

Ministry of the Environment Waste Form

Report of a Waste Reduction Work Plan

Industrial, Commercial and Institutional Establishments

As required by O. Reg. 102/94

This report must be prepared 6 months after becoming subject to O. Reg. 102/94 and a copy retained on file for at least five years after it is prepared, and be made available to the ministry upon request.

I. GENERAL INFORMATION

Name of Owner and/or Operator of Entity(ies) and Company Name: Brock University			
Name of Contact Person: Domenic Maniccia		Telephone #: 905-688-5550	Email address: dmaniccia@brocku.ca
Street Address(es) of Entity(ies): 1812 Sir Isaac Brock Way			
Municipality: St. Catharines, Ontario, L2S 3A1			
Type of Entity (check one)			
Retail Shopping Establishments	<input type="checkbox"/>	Hotels and Motels	<input type="checkbox"/>
Retail Shopping Complexes	<input type="checkbox"/>	Hospitals	<input type="checkbox"/>
Office Buildings	<input type="checkbox"/>	Educational Institutions	<input checked="" type="checkbox"/>
Restaurants	<input type="checkbox"/>	Large Manufacturing Establishments	<input type="checkbox"/>

Note: O. Reg. 102/94 does not apply to multi-unit residential buildings.

II. DESCRIPTION OF THE ENTITY

Provide a brief overview of the entity(ties): Brock University is an educational institution with approximately 18,462 students (full and part-time undergraduate and graduate) which satisfies Part X of Ontario Regulation 102/94 & 103/94. O.Reg. 102/94 requires operators of educational institutions with more than 350 full- or part-time students enrolled during the calendar year to conduct an annual waste audit and implement a waste reduction work plan. O.Reg. 103/94 requires that source separation programs be implemented and maintained for fine papers, newsprint, aluminum cans, steel cans, glass beverage containers and corrugated cardboard. Brock U undertook this audit in order to assist them in reducing wastes generated on campus and/or disposed to landfill, while being in compliance with the required Regulations.

III. PLANS TO REDUCE, REUSE AND RECYCLE WASTE

<p>For each category of waste described in Part V of “Report of a Waste Audit” (on which this plan is based), explain what your plans are to Reduce, Reuse and Recycle the waste, including: 1) how the waste will be source separated at the establishment, and 2) the programs to reduce, reuse and recycle all source separated waste.</p>	
<p>Waste Category (as stated in Part V of your “Report of a Waste Audit”)</p>	<p>Source Separation and 3Rs Program</p>
<p>Cardboard</p>	<p><u>“Cardboard 3Rs Program”</u> <u>Reduce:</u> Suppliers will be encouraged to make use of reusable containers for the shipment of supplies to Brock University. <u>Reuse:</u> Cardboard boxes will be reused for shipments when appropriate. <u>Recycle:</u> Staff/Students will be reminded of the existing program. Cleaners will be trained on where to dispose of waste correctly.</p>
<p>Mixed Containers/Plastics (PET, HDPE, LDPE, PP, PS, Aluminum, Steel, Glass, Aseptic)</p>	<p><u>“Mixed Container/Plastics 3Rs Program”</u> <u>Reduce:</u> Staff/Students will be encouraged to bring reusable containers food/beverage containers for lunch and breaks. Brock University will encourage suppliers to reduce the amount of polystyrene used to transport supplies. Brock University will encourage suppliers to reduce the amount of plastic film and wrapping materials used to transport supplies. Brock U added eleven new water bottle refilling stations on campus, bringing the total to 20 water bottle refilling stations. These stations helped the university reduce the amount of plastic water bottles used on campus. <u>Reuse:</u> Staff/Students will be encouraged to reuse plastic crates and totes wherever possible. <u>Recycle:</u> Staff/Students will be provided with recycling bins in high waste generating areas and food service areas for mixed containers/plastics. Staff/Students will be encouraged to place mixed containers/plastics in appropriate recycling bins with appropriate signage affixed to the receptacle. Receptacles will be emptied on a regular basis before they become full into large roll away bins for collection by Niagara Recycling on a weekly basis.</p>
<p>Mixed Papers (Fine Paper, newsprint, boxboard, magazines, molded papers, kraft, catalogues, flyers, etc)</p>	<p><u>“Mixed Paper 3Rs Program”</u> <u>Reduce:</u> Staff/Students will be encouraged to print on both sides of each piece of paper as well as not print when it is unnecessary. Staff/Students will be encouraged to take reading materials home with them after they are finished with them. Staff and students will be sent, via email, news sources that are available online opposed to purchasing paper copies of news. <u>Reuse:</u> Discarded paper with print only on one side will be used for note pads/scrap paper. Staff/Students will be encouraged to leave newspapers they are finished reading in common areas for others to read. Textbooks collected for donations. <u>Recycle:</u> Staff/Students will be provided with instructions via email. Receptacles will be provided in each office, classroom and high waste generating areas. Staff/Students will be encouraged to place newsprint, fine paper, boxboard, magazines, molded papers, etc in appropriate recycling receptacles. Staff/Students will empty receptacles into centralized containers. Custodial Staff/Students will empty centralized containers into bulk container in designated area for collection by Niagara Recycling on a weekly basis.</p>
<p>Confidential Papers</p>	<p><u>“Confidential Paper 3Rs Program”</u> <u>Reduce:</u> None. <u>Reuse:</u> None. <u>Recycle:</u> Staff/Students will be reminded of the existing program. Receptacles will be provided in each designated office area as required. Staff/Students will be encouraged to place all confidential paper in the designated consoles. Contactor will empty consoles appropriately for shredding and recycling as required.</p>
<p>Paper Towels</p>	<p><u>“Hand Dryer 3Rs Program”</u> <u>Reduce:</u> Replace paper towels in washrooms with hand dryers. Reusable towels will be encouraged for the classrooms and offices when it does not pose a health risk. <u>Reuse:</u> None. <u>Recycle:</u> Staff/students will be encouraged to place paper towels in the organics collection bins.</p>
<p>Scrap Metals</p>	<p><u>“Scrap Metals 3Rs Program”</u> <u>Reduce:</u> Brock University will investigate through metal optimization study to insure steel is</p>

	<p>used with as little scrap generated as possible.</p> <p><u>Reuse:</u> None.</p> <p><u>Recycle:</u> Staff will be reminded of the existing program. Scrap conveyor system will be maintained and Service Provider will collect scrap metals for recycling.</p>
Organics	<p><u>“Organics 3Rs Program”</u></p> <p><u>Reduce:</u> Students will be encouraged to bring uneaten food items home after lunch breaks or uneaten. Non-perishable food items can be donated to a local food drive.</p> <p><u>Reuse:</u> Staff/Students provided with reusable china in some food service areas.</p> <p><u>Recycle:</u> Staff/Students will be continually reminded of the existing program. Kitchen staff & cleaners trained on where to dispose of waste correctly. Additional bins added to the university food service areas to capture organic materials. Signs improved relating to organics program to assist staff/students in sorting organic stream correctly. Selling of disposable food containers discouraged on campus, and if sold, containers should be compostable. Updated organics handouts for staff/student education/training program. Training of food service staff regarding improvements to organics program. Pulping unit installed at main cafeteria.</p>
Coffee Cups	<p><u>“Coffee Cups 3Rs Program”</u></p> <p><u>Reduce:</u> Staff/Students will be encouraged to use reusable coffee mugs and water bottles.</p> <p><u>Reuse:</u> None.</p> <p><u>Recycle:</u> Staff/Students will be reminded of the existing program. Staff/students will be encouraged to place Coffee/Drink Cups in a separate bin if Brock University can find a feasible program to recycle/compost the coffee and drink cups.</p>
Oil & Grease	<p><u>“Oil & Grease 3Rs Program”</u></p> <p><u>Reduce:</u> None.</p> <p><u>Reuse:</u> None.</p> <p><u>Recycle:</u> Staff/Students will be reminded of the existing program.</p>
3 B’s (Bulbs, Ballasts, Batteries)	<p><u>“3 B’s 3Rs Program”</u></p> <p><u>Reduce:</u> None.</p> <p><u>Reuse:</u> None.</p> <p><u>Recycle:</u> Staff/Students will be reminded of the existing program.</p>
eWaste	<p><u>“eWaste 3Rs Program”</u></p> <p><u>Reduce:</u> None.</p> <p><u>Reuse:</u> Staff/students will be encouraged to reuse/donate electronic wastes if possible. .</p> <p><u>Recycle:</u> Staff/Students will be reminded of the existing program. Program to be expanded campus wide. IT Department to continue collecting for proper recycling of waste materials. Collection program during residence move-out week to be continued.</p>
Yard Wastes	<p><u>“Yard Wastes 3Rs Program”</u></p> <p><u>Reduce:</u> None.</p> <p><u>Reuse:</u> None.</p> <p><u>Recycle:</u> Staff will be reminded of the existing program. Grass clippings to be left after mowing. Trimmings to be mulched and/or recycled/composted off-site via contractor. Saw dust from wood shop dust collector to be used in mulch.</p>
Wood Pallets/Scrap Woods	<p><u>“Wood Pallets 3Rs Program”</u></p> <p><u>Reduce:</u> Staff to monitor use of Pallet to eliminate/reduce broken pallets.</p> <p><u>Reuse:</u> Staff will be reminded of the existing program. Staff/Students will be encouraged to use scrap wood before new wood is purchased for use at the University.</p> <p><u>Recycle:</u> Staff will be reminded of sawdust recycling program relating to wood shop dust collector. Broken Pallets to be recovered and reused when possible.</p>
Printer Toners	<p><u>“Printer Toners 3Rs Program”</u></p> <p><u>Reduce:</u> None.</p> <p><u>Reuse:</u> Staff/Students will be reminded of the existing program. IT Department to continue collecting for proper handling of waste materials. Students will be encouraged to return printer cartridges to suppliers/retailers who offer return programs (such as Staples).</p> <p><u>Recycle:</u> None.</p>
Clothing/Textiles	<p><u>“Glove & Rag 3Rs Program”</u></p> <p><u>Reduce:</u> Staff/Students will be encouraged to use gloves for multiple tasks before placing in the reuse receptacles.</p> <p><u>Reuse:</u> Staff/Students will be encouraged to re-use gloves and cleaning cloths for multiple tasks before disposing.</p> <p><u>Recycle:</u> None.</p>
Used Furniture	<p><u>“Used Furniture 3Rs Program”</u></p>

	<p><u>Reduce:</u> None.</p> <p><u>Reuse:</u> Staff/Students will be reminded of the existing program. Staff/Students will be encouraged to reuse used furniture before new furniture is purchased for use at the University</p> <p><u>Recycle:</u> None.</p>
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IV. RESPONSIBILITY FOR IMPLEMENTING THE WASTE REDUCTION WORK PLAN

Identify who is responsible for implementing the Waste Reduction Work Plan at your entity(ies). If more than one person is responsible for implementation, identify each person who is responsible and indicate the part of the Waste Reduction Work Plan that each person is responsible for implementing.		
Name of Person	Responsibility	Telephone #
Domenic Maniccia	All recycling programs*	905-688-5550
	(or will direct question/comment to appropriate person)	

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V. TIMETABLE FOR IMPLEMENTING WASTE REDUCTION WORK PLAN

Provide a timetable indicating when each Source Separation and 3Rs program of the Waste Reduction Work Plan will be implemented.	
Source Separation and 3Rs Program	Schedule for Completion
Cardboard	<i>3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered. Review operational improvements (Replace baler with compactor)</i>
Mixed Containers/Plastics	<i>3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered. Single stream program implemented at Village Residences.</i>
Mixed Papers	<i>3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered. Single stream program implemented at Village Residences.</i>
Confidential Papers	<i>3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.</i>
Scrap Metals	<i>3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.</i>
Organics	<i>3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered. Additional organics bins to be purchased and installed in high traffic areas, as well as kitchenettes in office areas. Instructions to staff and students regarding expanded 3Rs program to occur in advance of program implementation.</i>
Coffee Cups	<i>3Rs Program currently in place. Additional recycle bins dedicated to coffee cups to be purchased and placed in high traffic areas, office areas, and outdoor bins. Continual improvement of existing program regarding signage and additional promotional campaigns to be considered to increase capture rate of material. Instructions to staff and students regarding expanded 3Rs program to occur in advance of program implementation.</i>
Oil & Grease	<i>3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.</i>
3 B's (Bulbs, Ballasts, Batteries)	<i>3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.</i>
eWaste	<i>3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.</i>
Yard Wastes	<i>3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.</i>

Scrap Wood/ Wood Pallets	<i>3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.</i>
Printer Toners	<i>3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.</i>
Used Furniture	<i>3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.</i>
Hand Dryer Program	<i>Hand Dryer Program is being considered, which would primarily focus on replacing paper towels in washrooms with hand dryers.</i>
Glove and Rag Reuse Program	<i>Glove and Rag Reuse Program is being considered.</i>
Lab Glass Recycling Program	<i>Investigate the feasibility of implementing a recycle program for lab glass in all lab areas on campus. If feasible, appropriate recycle bins to be purchased and installed in lab areas. Instructions to staff and students regarding new 3Rs program to occur in advance of program implementation.</i>
Garbage Density Study	<i>Continue to investigate the actual density of garbage disposed to landfill. Confirm the density of garbage disposed in front-end bins, as well as confirm weights of Central Shipping 8 yd³ compactor.</i>
Mixed Container & Mixed Paper Tote Study	<i>Conduct a study to verify average mixed container and mixed paper tote weights as well to conduct an inventory of bins on-campus. It is recommended that the total number of totes picked-up per week be verified.</i>
Organic Tote Study	<i>Conduct a study to verify organic tote weights as well to conduct an inventory of all organic totes on-campus. It is recommended that the total number of totes picked-up per week be verified.</i>
Cardboard Bale Study	<i>Conduct a study to verify effectiveness of cardboard system. Investigate feasibility of existing baling system, compared to switching to compactor system.</i>

VI. COMMUNICATION TO STAFF, CUSTOMERS, GUESTS AND VISITORS

Explain how the Waste Reduction Work Plan will be communicated to employees, customers, tenants, guests/visitors and students:
Explain how the Waste Reduction Work Plan will be communicated to employees, customers, tenants, guests/visitors and students. Sustainability committee will review and develop a workplan to be posted on University's computer bulletin board for staff and students. Additional promotional campaigns will also be considered to target specific audiences for specific programs. Continue to improve educational materials (had-outs, flyers) and signage across campus as required.

VII. ESTIMATED WASTE PRODUCED BY MATERIAL TYPE AND THE PROJECTED AMOUNT

Material Categories (as stated in Part III)	Estimated Annual Waste Produced * (tonnes)	Name of Proposed 3Rs Program (as stated in Part III)	Projections to Reduce, Reuse or Recycle Waste (tonnes)			Estimated Annual Amount to be Diverted ** (%)
			Reduce	Reuse	Recycle	
PET (#1) plastic food and beverage bottles	105.69	Mixed Container 3Rs Program	6.65	6.65	72.61	75%
HDPE Containers	13.63	Mixed Container 3Rs Program	0.00	0.00	8.86	65%
Polypropylene (#5 Plastic)	16.30	Mixed Container 3Rs Program	0.00	0.00	10.59	65%
Polystyrene (#6 Plastic)	28.56	Mixed Container 3Rs Program	0.00	0.00	18.56	65%
Aluminum food and beverage cans	41.64	Mixed Container 3Rs Program	0.00	0.00	31.23	75%
Steel food and beverage cans	23.36	Mixed Container 3Rs Program	0.00	0.00	15.19	65%
Glass food and beverage bottles/jars	59.10	Mixed Container 3Rs Program	0.00	46.41	6.78	90%
Gable Top/Milk Containers	62.46	Mixed Container 3Rs Program	0.00	0.00	54.96	88%
Aseptic / Tetra Paks	3.90	Mixed Container 3Rs Program	0.00	0.00	2.54	65%
Fine paper	364.27	Mixed Papers & Confidential Paper 3Rs Programs	0.00	0.00	320.56	88%
Newsprint	150.94	Mixed Paper 3Rs Program	0.00	0.00	132.83	88%
Boxboard shoe boxes, cereal boxes, etc.	69.35	Mixed Paper 3Rs Program	0.00	0.00	54.10	78%
Glossy magazines, flyers, textbooks	74.75	Mixed Paper 3Rs Program	0.00	2.28	57.52	80%
Corrugated Cardboard	113.45	Cardboard 3Rs Program	0.00	0.00	96.44	85%
Paper Towels	42.80	No 3Rs Program	0.00	0.00	0.00	NA
Coffee Cups	32.71	Coffee Cup 3Rs Program	0.00	0.00	8.18	25%
Organics	550.68	Organics 3Rs Program	0.00	0.00	330.41	60%
#2 Plastic (HDPE) - totes, bins, etc	0.00	Mixed Container 3Rs Program	0.00	0.00	0.00	65%
#3 Plastic (PVC)	0.00	Mixed Container 3Rs Program	0.00	0.00	0.00	65%
#4 Plastic Films (LDPE)	19.78	No 3Rs Program	0.00	0.00	0.00	NA
#6 Plastic Styrofoam	2.80	No 3Rs Program	0.00	0.00	0.00	NA
#7 Other Plastics	24.22	Mixed Container 3Rs Program	0.00	0.00	12.11	50%
Scrap Metal	20.49	Scrap Metals 3Rs Program	0.00	0.00	17.62	86%
Scrap Wood/Pallets	11.27	Wood Pallets 3Rs Program	0.00	8.10	0.00	70%
eWastes	20.00	eWaste 3Rs Program	0.00	0.00	19.00	95%
Fluorescent Bulbs	1.28	Bulbs 3Rs Program	0.00	0.00	1.28	100%
Batteries	4.73	Batteries 3Rs Program	0.00	0.00	4.40	93%
Printer Toners	1.23	Printer Toners 3Rs Program	0.00	1.23	0.00	100%
Oil & Grease	10.63	Oil & Grease 3Rs Program	0.00	0.00	10.63	100%

Yard Wastes	47.77	Yard Wastes 3Rs Program	0.00	0.00	47.77	100%
Used Furniture	23.16	Used Furniture 3Rs Program	0.00	23.16	0.00	100%
Other/Nonrecyclable	117.06	No 3Rs Program	0.00	0.00	0.00	NA

* $Estimated\ Waste\ Produced = Waste\ Diverted\ (3Rs) + Waste\ Disposed$

** $Estimated\ Waste\ Diversion\ Rate = Amount\ of\ Waste\ Diverted\ (3Rs) \div Estimated\ Waste\ Produced \times 100\%$

I hereby certify that the information provided in this Waste Reduction Work Plan is complete and correct.

Signature of authorized official: <i>Domenic Maniccia</i>	Title: Director, C & G Services	Date: April 3, 2017
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