton- 17

An approximate count of desks was calculated at Sutherland. These numbers allowed for the estimation of the number of bins in each office and then to calculate the required bins to establish 2-stream recycling in all offices. *(Frost will be calculated once the data is retrieved from GDI. This will also provide a more accurate bin count, especially for the group office spaces)*.

With the assumption that there is 1 of each blue bin and garbage pail per desk, we can assume the following number of blue bins will be reorganized. An approximate count shows the following desk break down at Sutherland:

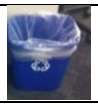
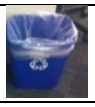
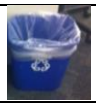
	Current		Reorganize		Additional Required		Extras	
Office occupancy								
Single (75 desks)	75	75	0	0	0	75	0	0
Double (106 desks)	106	106	0	53	0	0	53	0
Group (157 desks)*****	157 (approx)	157 (approx)	0	63	0	0	94	31

Table 3. Office bin reorganization tally for Sutherland Campus

Estimated based on an average of 5 desks per group office. For an office space of 5 desks, 2 sets of the garbage and 2-stream recycling would remain within the office setting and shared. A GDI bin count will allow for a more accurate number in this section.

As Table 3 indicates, in addition to what bins will be extra after the office reorganization, 44 recycling bins will still be required for single desk offices. These bins can be obtained from the 65 recycling bins pulled from classrooms at Sutherland (as seen in Table 2). Following the estimated counts of office and classroom bins, **no additional bins will need to be purchased to complete the interior centralized bin implementation plan.**

Introduction of Bins

	Sutherland		Frost		Haliburton	
	On Hand	**Required**	**On Hand**	**Required**	**On Hand**	**Required**
Interior corridors-Centralized bins (Blue Metal Style)*	35 + 3 (in shed)	min. 34	19	min. 15	2	7
Interior – Cafeteria	8	8	3	3	1	1
Interior-Large Lecture halls *	0	4	0	1	n/a	n/a
Learning Commons (LCR)*	0	3	n/a	n/a	n/a	n/a
Exterior	18 approx.	10	17	11	3	n/a

Table 4. Bins to be introduced for centralized system

**Indicates where blue metal style bins will be used*

The maps within the Appendix illustrate the proposed placement of the centralized bin systems at both the Sutherland (see Appendix A) and the Frost Campus (refer to Appendix B, C & D).

Estimated Costs for Phase 1

Item	Cost
Create & install new signage & labeling– Interior Bins (if outsourced printing) • metal blue bins - $143.00/bin x 56 = $8,000 • cafeteria stations - $350/station x 11 = $3,850	$8,000
Education Campaign (signage, promotion & events)	$2,000 (estimate)
Total (Phase 1)	**$10,000**
Cost Savings - GDI Staff – Less time emptying classroom bins- 2 hrs/day x 5 days/week	$6,000 (estimate)
Possible sponsorship – Alumni relations and CSR student project	TBD

Estimated Costs for Phase 2

Item	Cost
Purchase of new outdoor bins – 3 or 4 stream - $2000/station x 20	$40,000
Total (Phase 2)	$40,000

Table 5. Cost breakdown for Phase 1 & 2 of implementation plan

Communication & Promotion

- Communication and promotional campaign will be implemented through the Office of Sustainability as shown in Table 1.
- New waste/recycling program to be branded – ex. “Sort It Out!” – to be included on all waste stations and communication
- 2 campaigns: 1) Lead Up & Launch and 2) Ongoing
    - Lead Up & Launch campaign – why, when, what – begin prior to launch and continues into Fall 2016
    - Ongoing campaign - social media, posters, website, videos, presentation (at orientation)

Lead Up & Launch

- Provide update of coming changes to staff and faculty during the spring/summer months
- Work with the FSA and SAC to run an education campaign
- Marketing campaign advising of current waste data and our waste related goals
- Update websites (Corporate, FSCI, Frost)
- Run active social media communications plan throughout various school facets

Ongoing

- Provide annual updates and quarterly good news stories around waste recycling
- A follow-up audit should take place to report on progress

Education Campaign

Promotional Materials

- Signage for rooms, to be placed where bins once were, explain why and where the nearest centralized unit can be found
- Video to be shown in classes, at welcome days, orientation, etc. and included in mail out to all staff (NSCC video , featuring one of our facilities staff)
- Faces of Frost/Fleming for promo materials (GDI staff)
- Use branded info graphic to communicate state of current diversion rates, % of contamination and what we will be working together to achieve. Diversion metrics and progress will work to motivate students and staff, and act as a reminder of a common goal
- Communications feature 'TOP 4' most missorted items! 'Help put them in their place' marketing materials
- Weekly feature of the worst contaminant, or 'Top 4 ', or ex. the story of 'The Plate'
- Ongoing campaigns with anti-contamination stickers on bin openings featuring problem items (i.e. No plastic bags sticker for organics)

Marketing material needs:

- Signage for bins
- Colour-coded stickers for bins
- Recycling labels for office bins, identifying the 2 streams
- 'Pack it in, Pack it out' type signs for classrooms & lecture halls
- Similarly branded overall waste improvement posters (web based and hardcopy format)
- Video
- Web based materials for email, social media and website updates

Engagement Events

Utilize Office of Sustainability student workers as well as SFS, SAC and FSA, to run events and act as a presence at bins, info tables and events throughout the fall semester and at the startup of the winter semester.

- Have sorting patrol (Blue bin workers and/or SAC/FSA) giving away prizes or standing at bins directing proper sorting and orienting to new system
- Have volunteer presence around bins, at events and at tables near centralized stations before, during and following launch of waste action campaign (CSR student projects).
- Attention grabbing art and table displays and events (i.e. feature problem item like the coffee cup- gets attention and offers education) https:/www.youtube.com/watch?v=g6Muow-3PDM%5d

Appendix

See Appendices A-D attached to email.