

## COVERAGE

### PROJECT INFORMATION

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Please complete the fields below with information regarding your project.

Project Title Launching systemic solutions to lab waste management at McGill

Brief Description This project will implement systemic solutions to lab waste management challenges at McGill Brief

# BIGWAVE APPLICATION FORM

Initiative's survey of 70 lab users in 2021, a large majority identified non hazardous waste materials as the main environmental impact of the University's labs compared to only 1% who said energy was a priority (see appendix 2). Survey respondents prioritised the recycling and replacement of plastics, polystyrene and PPE and overall improvements in lab waste management and awareness as urgent actions. Beyond McGill, many scientific and professional publications have highlighted the urgency of aligning lab waste management in higher education, clinical and industrial contexts with broader waste and sustainability goals (see attached references).

3. Is there an underlying systemic issue or need? Are there other areas of McGill experiencing the same issue? If so, is there an opportunity to collaborate or address the root cause/need? Limit ~200 words

Any meaningful and sustained improvements in the management of non hazardous lab waste at McGill will require institutional leadership and coordination to develop and implement systemic solutions, plus resources and education for labs. Due to the difficult trade offs between creating less waste and making lab processes safe, efficient and financially viable, lab users struggle to improve non hazardous lab waste management. Thus, small lab based projects have not yet catalysed institutional change and piecemeal waste management is inefficient. For Hazardous Waste Management (HWM), there are clear guidelines, processes, infrastructure and mandatory training requirements at McGill that align with provincial regulations. For regular waste from offices, classrooms and residences the leadership and coordination of Buildings & Grounds and MOOSH has supported administrative units with consistent infrastructure and education.

McGill urgently needs a comparable level of efforts for lab waste involving these partners. This project aims to develop University level coordination and pathways for lab waste and

Since 2010, the SPF has funded 6

of waste in hundreds of labs and the diversion of non-hazardous lab waste from landfill and incineration. Financial efficiencies will be realised through consolidation of operational support for the operation of relevant units such as Buildings & Grounds, Procurement and Environmental Services (ES). SP funding will be used to:

- 1) Develop, distribute and promote a new national structure and guidelines for hazardous lab waste management
- 2) Develop waste reduction, reuse and recycling strategies for non-hazardous waste stream across multiple labs and faculties (e.g. university green labs)
- 3) Draft new University policy for hazardous waste management
- 4) Provide dedicated staff (one full-time Sustainability Office (Sustainability Intern) to provide leadership, support administrative units and lab staff to implement best practice waste management policies

Project actions will be implemented in a series of phases. The Education Outreach Committee will be responsible for continuous:

Phase 1: Data collection and baseline assessment  
Conduct waste audits, consult lab staff and provide support units and external agencies (e.g. Quebec, Eco-Entreprise, etc.) to develop waste management systems, existing infrastructure and available waste management options (see Appendix 1)

Phase 2: Identify feasible lab waste management options  
Develop practical reuse and recycling programs (e.g. plastic resin in class, packaging equipment) for on-campus

8. What will be the

# BIGWAVE APPLICATION FORM

Projects Fund

Projects Fund

Key Project Activities	Start Date (DDMM YY)	End Date (DDMM YY)
Conduct lab waste audits at strategic points to determine baselines current lab waste amount etc.	03 Jul 23	25 Aug 23
Identify material or item for waste reduction through consultation with all stakeholders lab users, Recruit sustainable lab ambassadors and prepare material for tabling at events: orientations,	21 Aug 23	27 Oct 23





# BIGWAVE APPLICATION FORM

Projects Fit

Projects Fit

## PROJECT BUDGET

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Criteria assessed in this section: **FEASIBILITY**

**Note:**

Project teams are *strongly encouraged to secure additional financial support* from key project stakeholders for Big Wave projects. Please attach support letters demonstrating their commitment in an appendix. If your project will involve cost savings or revenue generation, please attach a financial model in an appendix. Big Wave project teams are *required to manage project finances and staffing needs*, if any, without assistance from SPFS staff. Please attach a support letter from your local Finance partner and, where relevant, your local Human Resource partner to demonstrate their agreement to support your project.

### Revenues

Indicate any funding you will receive or may receive to complete your project, including funds from McGill departments and units.

## *Salaries & Wages*

If applicable, please indicate any paid positions needed for your project. Note: If you complete this Salaries & Wages section, you must also complete the [Staff Position Information Appendix](#)

Position Title	~#Hours per
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## APPENDIX

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### Relevant Support Documents

List any appendix documents in order in the table below.

Please keep the total number of pages \_\_\_\_\_ or \_\_\_\_\_

Launching systemic solutions to lab waste management at McGill

Detailed project Objectives and actions

Launching systemic solutions to lab waste management at McGill

## Launching systemic solutions to lab waste management at McGill

Supporting individual actions and consolidating

## Appendix

1. Which McGill affiliated location are you a part of?

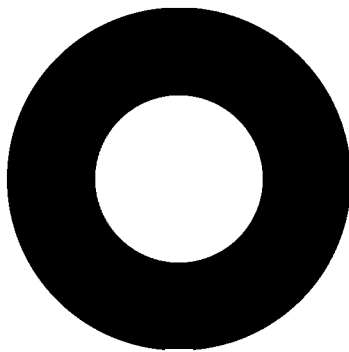


- Life Science Complex
- Genome/Wong Building
- Glen Site (RI or MUHC)
- Strathcona Anat. and Dent.
- MNI
- Douglas
- Otto Mass Chemistry

LDI	27
LifeScience Complex	21
Genome/Wong Building	9
GlenSite (RI or MUHC)	6
Strathcona Anat. Dent.	3
MNI	2
Douglas	1
Otto Mass Chemistry	1
Total	70

1

2. Are you a:

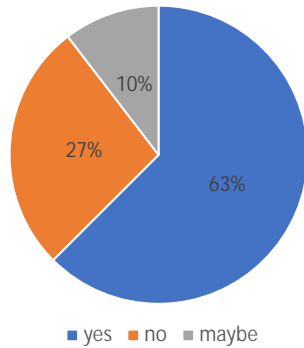


Admin/Staff/Employee	31
Researcher	13
Student	26
Total	70

2



3. Do you think that research funds should contribute to Green Initiatives in your building/institutions?



#### Interesting comments/suggestions:

Not sure, I think a better approach maybe to use green certification as an incentive structure, where institutions can receive more research funds if they meet a standard. Since as I understand it, going green costs more. Not sure how this change could be implemented.

Marginally. A small and fixed amount such as the percentage devoted to art in new constructions. Let's say 5%.

It should be paid by central, funds are already tight and I'm not sure PIs would be willing to go there

Only if directly related to the research for which funds were allocated to (e.g. greener materials)

Yes, but via institutional overhead: McGill takes a portion of each grant for operations costs, and this portion should be used for Green initiatives

I'm not sure that will be allowed for tri-agency grants.

No, our grants are stretched too thin as it is.

With institutional funds but not operating research funds of PIs

6. Which component of



## Appendix- McGill's Lab waste in photos



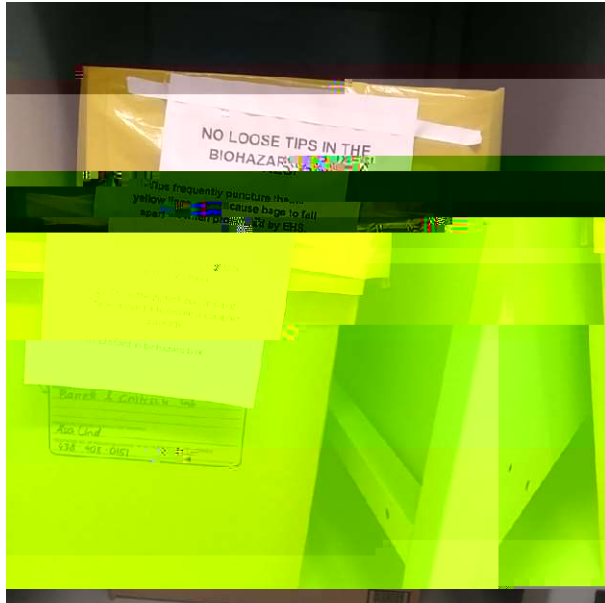
**Pipette tips and tip boxes represent a major stream of plastic waste in many vet labs**



**One week's worth of fire pads collected in one lab**



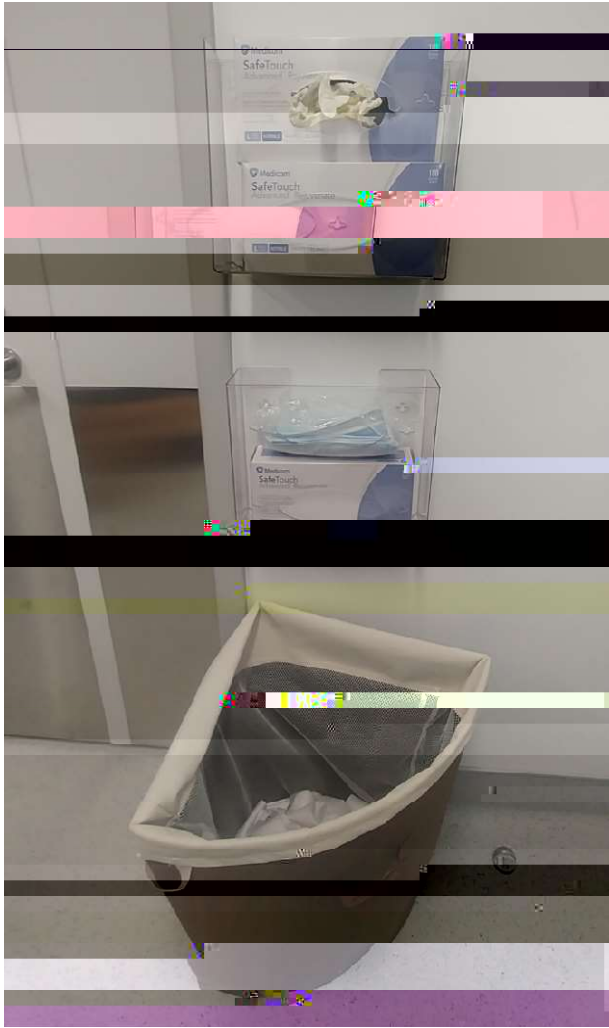




**All biohazardous waste is sorted into colour coded bags and collected regularly by Hazardous Waste Management. This is reinforced by mandatory training for all lab users**



**Miscellaneous plastic waste gathered under a desk**



**PPE waste collected for disposal via landfill**

Systemic solutions to lab waste management at McGill

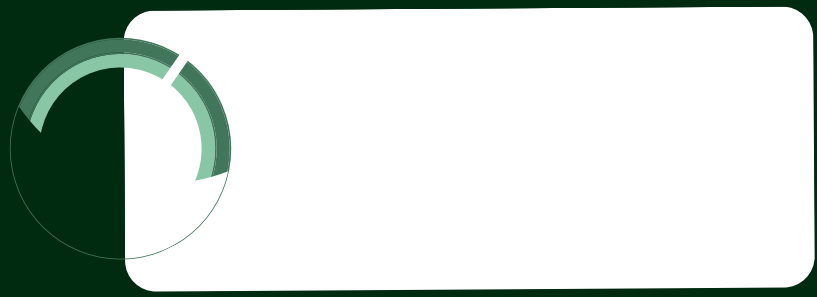
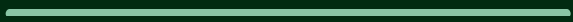
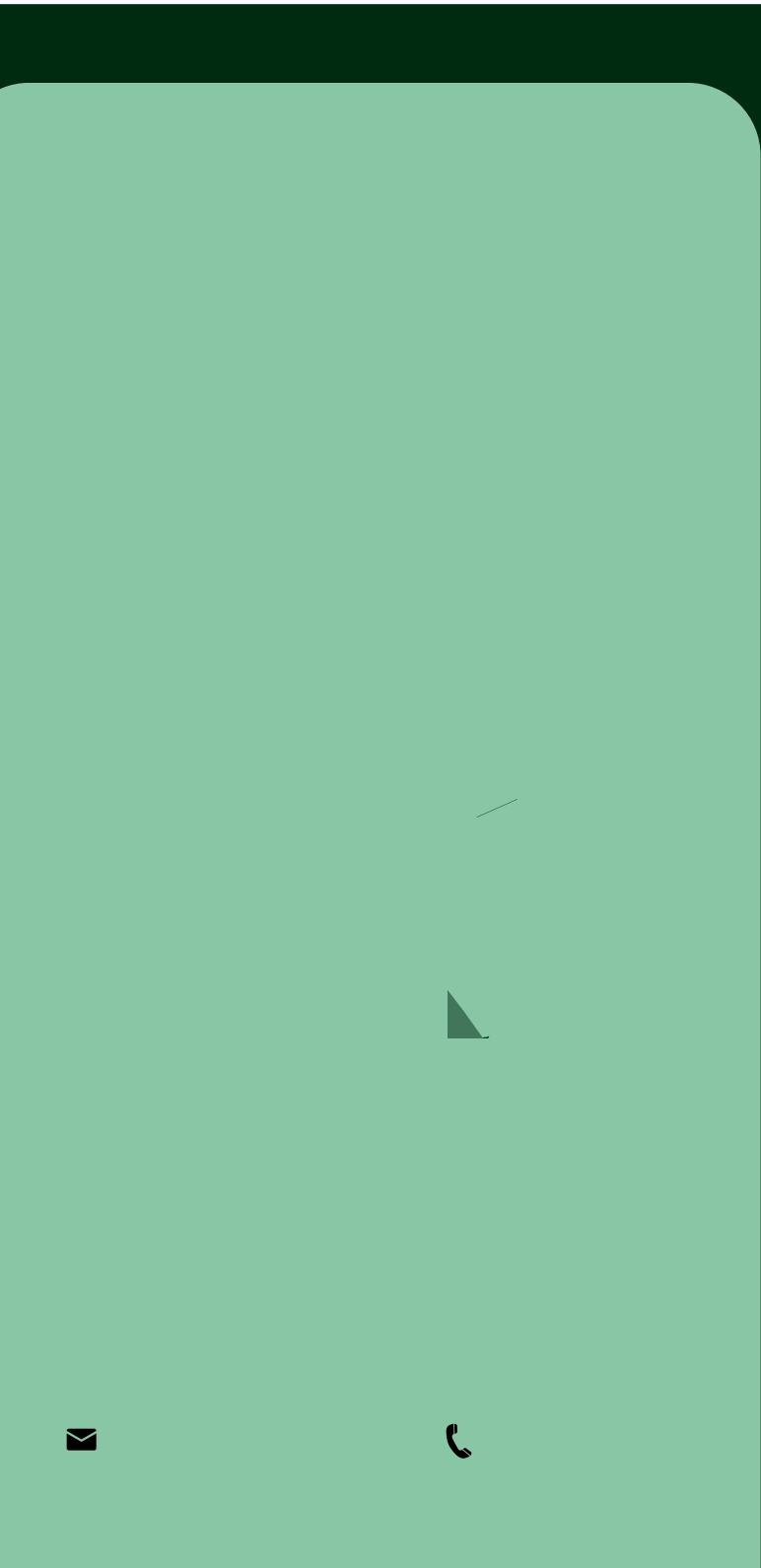
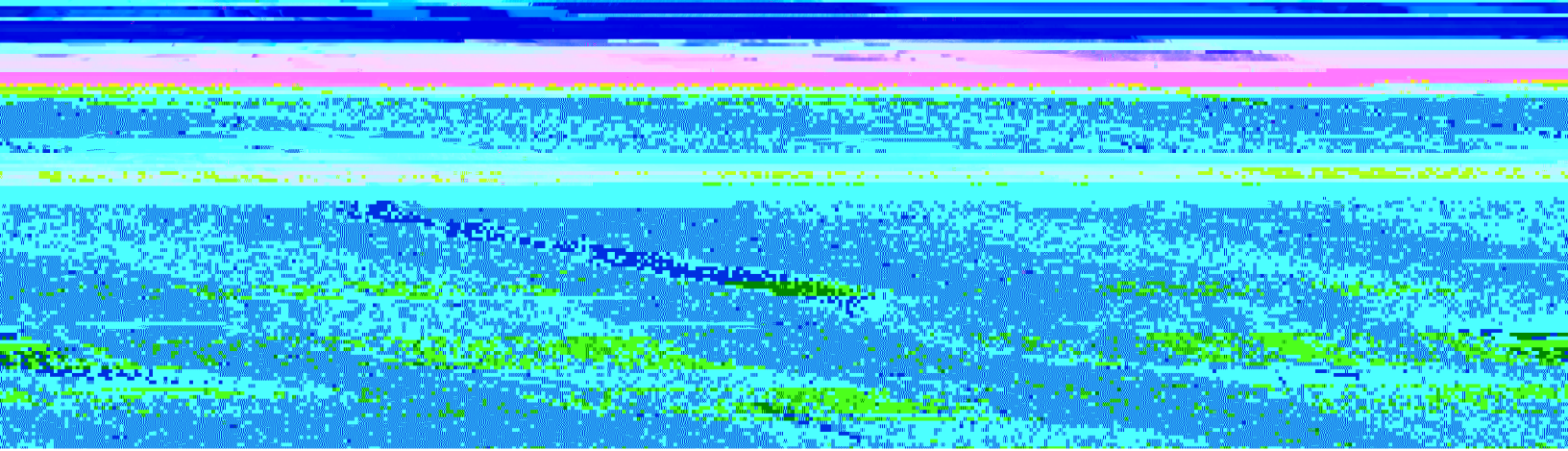
Benchmarking lab waste management at peer universities (u15

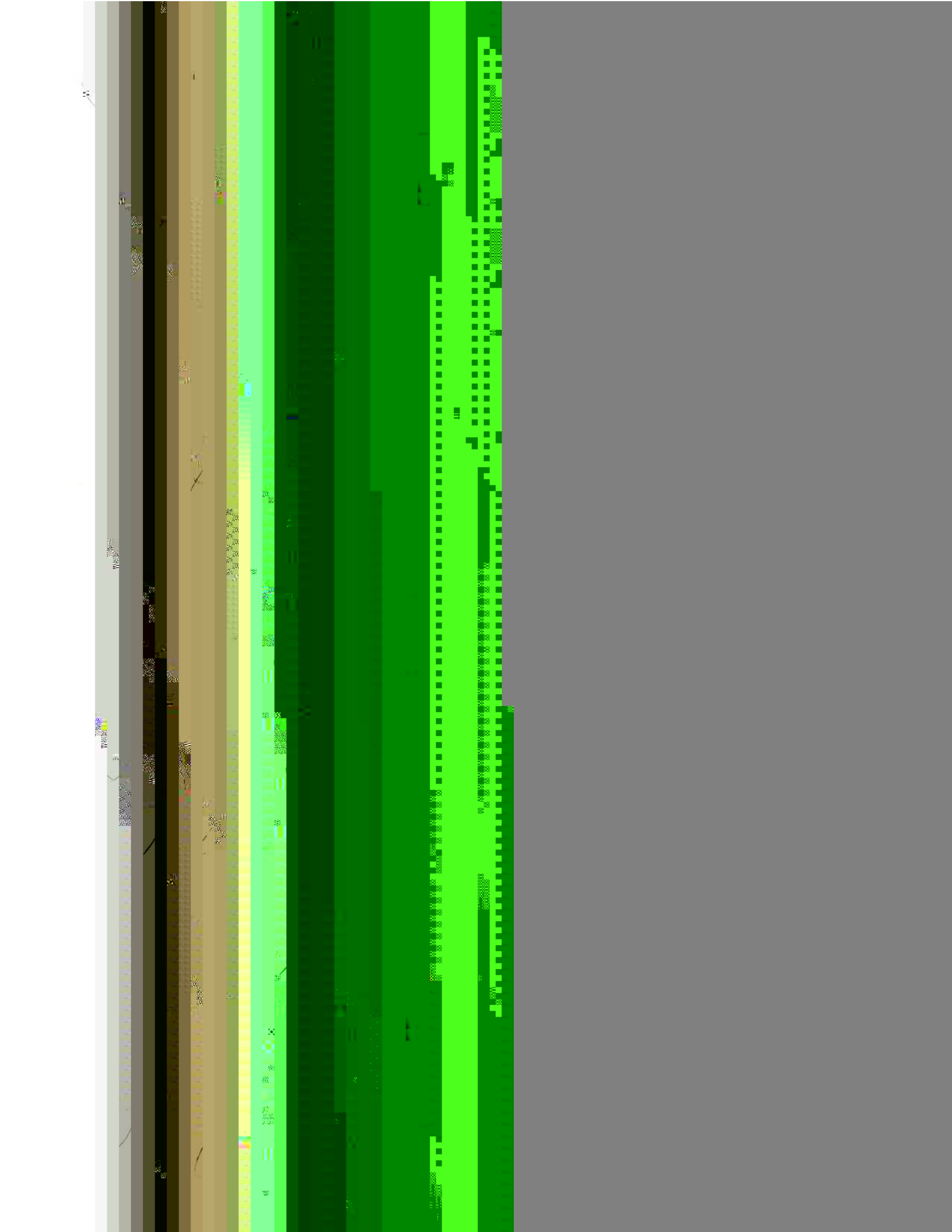


Non hazardous Lab waste streams diverted from landfill							
University	Glass	Plastics	Freezer/ Ice packs	Styrofoam	PPE	compostable	STARS rating
<a href="#">U. Alberta</a>	?	pipette tip holders and boxes, air pillows, conical tubes and lab bottles. Plastics 1, 2, 4, 5.	No/ Landfill	No/ Landfill	No/ Landfill	No/ Landfill	Gold
<a href="#">UBC</a>	amber glass bottles in select buildings	Hardplastic containers that contained nonr hazardous materials. Petri dishes, pipette tip holders. Plastics 1, 2, 4, 5, 6. <a href="https://sustain.ubc.ca/labplasticsr">https://sustain.ubc.ca/labplasticsr</a> recycling	Pilot project to donate ice packs to grocery delivery company: <a href="https://sustain.ubc.ca/stories/ubcrgreenlabsrcenter sciencescenter andrspudrdivertr hundredsgelricer packsr">https://sustain.ubc.ca/stories/ubcrgreenlabsrcenter sciencescenter andrspudrdivertr hundredsgelricer packsr</a>				

Non hazardous Lab waste streams diverted from landfill							
University	Glass No/ Landfill	Plastics No/ Landfill	Freezer/ Ice packs No/ Landfill	Styrofoam No/ Landfill	PPE Uncontaminated masks,	compostable	STARS rating

[U. Ottawa](#)





Dear SBE Governance Council,

Please accept this letter as a request for your support in finding solutions to lab waste management at McGill. I am currently a PhD student in the Department of Experimental medicine and a member of the McGill Green Initiative. I and other student and staff initiatives that focus on environmental issues are passionate about improving our campus's environmental footprint and raising awareness about the habits to help the planet while performing our education and research.

The proposed budget reflects GLI's best available resources to manage lab waste in the coming year. Through my PhD career and that of my peers, we have witnessed a significant stream of lab waste generated during our research. This waste is often stored in classrooms are not in use, such as during the COVID-19 pandemic.

The GLI has worked closely with the Environmental Services Department to improve sustainability in our buildings. We have implemented various initiatives, such as sustainable procurement and optimized energy use, through various GCI events, Lunch & Learn sessions, and other initiatives.

We believe it is important to keep this momentum going and to continue managing our waste responsibly. It is our goal to reduce our waste footprint and bring us closer to a being zero-waste campus.

Please do not hesitate to contact us if you have any questions or need further information for lab waste management. Thank you for considering this important project.

Sincerely,



Juliet Guay, PhD student and co-ordinator, McGill Green Initiative  
[juliet.guay@mail.mcgill.ca](mailto:juliet.guay@mail.mcgill.ca)



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Resource Sciences  
Faculty of Agricultural  
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January 31<sup>st</sup> 2023

Dear SPF Governance Council

I am offering my support for the SPF proposal to develop university level resources for lab waste management. I am an Assistant Professor in the Natural Resource Sciences Department at the McGill Macdonald Campus and also chair the Department Safety Committee which deals with hazardous waste protocols and lab operations, and chair the FAES Macdonald Campus Sustainability Committee. As a Principal Investigator of a research lab and role as Chair on these committees, I am acutely aware of the large amounts of waste, especially plastic waste, generated by research students and researchers across the Macdonald campus view this as a serious problem in how they conduct their research activities and as a significant barrier of achieving McGill waste strategic initiative. In my lab alone we likely generate hundreds of thousand plastic pipet tips annually. This project, which se-

her than an individual lab approach will have a significant impact on achieving

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Montreal, Quebec Canada H3A 2R7 Montréal (Québec) Canada H3A 2R7  
étage Tel./Tél.: 514-3984560  
Fax/Télé.: 5143983229

Montreal, February 14, 2023

Dear SPF Governance Council,

As the Director of Building & Grounds at McGill University, I am responsible for providing the McGill campus community with an environment that is clean, safe and functional. I wish to endorse the project to launch systemic solutions to lab waste management at McGill.

My unit manages non-hazardous waste and recycling operations on the downtown campus. We are working with others to drive the vision of the [Waste Reduction and Diversion Strategy \(2018-2025\)](#). This project will be essential for implementing the strategy in labs where a higher level of coordination and communication are required to support the lab safety and integrity of teaching and research.

After many years of ad hoc sustainability initiatives, often based in individual labs, we can attest to the need for having a well-coordinated and institutional approach to reducing the environmental impacts of labs. Over the last 6 months we have worked closely with the Sustainable Labs Working Group and a dedicated Sustainability Office focussed on labs, to develop the Sustainable Labs Guide, a University-wide framework for sustainable lab operations, and a pilot project for recycling lab-generated PPE waste. By allocating much needed financial and human resources for managing lab waste, this project will now move the University forward towards diverting 90% of our waste from landfills and becoming zero-waste by 2035.

I strongly encourage and support this proposal for funding from the Sustainability Projects Fund.

Sincere regards



George Lazaris  
Director, Buildings & Grounds

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Dear SPF Governance Council,

As McGill Office of Sustainability (MOOS) Sustainability Manager, I commit to supervising the Sustainability Officer. While you are familiar with my work as SPF Steward, my portfolio also encompasses MOOS-sustainability engagement programs. These are MOOS-run

# STAFF POSITION INFORMATION

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Please complete the fields below with fields

# STAFF POSITION APPENDIX

# Launching systemic solutions to lab waste management at McGill

## Communication plan

Goal	Product	Objective	Target Audience	communication channels	Phase
Promote awareness of the project among key stakeholders and invite feedback					
	Project launch article	Informational; incentivise lab users	Principal investigators, graduate students, lab managers and research assistants	interviews and features on MOOS website, MOOS newsletter, social media, McG Reporter, What's New)	Phase 1, 2, 3, 4
	Project launch email to target audience	Informational to key members of the McGill community	Building and custodial staff managers, Principal investigators, graduate students, lab managers and research assistants	Email and Slack Channel	Phase 1, 2, 3, 5
	Regular project updates	Informational to key members of the McGill community	Building and custodial staff managers, Principal investigators, graduate students, lab managers and research assistants	interviews and features on MOOS website, MOOS newsletter, social media, McG Reporter, What's New)	Phase 1, 2, 3, 6
	Lab waste management paper	Informational to key members of the external audiences	AASHE Sustainable Labs Canada and other external stakeholders	article or presentation at AASHE SLCAN conference or other event	Phase 1, 2, 3, 7

Promote

