

Solid Waste Agency

Cedar Rapids ▲ Linn County

living. together.



Required Safety Info

Your group guide, wearing a vest, will be in charge. Any directions given by the guide must be followed to ensure your safety.

You must stay with the group guide at all times. Large and heavy equipment will be active around you during your tour. Be aware of your surroundings at all times.

Respectful behavior is required during your visit to the Agency. Public and commercial customers are present during the tours, and your behavior reflects on the Agency while you are on Agency property.

Students displaying inappropriate or disrespectful behavior will be removed from all activities and asked to wait on the bus for the remainder of the visit.

Rest rooms are not conveniently located at this site, unless a true emergency arises, rest room requests will not be accommodated.

I agree to abide by the above guidelines:





Station 1: Composting

Composting is an important part of the environmental circle. Yard waste and food scraps are turned into a nutrient rich soil material for use in home gardening, lawn-care, and stormwater management. Finished compost is safer for stormwater than commercial chemical fertilizers and yet still effective at amending soil nutrients and providing a healthy environment for plant growth. Because of its ability to absorb and hold moisture, compost is also effective at run-off control.

Station 2: Energy Conservation and Home Weatherization

Conservation is a key element in protecting the environment for future generations. Green Iowa AmeriCorps will show you how to weatherize your home to maximize energy conservation during heating and cooling seasons. Conserving energy at home saves fossil fuels from being burned and reduces greenhouse gas emissions which contribute to global warming. Green Iowa Americorps will demonstrate their blower door system for testing homes for energy loss as well as explain how you can have your home tested and improved.

Station 3: Resource Recovery

Linn County residents drop off a myriad of different recyclable materials including batteries, electronics, clothing, and automotive fluids. The Solid Waste Agency recently opened a new Resource Recovery Building that is nearly 50,000 square feet large. This building consolidates almost all our resource recovery efforts into a one-stop, drive through that is flexible and prepared for future diversion efforts.

Station 4: Landfill Design and Engineering

A landfill cell is carefully engineered to minimize impact on the environment. There are a number of measures taken to ensure public safety when managing a landfill. The Agency employs leachate management systems, landfill gas collection systems, flare systems, and groundwater monitoring systems. On average, the Agency manages 600 tons of solid waste each day. Annually, the Agency handles nearly 190,000 tons of solid waste. This does not include material recycled or processed as Household Hazardous Waste.

2250 A Street SW



Station 1: Compost

Compost is a nutrient-rich soil additive made from organic waste such as leaves, grass clippings, and food scraps.

The Agency has been making compost since its founding in 1994. Our facility is regarded as among the best in its class. Our compost has been sampled and tested as required by the Seal of Testing Assurance program of the U.S. Composting Council.

Compost may resemble topsoil but it's much more; it's a highly valuable soil conditioner. It has the unique ability to improve soils physically, chemically, and biologically. Compost is typically high in organic matter, as well as vital micro and macro-nutrients, and has been shown to retain moisture, fight drought, resist erosion, reduce run-off, suppress disease, and control weeds. When mixed with compost, clay soils are lightened, and sandy soils retain water better.

Last year, the Solid Waste Agency supplied nearly 21,000 tons of compost to residents of Linn County.

Describe the benefits of compost as storm water management.

If everyone composted, what would be the impact on the environment?

Does it go in the pile?



- apple & pear cores
- banana peels
- citrus rinds
- coffee grounds
- shredded newspapers
- grass clippings
- old flowers
- tea bags
- vegetable waste
- leaves and pine needles
- old bread



- meat
- bones
- grease
- eggs
- dairy products
- sick plants
- plants infested with insects

Fast Facts

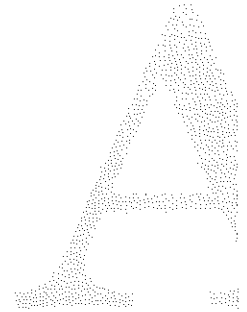
- Composting is incredibly low maintenance. One thing you should do is check the moisture (it should be about as moist as a damp sponge) and add some water if it seems too dry. If it seems too moist, add some dead leaves. You can also aerate your compost. Aerating the pile means introducing air to the pile. You can do this by turning the pile with a shovel, garden fork, or a tool made especially for aerating compost.
- Composting can clean contaminated soil. Composting absorbs odors and treats both volatile and semi volatile organic compounds. It also stops heavy metals from entering waterways or being absorbed into plants by binding them.
- It's easy to make a compost bin for your kitchen. It's also inexpensive. Do a quick internet search and you'll find many sets of instructions to complete this project.



Station 2: Energy and Energy Conservation

Humans use a lot of energy. Most of this energy comes from non-renewable fuels that can negatively impact the environment. We can reduce the negative impacts if we learn to conserve energy. Getting a home energy audit, weatherizing your house, shutting off lights, and conserving water are just a few things you can do to reduce your energy usage.

Learn more from Green Iowa AmeriCorps members about the importance of home weatherization and energy conservation.



List the three types of fossil fuels. What are three of the negative impacts of using these fuels?



Which fossil fuel is used to produce most of our electricity?



How can we reduce these negative impacts?



Consider your own home. What can you do in your home to reduce energy use?





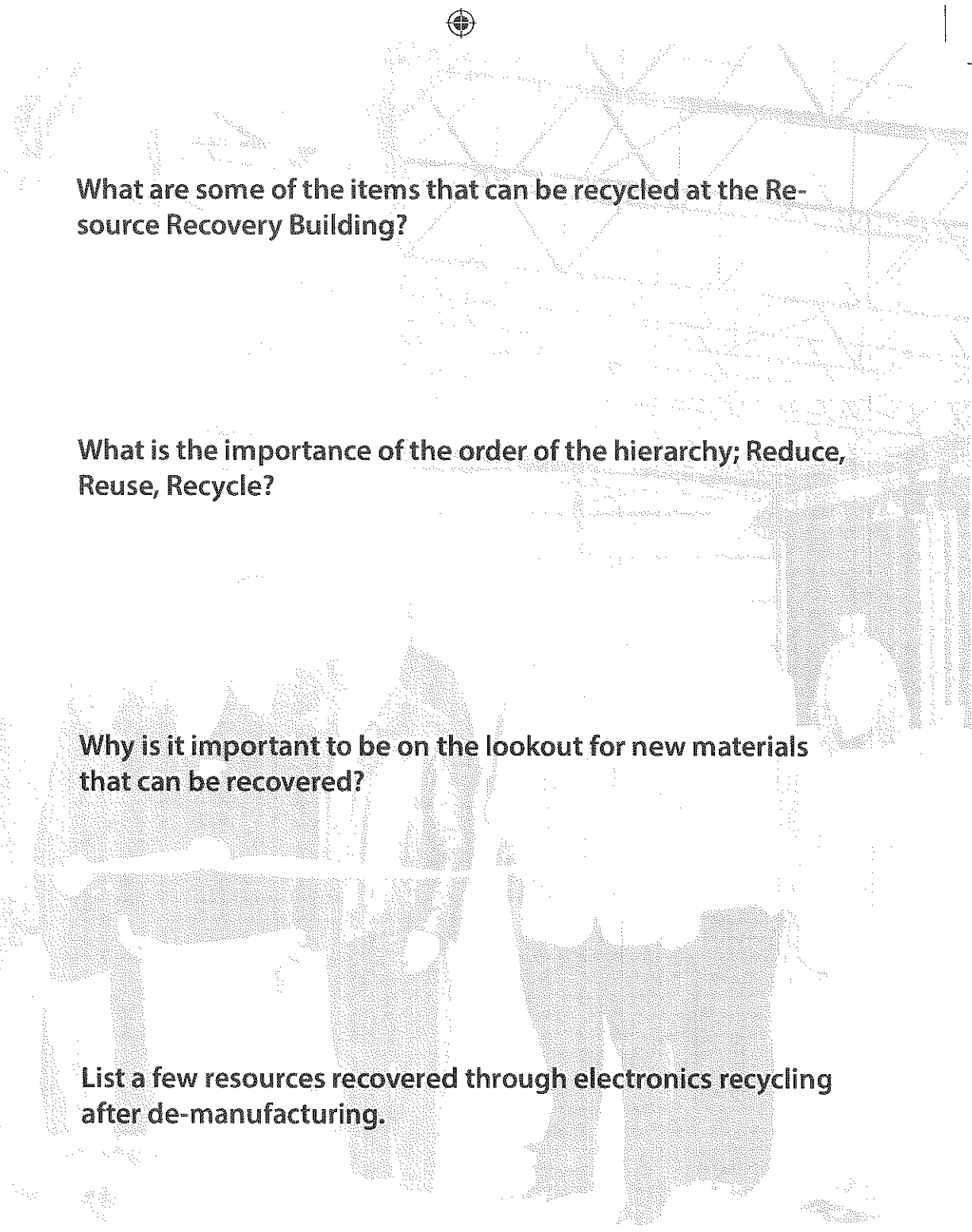
Station 3: Resource Recovery

In the Resource Recovery Building, Linn County residents drop off a myriad of different recyclable materials including batteries, electronics, clothing, and automotive fluids. Before sorting, the materials have no value, however, after sorting the materials can be sold to manufacturers for use in new product manufacturing. The newly constructed Resource Recovery Building is heated in the winter by waste heat from the generator that is powered by a landfill gas to energy engine. The nearly 50,000 square foot facility is flexible and set up to accommodate changing materials and efforts.

Fast Facts

- One ton of cell phones can yield as much as 280 grams of gold, about 140 grams of platinum and palladium, and 140 kilograms of copper.
- Want to visit China? Americans use enough water bottles each day to lay a path from here to China once a day.
- PET plastic can be recycled into clothing, fiberfill for pillows, toys, and sleeping bags. It can also be made into decking material and rulers.

Is what you recycle enough? Are there items or ways you could improve your efforts in recycling?



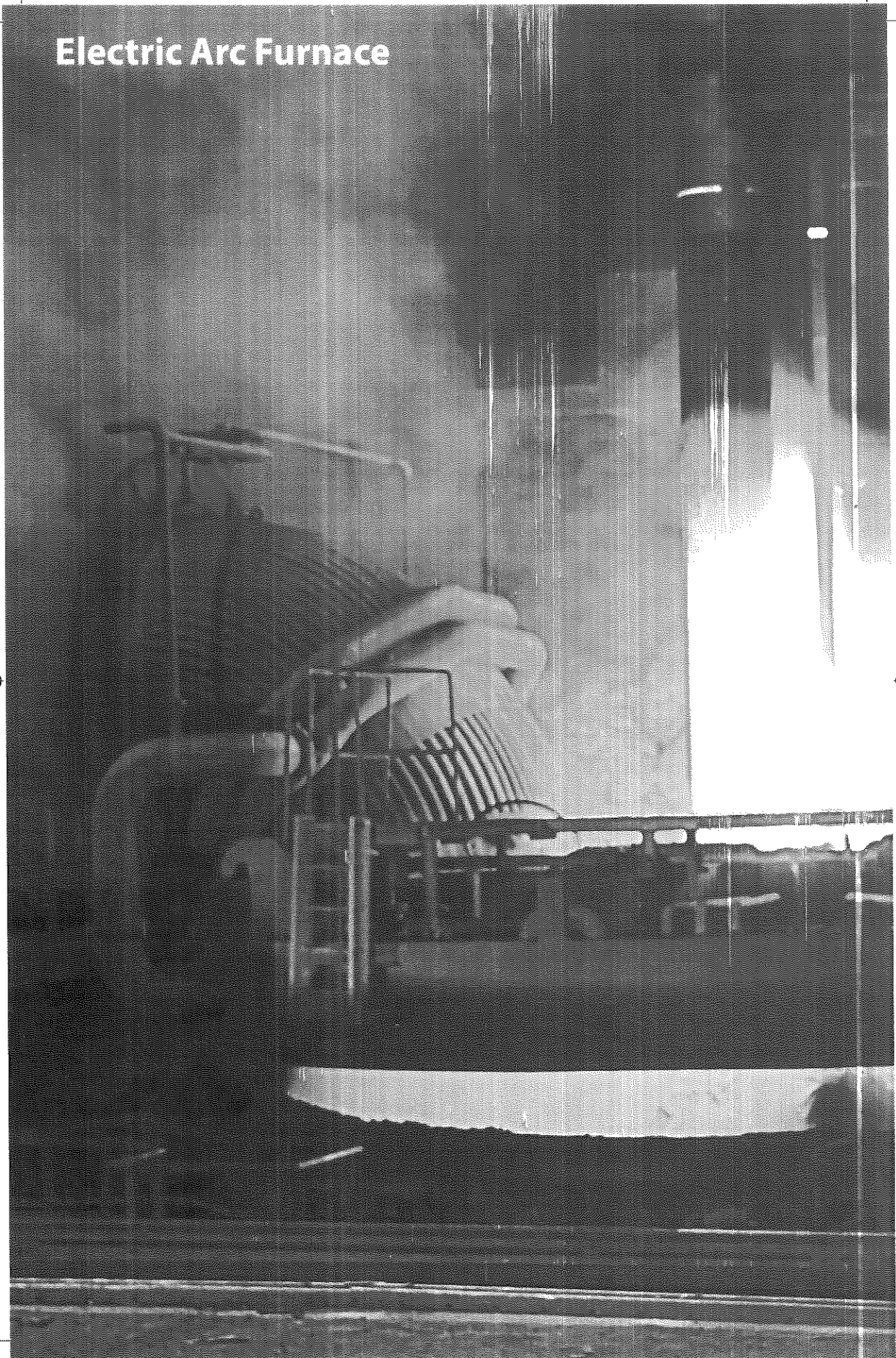
What are some of the items that can be recycled at the Resource Recovery Building?

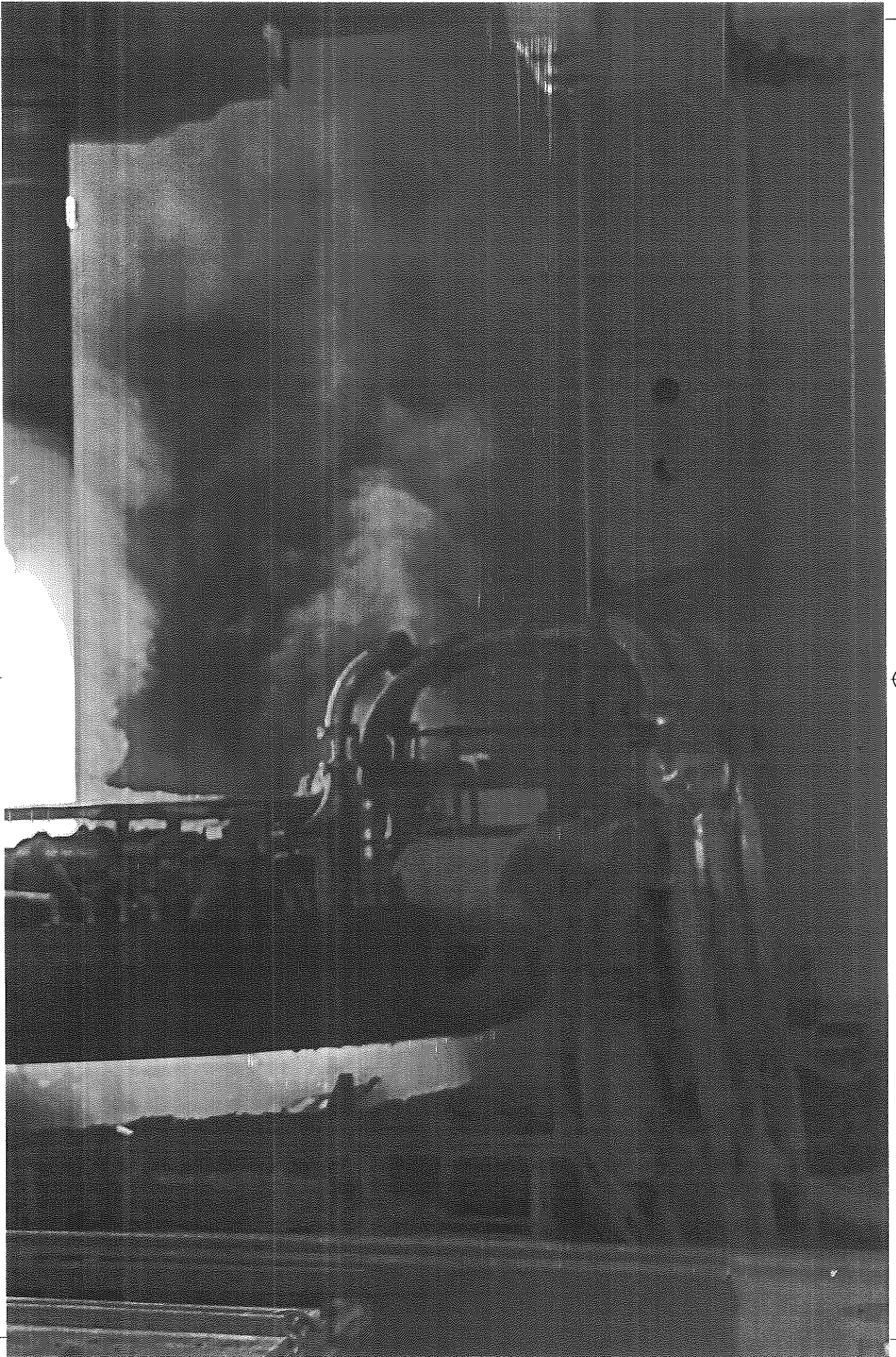
What is the importance of the order of the hierarchy; Reduce, Reuse, Recycle?

Why is it important to be on the lookout for new materials that can be recovered?

List a few resources recovered through electronics recycling after de-manufacturing.

Electric Arc Furnace





Station 4: Landfill Design

A landfill cell is carefully engineered to minimize impact on the environment. There are a number of measures taken to ensure public safety when managing a landfill. The Agency employs leachate management systems, landfill gas collection systems, flare systems, and groundwater monitoring systems. A Landfill Gas-to-Energy engine was installed at our County Home Road site that uses methane produced by decomposing trash to create enough electricity for 1600 area homes. The waste heat generated during this process heats the Resource Revocey Building during the winter.

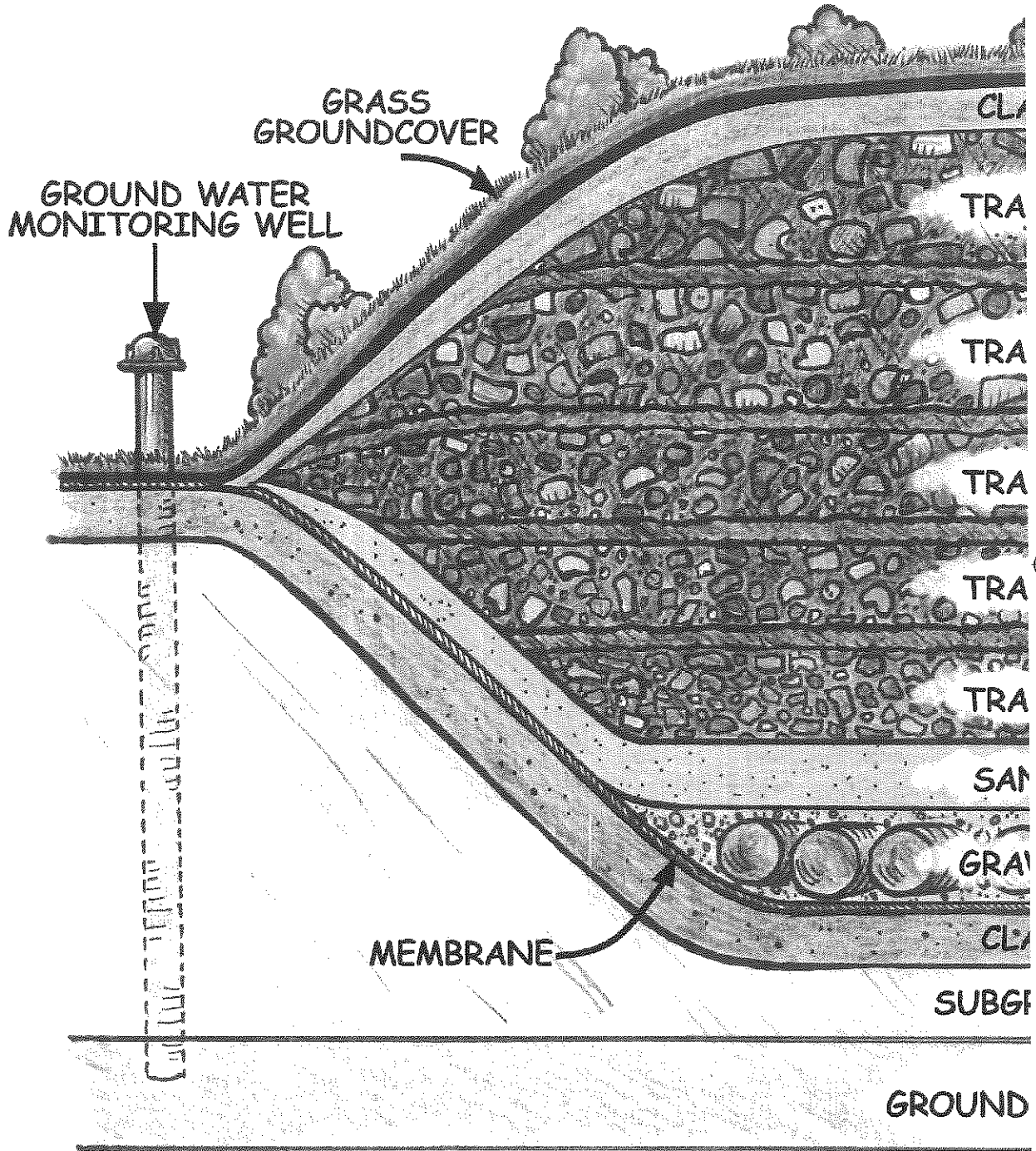
Fast Facts

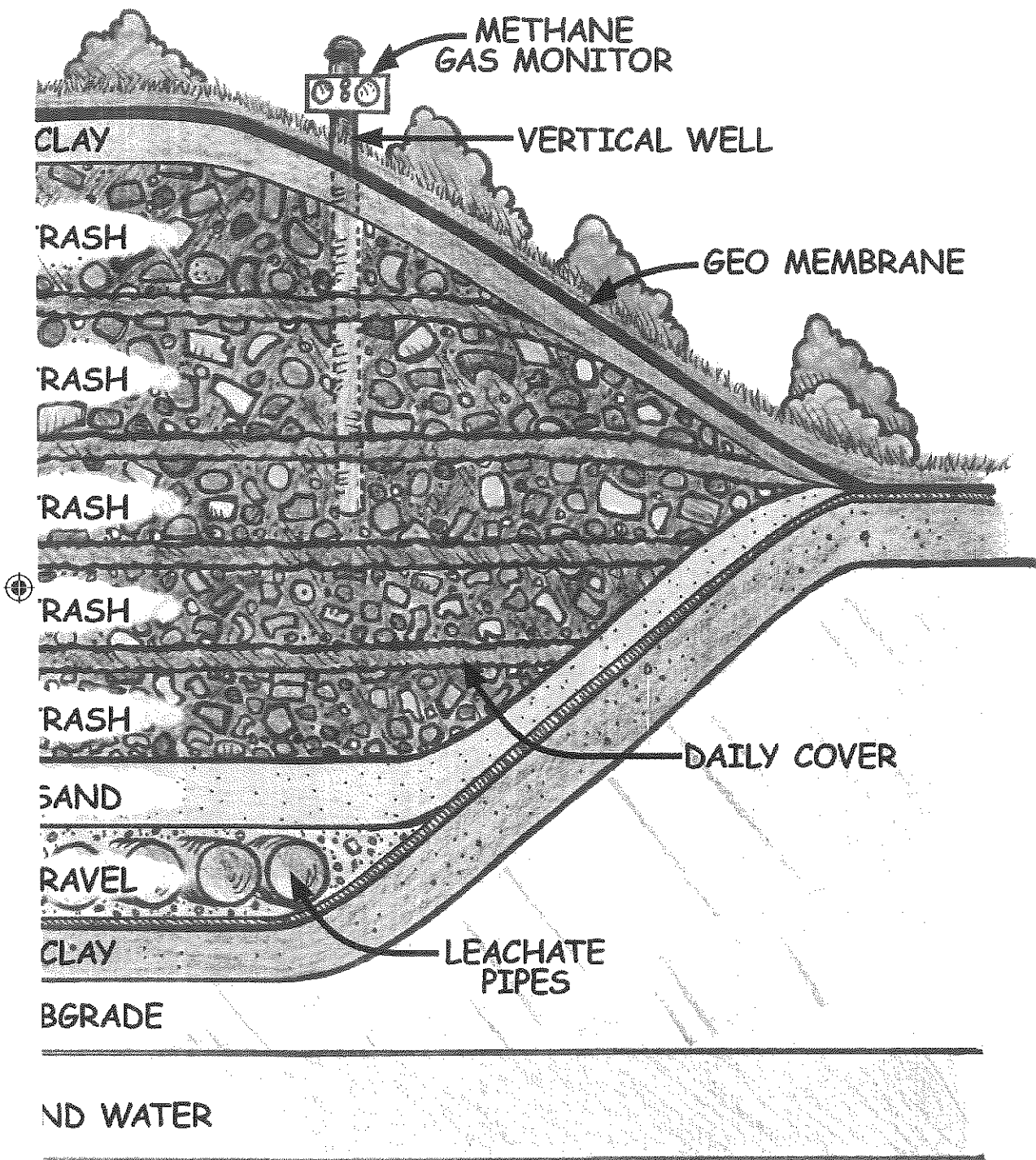
- The Cedar Rapids/Linn County Solid Waste Agency receives nearly 600 tons of solid waste each day.
- That works out to nearly 190,000 tons per year, or 380,000,000 pounds per year.
- Leachate is a science term for "garbage juice."
- Methane is 21-25 times more harmful to the atmosphere than carbon dioxide.

How many years, at the current rate of incoming waste, will the landfill last before running out of space? What would you suggest people do to help increase the landfill lifespan?



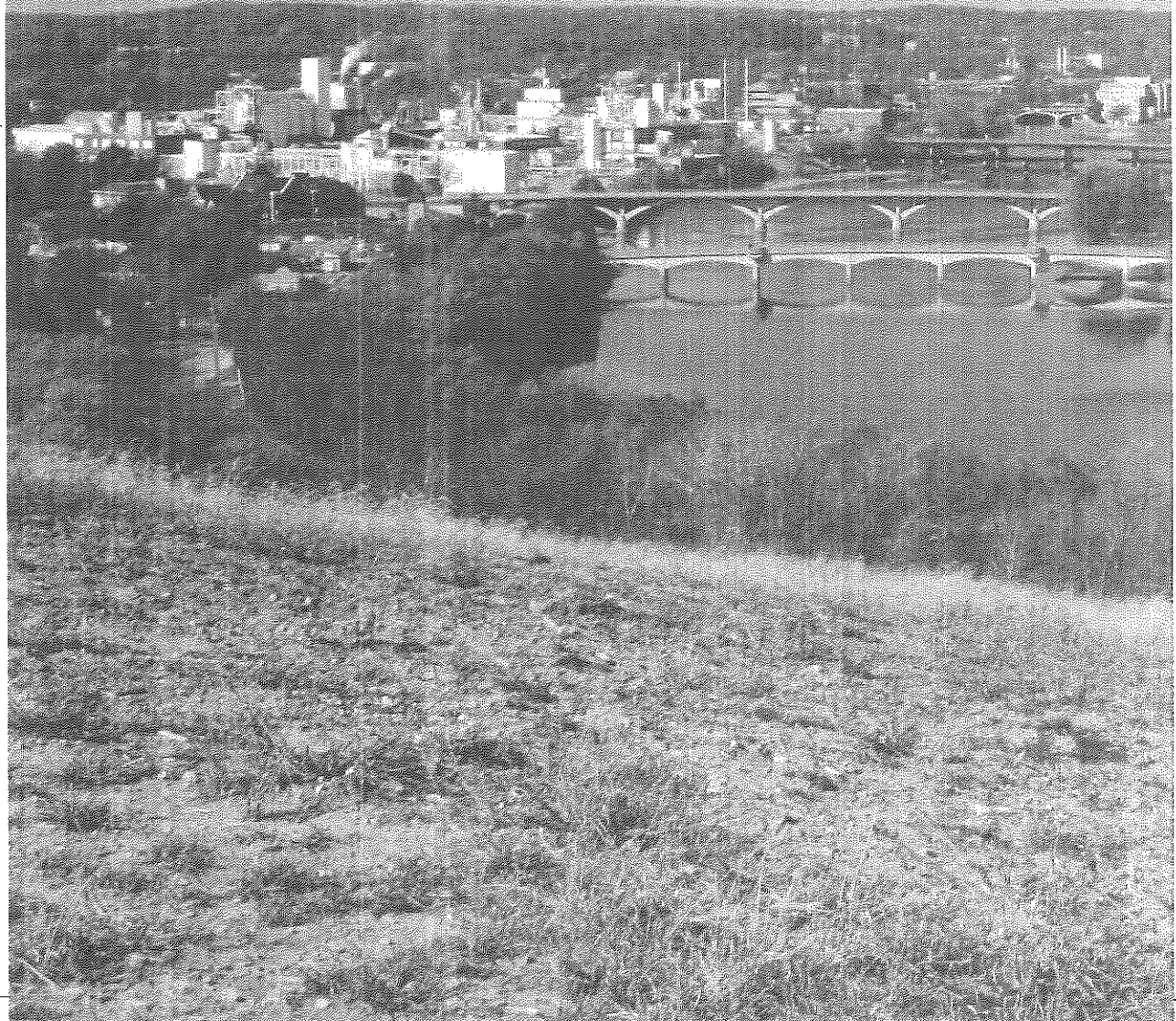
Landfill Diagram





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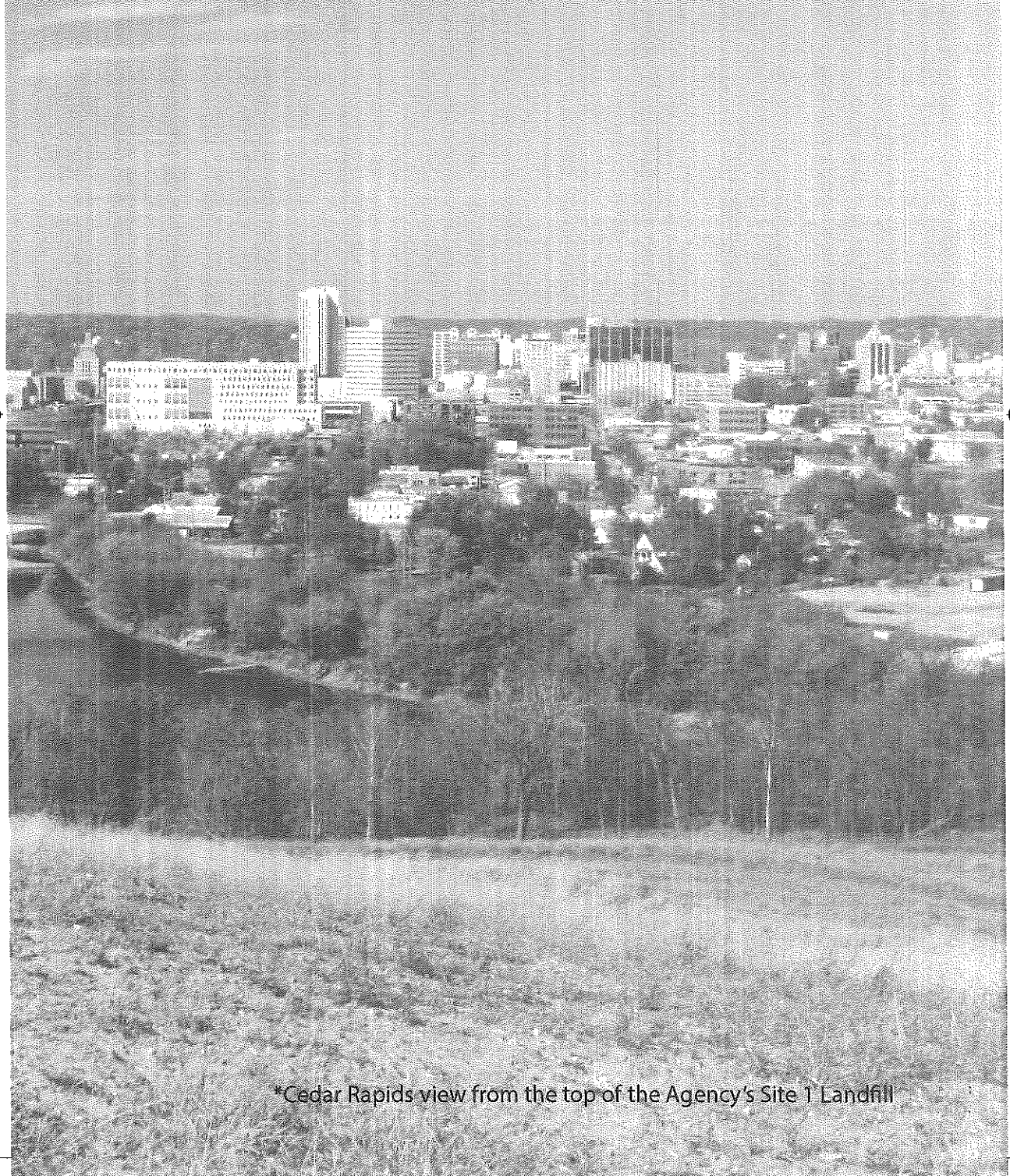
Notes



Notes

This Year's Recycle in Style Fashion Show will be held on June 28th from 6pm to 9pm at the Vet's Memorial Building on the 2nd Ave Bridge in downtown Cedar Rapids.

Tickets can be reserved at www.eventbrite.com or by clicking the link at www.solidwasteagency.org



*Cedar Rapids view from the top of the Agency's Site 1 Landfill

