

A smiling woman with brown hair, wearing a white lab coat over a light blue top, is holding a blue bin filled with food scraps like apple peels and carrot shavings. She is standing outdoors next to a wooden fence. The background is a soft-focus green field.

Environmental Services **ANNUAL REPORT**

2012 | 2013





Environmental Services 2

| | |
|---|---|
| Collection Services | 2 |
| Diversion Services | 3 |
| Disposal Services | 3 |
| 3R Equipment and Educational Services | 3 |
| Clean-up Programs, Litter Abatement and Educational Services | 3 |

Recent Developments 4

| | |
|---|---|
| Industrial, Commercial and Institutional (IC&I) Blue Box Recycling | 4 |
| Organic Composting in Schools | 4 |

Feature 5

| | |
|---|---|
| Household Hazardous Waste (HHW) and Toxic Taxi Usage | 5 |
| The Anatomy of a Landfill | 6 |
| Home Composters | 6 |

Statistics 7

| | |
|--|---|
| Tonnages Managed at City Facilities | 7 |
| Residential Tipping Fee Holiday | 8 |
| Residential Trips to Landfill and Waste Diversion Sites | 9 |



Collection Services

Environmental Services provides the following waste collection services to residents within the City of Greater Sudbury:

Low-density residential buildings (6 units or less) receive:

- Weekly garbage collection for up to 3 approved garbage containers
- Weekly leaf and yard trimmings collection for an unlimited amount of approved containers
- Weekly furniture and appliance collection
- Weekly blue box recycling collection for an unlimited amount of approved containers
- Weekly Green Cart organics collection for an unlimited amount of approved containers
- Collection of household hazardous waste by appointment



High-density residential buildings (7 units or more) on a curbside collection system receive:

- Weekly garbage, leaf and yard trimmings, recycling and Green Cart organics collection by agreement with property owner
- Collection of household hazardous waste by appointment

High-density residential buildings (7 units or more) on a centralized collection system receive:

- Weekly garbage and recycling collection by agreement with property owner
- Collection of household hazardous waste by appointment

Industrial, commercial and institutional buildings receive:

- Weekly yellow box recycling collection by agreement
- Weekly yellow bag garbage collection by agreement

Multi-type properties receive:

- Weekly waste collection services to the residential dwellings within the property (based on terms and conditions listed in agreement with the property owner)

Diversion Services

Environmental Services processes the following waste from all sectors within the City of Greater Sudbury:

- Blue box recyclables
- Leaf and yard trimmings, Christmas trees
- Scrap metal and white goods
- Electronic waste
- Clean and non-treated wood waste
- Other wood waste
- Sod
- Concrete, brick and block
- Tires
- Reusable cloth items
- Organics
- Derelict motor vehicles

Disposal Services

The City of Greater Sudbury owns and operates (via private contractors) three active landfill sites, two closed landfill sites and one small vehicle transfer station. The operating landfill sites are located in Sudbury, Hanmer and Azilda. The small vehicle transfer station is located in Walden.

3R Equipment and Educational Services

Environmental Services provides backyard composters, green carts, kitchen collectors, certified compostable bags, blue boxes and Big Blue large-capacity recycling containers.

Our division is also responsible for the promotion and education of all 3R (Reduce, Reuse, Recycle) activities and anti-litter awareness campaigns.

Clean-up Programs, Litter Abatement and Educational Services



Environmental Services manages the City of Greater Sudbury's clean-up initiatives, including Adopt-a-Road, Adopt-a-Spot, Adopt-a-Bin, Annual Clean-up Blitz and the Derelict Motor Vehicle Removal and Recycling Program.

One part-time City crew collects roadside litter and maintains litter containers across the City. This service

is supplemented each spring with two Automated Litter Collection Units and with student crews that collect roadside litter.

Our division is also responsible for the promotion and education of all 3R (Reduce, Reuse, Recycle) activities and anti-litter awareness campaigns.



IC&I Blue Box Recycling



As of November 5, 2012, the industrial, commercial and institutional (ICI) sectors must recycle their corrugated cardboard as well as their blue box recyclables.

Waste audits for this sector identified major waste diversion opportunities, largely through recycling.

All of these items can be placed in a single, mixed recycling bin. This reduces the amount of waste the IC&I sector sends to the landfills as well as reduces their landfill tipping fees.



Organic Composting in Schools

The City now offers the Organic Composting in Schools Program!

This program is offered to all schools in the City including primary, secondary and post-secondary institutions. The program allows schools to divert waste which reduces their landfill tipping fees.

Currently, a mix of primary, secondary and post-secondary schools are using this program. Diverting organics in schools also helps to encourage children to bring the habit home and teach their families how to compost.

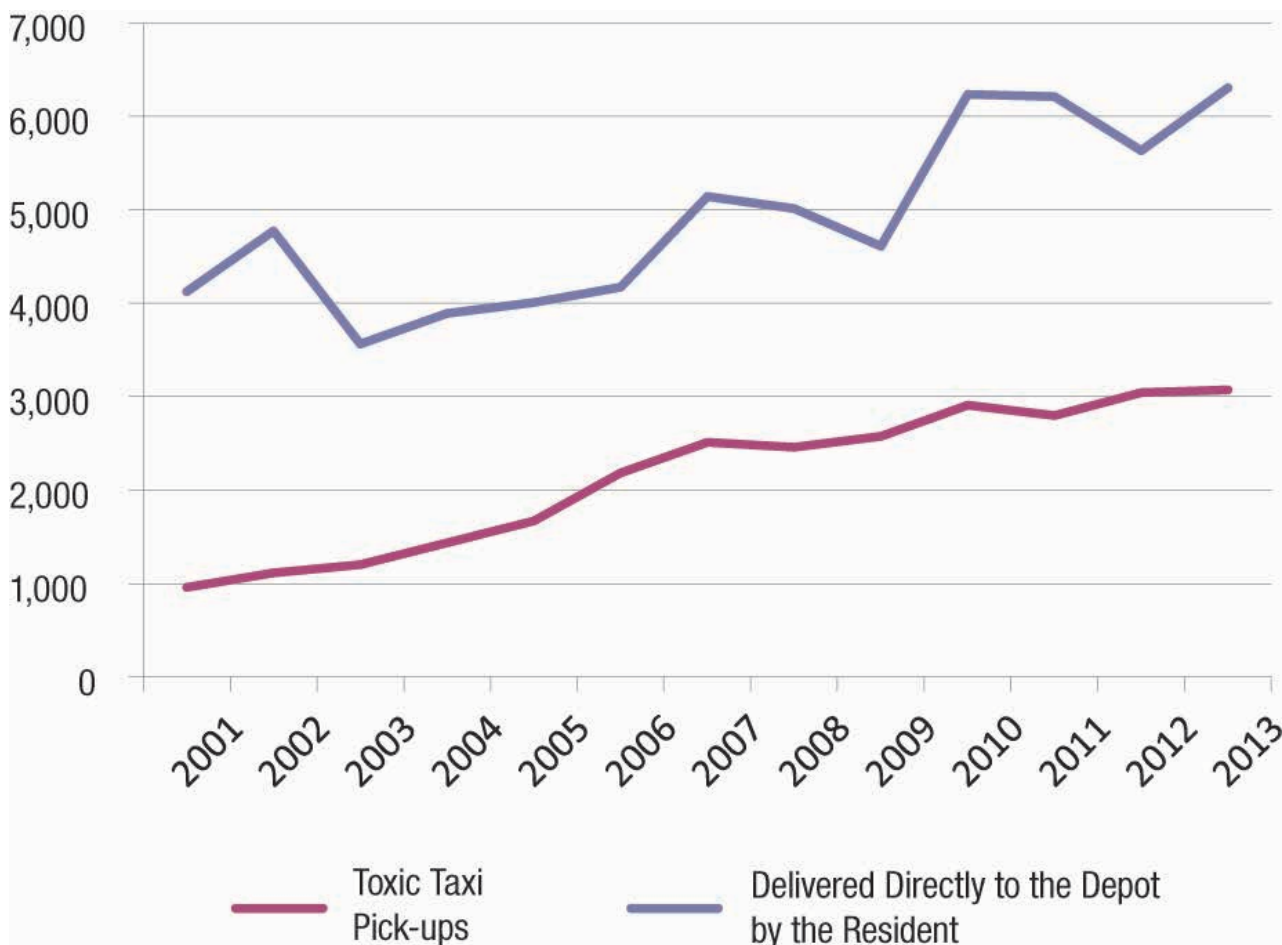


Household Hazardous Waste and Toxic Taxi Usage



Since 1988, the former Regional Municipality of Sudbury operated special one-day Household Hazardous Waste Collection events. These events were organized in order to provide local residents with a method to dispose of their hazardous waste in a safe manner. Event days over the years grew from once a year at one location to several times a year at numerous locations. With increasing popularity and demand, the permanent Household Hazardous Waste facility was completed in the summer of 1997. The Toxic Taxi was introduced to the City of Greater Sudbury in 1997.

Household Hazardous Waste Depot and Toxic Taxi Usage from 2001-2013





The Anatomy of a Landfill

Final Cover System

As soon as practical after final contours have been achieved over a sufficient area, a final cover is applied.

1 Cover Vegetation:

Native grasses (via hydroseeding) and shrubs are planted to prevent erosion and to enhance the visual esthetics of the site.

2 Topsoil:

A layer of 0.15 metres of topsoil is placed to ensure a smooth and uniform surface. This layer helps to support and maintain vegetation by providing nutrients and retaining moisture.

3 Sand Protective Cover Layer:

A 0.60 metre layer of natural river bank sand, free from silt, clay, loam, friable or soluble materials, is placed to protect the GCL and provides additional moisture retention to help support the cover vegetation.

4 Geosynthetic Clay Liner:

This is a factory manufactured hydraulic barrier consisting of granular sodium bentonite clay, sandwiched between, supported and encapsulated by 2 geotextiles, held together by needlepunching. This layer prevents excessive precipitation from entering the landfill and forming leachate; it also helps to prevent the escape of landfill gas, and thereby reduces odours.

5 Sand Bedding/Grading Layer:

A 0.15 metre layer of sand, free from silt, clay, loam, friable or soluble materials, is used to achieve a smooth curve without sharp breaks.

(topsoil-like material). It is graded to promote positive drainage and is seeded/hydroseeded to establish a temporary vegetation cover. Prior to resumption of waste placement in these areas, the topsoil and cover material is stripped off and stockpiled for re-use as interim or daily cover.

7 Daily Cover:

All waste accepted for disposal at the site is covered at the end of each working day. Typically, a minimum of 0.15 metres of earth-type, non-hazardous soil is applied to the waste, with positive drainage encouraged. Alternative cover materials such as ground wood waste, metal cover plates, rubber matting, etc. may also be used to help decrease the amount of material imported. Prior to placement of waste, as much cover material as practically possible is stripped off and stockpiled for re-use.

8 Compacted Waste:

Waste is compacted in layers within a small area to reduce the volume consumed within the landfill.

Landfill Gas Collection

9 Landfill Gas Collection Field:

The Landfill Gas Collection Field provides access to the waste mass to collect landfill gas (LFG) generated from the decomposition of the waste. Horizontal collection trenches, containing perforated piping, collect the LFG and convey it through a LFG header pipe (non-perforated piping) to the LFG control facility. The gas is then sent to the Greater Sudbury Utilities reciprocating engine for electrical generation or to the enclosed flare for destruction (located at the north end of the site).

Working Landfill

6 Interim Cover:

As the landfill operation progresses, in areas of the site where waste has been placed and will not have successive lifts of waste applied for a period on three months or more, an interim cover is applied. This consists of 0.3 metres of cover material (approved, non-hazardous granulars) and 0.1 metre of soil suitable for vegetation

Leachate Collection System

As precipitation percolates through the waste, extracting dissolved and suspended matter, leachate is formed.

A perimeter leachate collection system is installed along the northern perimeter of the site to collect this leachate and convey it to the engineered wetland for treatment.

Home Composters

- Composting food scraps and yard waste can reduce your waste by 25% to 30%.
- Home composting provides you with a rich organic product to nourish your lawn, plants and vegetable gardens which eliminates the need for fertilizer and reduces watering needs.

- Composting also keeps these materials out of our landfill sites, reducing methane emissions, a potent greenhouse gas.
- Composters are sold at hardware stores, garden centers, online and at the Recycling Centre.

Visit these locations to determine availability of models, features and prices or build your own!



Tonnages managed at City facilities:

| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|--------|--------|--------|--------|---------|---------|---------|--------|--------|---------|---------|
| Waste Landfilled | 79,280 | 80,438 | 93,260 | 98,850 | 113,389 | 113,329 | 107,056 | 96,435 | 99,548 | 101,024 | 105,509 |
| Blue Box Materials | 13,539 | 13,931 | 15,128 | 15,593 | 15,367 | 18,168 | 21,149 | 20,087 | 19,804 | 20,001 | 20,537 |
| Compostables Clean Wood Organics Sod Leaf and Yard Trimmings | 2,886 | 4,514 | 5,830 | 8,907 | 8,966 | 9,623 | 10,942 | 0 | 13,790 | 11,821 | 12,482 |
| Reuse Cloth Reuse Store | 16 | 115 | 237 | 284 | 285 | 433 | 246 | 0 | 319 | 320 | 198 |
| Concrete, Brick and Block | n/a | 170 | 543 | 842 | 1,143 | 1,130 | 1,075 | 1,197 | 1,135 | 1,280 | 1,905 |
| Contaminated Wood | n/a | 425 | 566 | 474 | 273 | 4,471 | 4,292 | 4,752 | 4,691 | 5,375 | 5,513 |
| Electronic Waste | n/a | 5 | 26 | 25 | 68 | 126 | 193 | 347 | 488 | 510 | 520 |
| Household Hazardous Waste | 260 | 270 | 259 | 290 | 294 | 318 | 289 | 317 | 333 | 319 | 329 |
| Scrap Metal and White Goods | 1,442 | 1,655 | 1,913 | 2,648 | 1,495 | 1,692 | 1,614 | 1,719 | 1,193 | 992 | 1,087 |
| Tires | 846 | 329 | 773 | 789 | 1,132 | 3,438 | 1,551 | 1,435 | 265 | 241 | 195 |

Residential Tipping Fee Holiday

SPRING

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|------------------|--------|-------|--------|-------|-------|-------|-------|-------|-------|
| Number of Trips | 10,030 | 9,536 | 10,063 | 9,505 | 8,262 | 4,824 | 6,713 | 7,202 | 7,545 |
| Tonnes Delivered | 2,249 | 2,220 | 2,195 | 2,174 | 1,893 | 1,141 | 1,575 | 1,655 | 1,754 |
| Tires Delivered | 8,291 | 8,255 | 8,415 | 9,927 | 8,863 | 3,093 | 4,386 | 4,646 | 3,840 |

FALL

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|------------------|------|------|-------|-------|-------|-------|-------|-------|-------|
| Number of Trips | n/a | n/a | 8,025 | 6,456 | 5,811 | 5,170 | 5,442 | 5,477 | 4,833 |
| Tonnes Delivered | n/a | n/a | 1,282 | 1,340 | 1,352 | 1,079 | 1,119 | 1,136 | 1,056 |
| Tires Delivered | n/a | n/a | 8,063 | 6,110 | 5,043 | 2,289 | 3,163 | 2,016 | 1,192 |

TOTAL

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|------------------|--------|-------|--------|--------|--------|-------|--------|--------|--------|
| Number of Trips | 10,030 | 9,536 | 18,088 | 15,961 | 14,073 | 9,994 | 12,155 | 12,679 | 12,378 |
| Tonnes Delivered | 2,249 | 2,220 | 3,477 | 3,514 | 3,245 | 2,220 | 2,694 | 2,791 | 2,810 |
| Tires Delivered | 8,291 | 8,255 | 16,478 | 16,037 | 13,906 | 5,382 | 7,549 | 6,662 | 5,032 |

Residential Trips to Landfill and Waste Diversion Sites

2013

| | Sudbury | Hanmer | Azilda | Walden |
|-----|---------|--------|--------|--------|
| JAN | 3,954 | 2,092 | 1,476 | 802 |
| FEB | 3,416 | 1,638 | 1,224 | 634 |
| MAR | 5,101 | 2,529 | 2,004 | 960 |
| APR | 7,066 | 3,376 | 2,722 | 1,301 |
| MAY | 12,540 | 6,799 | 5,319 | 2,679 |
| JUN | 10,002 | 5,068 | 4,020 | 1,931 |
| JUL | 10,276 | 5,047 | 3,987 | 2,133 |
| AUG | 9,796 | 4,707 | 3,685 | 2,043 |
| SEP | 8,670 | 4,251 | 3,232 | 1,624 |
| OCT | 9,348 | 4,562 | 3,720 | 1,802 |
| NOV | 6,918 | 3,114 | 2,580 | 1,351 |
| DEC | 4,775 | 2,722 | 1,956 | 1,047 |

2012

| | Sudbury | Hanmer | Azilda | Walden |
|-----|---------|--------|--------|--------|
| JAN | 4,132 | 2,148 | 1,775 | 758 |
| FEB | 3,840 | 1,810 | 1,523 | 664 |
| MAR | 6,700 | 3,286 | 2,744 | 1,172 |
| APR | 7,490 | 3,954 | 3,152 | 1,300 |
| MAY | 11,700 | 6,228 | 5,118 | 2,375 |
| JUN | 9,588 | 4,676 | 3,927 | 1,799 |
| JUL | 9,406 | 4,652 | 3,753 | 1,977 |
| AUG | 9,349 | 4,708 | 3,849 | 1,997 |
| SEP | 8,351 | 3,842 | 3,257 | 1,514 |
| OCT | 9,310 | 4,736 | 3,838 | 2,006 |
| NOV | 6,905 | 3,330 | 2,717 | 1,364 |
| DEC | 5,518 | 3,060 | 2,192 | 1,176 |

2011

| | Sudbury | Hanmer | Azilda | Walden |
|-----|---------|--------|--------|--------|
| JAN | 3,968 | 2,048 | 1,770 | 721 |
| FEB | 3,590 | 1,814 | 1,580 | 619 |
| MAR | 4,618 | 2,227 | 2,061 | 735 |
| APR | 6,759 | 3,450 | 2,061 | 1,183 |
| MAY | 11,070 | 6,206 | 5,037 | 2,099 |
| JUN | 9,440 | 4,939 | 3,932 | 1,640 |
| JUL | 9,346 | 4,811 | 3,896 | 1,932 |
| AUG | 9,191 | 4,684 | 3,813 | 1,833 |
| SEP | 7,957 | 4,152 | 3,335 | 1,470 |
| OCT | 9,499 | 5,009 | 4,196 | 1,825 |
| NOV | 7,202 | 3,702 | 2,985 | 1,376 |
| DEC | 5,403 | 3,129 | 2,482 | 1,159 |

2010

| | Sudbury | Hanmer | Azilda | Walden |
|-----|---------|--------|--------|--------|
| JAN | 3,778 | 2,076 | 1,759 | 796 |
| FEB | 3,302 | 1,732 | 1,404 | 701 |
| MAR | 6,478 | 3,615 | 2,947 | 1,511 |
| APR | 7,671 | 4,172 | 3,335 | 1,745 |
| MAY | 9,988 | 5,484 | 4,526 | 2,446 |
| JUN | 8,571 | 4,661 | 3,742 | 2,057 |
| JUL | 8,720 | 4,568 | 3,632 | 2,099 |
| AUG | 8,147 | 4,065 | 3,422 | 1,905 |
| SEP | 7,830 | 4,062 | 3,334 | 1,628 |
| OCT | 8,827 | 4,690 | 4,077 | 1,803 |
| NOV | 7,198 | 3,639 | 2,987 | 1,285 |
| DEC | 5,280 | 2,856 | 2,452 | 973 |



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