SECTION 3

Waste Reduction Element

Goal of This Planning Element:

To ensure, at a minimum, from a 1992 baseline year, a 25 percent per capita reduction of the amount of solid waste being received at disposal facilities by promotion of source reduction, reuse, composting, recycling, and other waste reduction programs today and in the future, thereby maintaining and enhancing the quality of life of the citizens of the area.

This section provides information on the current waste reduction programs (both public and private) in the City of Atlanta. Each program is inventoried and assessed to determine its effectiveness in helping to meet the State's waste-reduction goal. This section also includes needs and goals for waste reduction for the 10-year planning period.

The Georgia Comprehensive Solid Waste Management Act set forth the State's waste reduction goal, requiring a 25 percent per capita reduction rate in the amount of solid waste being disposed, from a 1992 baseline year. Since 1992, the City of Atlanta has achieved an 11 percent decrease in the per capita disposal of its solid waste, and has not met the State's waste reduction goal. In analyzing the amount of solid waste disposed from just the City of Atlanta collections, the per capita disposal reduction from 1992 is 25 percent, which meets the State's reduction goal. If sludge disposal were removed from the analysis, the per capita reduction increases to 36 percent. Therefore, the 11 percent per capita reduction is most likely impacted by commercial private waste disposal and C&D debris. This indicates a need for the City to evaluate current commercial recycling programs and research the potential for C&D debris recycling programs and facilities. Other waste reduction, collection, disposal, and education and public involvement programs will help the City meet or exceed the 25 percent reduction goal for the planning period. Table 3-1 compares the waste generation rates between 1992 and 2003.

TABLE 3-1
Municipal Solid Waste Disposal Rates for the City of Atlanta (1992 vs. 2003)

	1992	2003	Percent Reduction from 1992 (%)
Waste Disposal Rate (lbs/capita/day)	9.77	8.68	**11**
Waste Disposal Rate for City of Atlanta Collections Only (Does not include Private Haulers) (lbs/capita/day)	4.04	3.03	**25**
Waste Disposal Rate for City of Atlanta Collections Only and Not Including Sludge (Does not include Private Haulers) (lbs/capita/day)	3.80	2.43	**36**

3.1 Source Reduction

Source reduction of solid waste is any action taken to prevent the generation of the waste in the first place. It can include reducing the amount of solid waste generated at the source; redesigning products or packaging with less material; promoting behavioral changes in the use of materials; or increasing the durability and reusability of materials to result in longer-lasting products. Source reduction is fundamentally different from the other elements of the solid waste hierarchy. Recycling and disposal options all come into play after goods have been used. Source reduction, in contrast, occurs before materials have been identified as "waste."

3.1.1 Education Program (Existing Program)

The City of Atlanta has an educational source-reduction program that promotes "buying smart," buying in bulk, buying items with less packaging, and buying more durable goods, to help reduce the source of solid waste generation. Over the past 5 years, the City has promoted source reduction through the following activities:

- Backyard Composting – At certain events in the past, the City has provided backyard composting kits, which included an instructional book, chicken wire, posts, and bacterial starter to City residents. The City also assisted community gardening centers with composting.
- Educational Material – The City has promoted source reduction through a variety of flyers, newsletters, and brochures. The material is disseminated by canvassing neighborhoods during regular collection routes, attendance at neighborhood meetings and community events, bi-annual recycling and DPW newsletters, presentations during "Public Works Week" at City Hall and the City of Atlanta's March of Dimes campaign, and presentations at City schools and parent-teacher organization meetings. A few examples of these materials are presented in Appendix A.
- Shopping Bags – The City has provided net-like reusable shopping bags for residents to use at grocery stores or other shops to help reduce the disposal of shopping bags.
- Puppet Shows – Educational puppet shows have been provided to City schools and communities to promote source reduction. The City utilized its recycling contractor Dreamsan, Inc., to conduct the educational events. In 2004, more than 7 shows were provided to schools in the City.

3.1.2 Assessment of Source Reduction Programs

The City believes that education, awareness, and marketing campaigns are the main components in promoting source reduction of solid waste. The City's current source reduction programs, however, are not adequate. In the past, these programs were conducted superficially just to convey the message on source reduction instead of through a direct public involvement campaign. Since the City did not meet the State's 25 percent reduction goal, the City must continue its current educational programs and add new programs, to increase the City's per capita reduction rate (currently at 11 percent). Public input, provided at several public meetings held for the solid waste management planning

process in 2004 and the beginning of 2005, indicated a desire for more education, public outreach, and marketing of source reduction and recycling information.

3.2 Reuse/Recovery

The concept behind reuse/recovery of items before they become solid waste is to reuse items by repairing them, donating them to charity and community groups, or selling them, all of which reduces waste. Reusing products, when possible, is even better than recycling, because the item does not need to be reprocessed before it can be used again. Reusing items delays or avoids that item's entry into the waste collection and disposal system. The following sections list reuse/recovery programs in the City of Atlanta and provide an assessment on the effect of those programs in the City of Atlanta.

3.2.1 Reuse/Recovery Organizations (Existing Program)

Several non-profit and for-profit organizations collect or accept items for reuse. These organizations reuse donated items by either giving them back to the community at no charge, or by selling them at lower prices.

Table 3-2 provides a list of the major organizations in the City of Atlanta that accept or collect donations of reusable materials.

TABLE 3-2
Major Organizations in the City of Atlanta that Accept Reusable Materials

Agency	Address/Phone Number	Items Accepted	Items Not Accepted	Pickup/ Drop-off Service
Atlanta Union Mission	P.O. Box 1807 Atlanta, Georgia 30301 (404) 588-4004	Clothing and accessories, furniture, appliances, tools, bicycles, toys, grills, beds, clean mattresses, linen, computers, stereo equipment, music, TVs, VCRs, DVD players, lighting, housewares, office equipment, filing cabinets, lawn equipment, household decorations, books, recyclable metals, non-perishable foods, medical supplies, automobiles (working), boats, industrial equipment, farm equipment	Tires, broken or tempered glass, paint, pianos or organs not in good working order, fiberglass bath tubs and showers, porcelain commodes and sinks, waterbeds, irreparable pressboard furniture, non-working plastic shelled TVs, console stereos, mobile homes, wet or soiled clothing, and wet, soiled, ripped, or torn upholstery pieces or bedding.	Both
Goodwill Industries	2201 Glenwood Ave. SE Atlanta, GA 30316 (404) 486-8400	All household goods and clothing	Appliances	Drop-off service only
Salvation Army	740 Marietta St. NW Atlanta, GA 30318 (404) 522-9785	All household goods and clothing, appliances, gently used vehicles	Tires or building supplies	Both

TABLE 3-2
Major Organizations in the City of Atlanta that Accept Reusable Materials

Agency	Address/Phone Number	Items Accepted	Items Not Accepted	Pickup/ Drop-off Service
National Kidney Foundation	2951 Flowers Rd, South, Suite 211 Atlanta, GA 30341 (800) 488-CARS	Cars, vans, trucks, or boats	N/A	Pickup service only
Atlanta Community Tool Bank	55 Ormond St. Atlanta, GA 30315 (404) 880-0054	Usable tools and building materials, such as fixtures, paint, doors, sinks, commodes, lumber, etc.	N/A	Both
Metro Atlanta Furniture Bank	538 Permalume Pl. NW Atlanta, GA 30318 (404) 355-8530	Furniture and household goods. Provides eviction protection service, which includes free pickup and storage for 60 days.	N/A	Both

Source: http://georgia.earth911.org/usa/master.asp

Dell Computers, Inc., also works with the City of Atlanta and Georgia State University in collecting old or used computers once a year for reuse and recycling. The Dell Recycling National Tour is designed to educate consumers that "No Computer Should Go to Waste." While computers are safe to use, they do contain some environmentally sensitive materials that should not go into landfills. More than 98 percent of a computer can be recycled or reused. In the City of Atlanta, Dell collected 74 tons of used computers and computer parts in 2004.

Dell offers U.S. consumers and businesses the ability to recycle used computers and computer hardware directly through their company. Dell also allows consumers and businesses to donate computers and computer hardware to help disabled and economically disadvantaged children and adults. For additional information on the Dell Recycling and Donation Programs, please visit Dell's website at http://www1.us.dell.com/content/topics/segtopic.aspx/dell_recycling?c=us&cs=19&l=en&s=dhs.

3.2.2 Waste Audits (Existing Program)

Twenty-three Atlanta businesses were surveyed as part of an assessment of commercial solid waste collection in the City. Authors of the Commercial Solid Waste Assessment Report (2004) contacted five solid waste haulers: United Waste Services, BFI, Waste Management Inc, Rock-Tenn Recycling, and American Recycling Company. In addition to providing residential and commercial waste collection services as well as some recycling services, each hauler reported that they provide commercial customers with waste audits upon request. These audits help the customer identify items that can be recycled, thereby reducing the amount and cost of solid waste disposal.

Waste audits involve conducting a random sampling of waste to determine what types of items are being thrown away and whether any of these items can be reused, recycled, or otherwise diverted from the waste stream. Waste audits involve sorting through trash to

determine the composition and quantities of waste being generated. Trash is collected from a facility and labeled to identify the source of the waste (kitchen, offices, etc.). The waste is then sorted in a well-ventilated location using proper health and safety procedures. Each bag of waste is sorted and weighed to provide an overall summation of each type of waste (i.e., food waste, glass, office paper, plastics, metal). Data for each bag are entered into a database and then analyzed to determine the overall composition of the waste stream. Waste audits can be used to measure the effectiveness of existing waste management systems, identify opportunities for improving waste management systems and strategies, and collect baseline data for measuring the effectiveness of waste management and minimization.

3.2.3 Waste Exchanges (Existing Program)

Several organizations can provide waste exchange services to residents and businesses in Atlanta. Waste exchange services provide current listings, catalogs, or classified ads of items that can be exchanged, recycled, or reused by companies and individuals. Items that can be exchanged include construction and building materials, equipment, metal and metal sludges, oils and waxes, chemicals, plastic and rubber, solvents, textiles and leather, and wood and paper. The Georgia EPD and the Georgia DCA websites provide links to waste exchange programs. Table 3-3 provides a list of waste exchange organizations that the City could utilize.

TABLE 3-3
Waste Exchange Organizations

Name	Website Address	Description
Southern Waste Information Exchange (SWIX)	http://www.electronicexchange.org	Non-profit organization that operates a website and publishes a catalog. Serves as a marketplace where reused items can be bought, sold, and traded.
Recycler's World	http://www.recycle.net/recycle/index.htm	Trading site for recyclable commodities, used materials, and collectible items. Also lists trade associations, publications, and online market prices.
Global Recycling Net	http://grn.com	Worldwide waste collection, disposal, and recycling marketplace.
Recycle America	http://www.recycleamerica.com	Commercial website maintained by Waste Management Inc. for post-industrial scrap of all kinds.

Sources:

Georgia EPD: http://www.ganet.org/dnr/p2ad/rec_links.html
Georgia DCA: http://www.dca.state.ga.us/environmental/recycling/options.html

3.2.4 Assessment of Reuse/Recovery Programs

3.2.4.1 Reuse/Recovery Organizations

Although many organizations accept reusable items, these programs are underutilized in Atlanta. In the future, the City will partner with these organizations and promote their capabilities to the public on reuse opportunities. Information on non-profit and for-profit

reuse organizations in the City will be collected in a database for the "Don't Dispose – Donate" Program, which is discussed in Section 3.5.2. 1, Don't Dispose--Donate.

The City will continue its partnership with Dell Computers to continue the Dell Recycling Tour. Although the past recycling tour was successful, Dell Computers expressed a desire for better coordination with the City on the recycling event. The City also currently offers a drop-off center for "E-Waste" at the William B. Hartsfield Solid Waste Reduction Plant. The types of "E-Waste" accepted include cell phones, computers, monitors, electronics, televisions, and stereos. More information on this program is provided in Section 3.3.3, Drop-Off Centers.

3.2.4.2 Waste Audits

Although the City does not conduct waste audits, it will promote the use of waste audits by private waste haulers. Waste audits can help the customer identify recyclable items, thereby reducing the amount and cost of solid waste disposed.

3.2.4.3 Waste Exchanges

The use of waste exchanges also is underutilized by Atlanta, and the information on these waste exchanges is not advertised or promoted well to the residents of the City. Waste exchange services reduce waste being disposed to a landfill by helping companies and individuals to exchange, recycle, or reuse items. The City will consider posting information on these organizations on the City's website and including the information in educational outreach programs.

The City of Atlanta also may consider sponsoring and leading a metro Atlanta waste exchange for the institutional sector. This program is discussed in more detail in Section 3.5.2.2, Metro Atlanta Waste Exchange.

3.3 Recycling

Recycling is any process by which materials that would otherwise become solid waste are collected, separated, or processed, and reused or returned to use in the form of raw materials or products. The following subsections present the available recycling programs followed by the City of Atlanta and private companies.

3.3.1 Residential Curbside Collection Program (Existing Program)

The City currently contracts with Dreamsan, Inc. (Dreamsan) to provide weekly, residential curbside collection of recyclable materials. Dreamsan provides curbside recycling service to approximately 87,000 single-family residents. The contract is for 1 year, with up to 4 renewals. This annual renewal process enables the City to ensure that the recycling services provided to residents are continuously updated to meet the residents' needs. In 2003, approximately 6,985 tons of residential solid waste were recycled. The items currently accepted for recycling are newspaper, office paper, mixed paper, junk mail, aluminum and metal cans, glass, plastic, phone books, and boxboard. Corrugated cardboard is not collected curbside but can be delivered to drop-off centers located at the Liddell and Lakewood substations. The City can also provide additional recycling bins to residents upon request.

More detailed information on the collection aspect of the curbside recycling program is provided in Section 4.3.1, Residential Curbside Recycling Collection.

3.3.2 Materials Recovery Facility

Dreamsan's Materials Recovery Facility (MRF) is located at 4785 Fulton Industrial Blvd., just west of Atlanta. The WRF currently occupies 66,000 square feet and uses commingled materials processing equipment capable of handling 100 tons per day (TPD) of newsprint, plastic and metal containers, mixed paper, and glass. The facility has a 5,000-square-foot paper-processing floor dedicated to receiving and processing newsprint for direct shipment to the Southeast Paper mill in Dublin, Georgia. The processing line includes a high-capacity infeed hopper, 36-inch-wide infeed and sorting belts, disc screen, plastic perforator, overhead belt magnet, and air sorter. The system is rated at 5 tons per hour operating capacity. Materials are sorted into 10 categories as they travel down the line:

- Old corrugated cardboard at the infeed
- Trash at the disc screen
- HDPE plastic #2 natural
- HDPE plastic #2 pigmented
- Mixed paper
- PETE plastic #1
- Steel and tin
- Aluminum
- Clear glass
- Amber / green glass

Dreamsan has established markets for all materials and has extended term agreements with buyers for each of these markets.

Table 3-4 lists the post-consumer use of these materials after they have been processed.

TABLE 3-4
Post-Consumer Use of Materials Recycled By Dreamsan

Recycled Material	Post-Consumer Use
Newspaper and Corrugated Cardboard	Sent to fiber installation manufacturers for use as cellulose, or sent to paper mills in the Southeast to be re-pulped
HDPE Plastic (Pellets)	Sent to materials manufacturing facilities in North Carolina or Alabama
PETE Plastic #1 (Pellets)	Sent to mills to be reused as fiber for carpet or carpet-related materials
Steel Cans	Re-bundled with other metal materials and sent to steel mills in Alabama
Aluminum Cans	Recycled into rolled aluminum and sent to aluminum can manufacturing plants in the Southeast
Glass	Recycled into fiberglass for use as insulation
Mixed Paper	Recycled into newsprint, tissue, cellulose insulation, and boxboard

Source: Dreamsan, Inc., 2004.

3.3.3 Drop-Off Centers (Existing Program)

The City of Atlanta currently operates three drop-off centers for recyclable items. Table 3-5 provides details and accepted recyclables at the locations.

TABLE 3-5
City of Atlanta Operated Recycling Drop-Off Centers

Location	Address	Materials Accepted
Liddell Substation	1540 Northside Drive, NW Atlanta, GA	Corrugated cardboard
Lakewood Substation	128 Claire Drive, SE Atlanta, GA	Corrugated cardboard
William B. Hartsfield Solid Waste Reduction Plant	2175 James Jackson Parkway Atlanta, GA	Fluorescent light tubes; "E-Waste," such as cell phones, computers, monitors, electronics, televisions, and stereos; chlorofluorocarbon (CFC) refrigerants

Other privately operated drop-off centers are located in Atlanta, as shown in Table 3-6.

TABLE 3-6
Privately Operated Recycling Drop-Off Centers in the City of Atlanta

Location	Address	Operating Hours	Materials Accepted
Atlanta Fire Station #19	1063 N. Highland Avenue Atlanta, GA 30306 (404) 853-3413	24-hour drop off center	Aluminum cans, newspaper
NAPA Auto Parts	1858 Cheshire Bridge Road Atlanta, GA 30324 (404) 873-6201	Monday - Saturday 8:00 am - 6:00 pm	Used motor oil
Davis Recycling Co.	677 Whitehall Street Atlanta, GA 30310 (404) 524-1746	Monday - Friday 8:00 am - 5:00 pm Saturday 8:00 am - 12:00 pm	Tire innertubes, NiCd batteries, electronics, aluminum cans, ferrous metals (steel, iron), non-ferrous metal Will provide pickup service for large quantities

Source: http://georgia.earth911.org

3.3.4 Recycling in City Buildings (Existing Program)

The City of Atlanta's Office of General Services collects paper and paper by-products from City Hall and other City-owned buildings. No other items are collected at this time. Paper is collected at each desk in a small recycling box. Office workers are asked to periodically empty their recycling boxes into a larger roll-off container for collection. These containers are typically located in the hallways or a central location. Recycling coordinators move the larger roll-off containers to the loading dock for emptying by a private recycling contractor.

3.3.5 Recycled-Content Procurement Policy (Existing Program)

The City of Atlanta has an Executive Order mandating that the City must purchase post-consumer recycled content products. The City encourages its departments to purchase environmentally friendly products and to purchase in bulk. The intent of the City's procurement policy is to stimulate recycling by providing a market for new products manufactured with recycled materials and to help reduce solid waste disposal.

3.3.6 City Auctions (Existing Program)

Surplus equipment from the DPW is auctioned instead of disposed. Rolling stock vehicles and heavy equipment, which are determined to be surplus or not serviceable, are sold at regularly scheduled City auctions. Auctioning used equipment and vehicles diverts these items from the landfills and promotes reuse or recycling.

3.3.7 Materials for the Arts Program (Existing Program)

In recent years, the City of Atlanta's Bureau of Cultural Affairs administered the Materials for the Arts (MFA) Program, a surplus recycling program that provided art materials to individual artists, art educators, non-profit cultural organizations, and social service agencies that offered arts programming. Through this program, the arts community received useful materials that were not often affordable, and donors received a tax deduction. Due to budget cuts, however, the program is no longer funded.

3.3.8 Commercial Multi-Family Recycling Programs (Existing Program)

The City of Atlanta requires owners of any multi-family dwelling to provide containers for the collection of recyclables and to provide for their collection (Section 130-38(e) of the City of Atlanta Solid Waste Ordinance, (Code of Ordinances, City of Atlanta, Georgia, Chapter 130, Solid Waste Management; http://www.municode.com/resources/gateway.asp?pid=10376&sid=10). Additionally, plans and specifications for new construction of multi-family housing units must include set-aside space for recycling containers on the premises (Section 130-38(f) of the City of Atlanta Solid Waste Ordinance).

Some private waste haulers provide recycling services for the multi-family complexes they serve. Items recycled by these commercial collection services include paper products, glass, plastic, metal containers, and wood pallets. The amounts of recycling tonnages collected by these companies, however, were not available.

For more detailed information on residential multi-family recycling collection, see Section 4.3.2, Multi-Family Recycling Collection.

3.3.9 Commercial Business Recycling Programs (Existing Program)

The City of Atlanta does not mandate recycling collection at commercially owned buildings. However, anyone applying for a non-residential building permit must submit plans providing the locations of space designated for solid waste and recycling containers (Section 130-38(f) of the City of Atlanta Solid Waste Ordinance).A few commercial recycling companies operate in or near the City of Atlanta. One major recycling company is SP Recycling Corporation (SPRC), headquartered in Atlanta. SPRC is a subsidiary of SP Newsprint Company and operates newsprint mills in Dublin, Georgia, and Newberg,

Oregon. SP Newsprint uses old newspapers as its primary fiber source for newsprint manufacturing. SPRC procures fiber for SP Newsprint's mills, and annually collects and purchases more than one million tons of old newspapers, 225,000 tons of sawmill residual chips, and 130,000 tons of other paper grades. SPRC also operates a commercial recycling drop-off center in Forest Park, Georgia. This drop-off center accepts newspaper, cardboard, mixed paper, office paper, telephone books, magazines, aluminum and steel cans, and #1 and #2 plastics.

3.3.10 C&D Debris Recycling (Existing Program)

C&D debris accounts for a significant amount of waste that enters Georgia's landfills. C&D waste is primarily wood and lumber, carpeting, aggregates, and scrap metals. The City of Atlanta and the majority of private waste haulers do not currently recycle the C&D debris they collect, but instead deliver it to C&D landfills. The City of Atlanta generated approximately 95,341 tons of C&D debris in 2003.

There are currently no dedicated C&D recycling facilities operating within Atlanta; however, Consolidated Resource Recovery, Inc. (CRR) performs some C&D recycling. CRR is a land-clearing and wood-waste-recycling company that operates in College Park, Georgia. CRR accepts yard trimmings, brush, and unwanted plant growth generated by urban landscaping. The yard trimmings are processed into products for use by homeowners, businesses, and government. CRR also recycles industrial wood waste, such as pallets, crates, scrap lumber, and railroad ties, for use as energy or landscape products.

3.3.11 Tire Recycling (Existing Program)

Currently, the City takes the tires it collects from illegal dumping sites to a tire recycling vendor. In 2003, the City collected approximately 88 tons of tires for recycling. Several vendors in Georgia currently accept used tires for recycling, as shown in Table 3-7.

3.3.12 Yard Trimmings Recycling

The following subsections summarize the current yard trimmings recycling programs for the City of Atlanta.

3.3.12.1 Residential Curbside Collection Program (Existing Program)

In 1996, the City of Atlanta began collecting yard trimmings separately from residential solid waste. The yard trimmings are collected bi-weekly and taken to a chipping, grinding, and staging area at the William B. Hartsfield Solid Waste Reduction Plant. The processed yard waste is then sent through a private contractor to various mills in the Southeast to be used as boiler fuel. In 2003, approximately 20,837 tons of yard trimmings were collected and processed.

For more detailed information on yard trimmings collection, see Section 4.4.1, Residential Curbside Yard Trimmings Collection.

TABLE 3-7
Tire Recycling Companies in Georgia

Company	Mailing Address	Telephone	FAX
Recovered Materials, Inc./Diversified Industry	U.S. Hwy. 1 South Alma, GA 31510	912-632-4751	N/A
GreenMan Technologies of Georgia, Inc.	138-B Sherrel Avenue Jackson, GA 30233	770-775-6107 1-800-732-6678	770-775-4304
Quality Tire Recycling, Inc.	P.O. Box 941 Jackson, GA 30233	770-775-3304	770-775-3354
SPW Industries, Inc.	1880 Joy Lake Road Lake City, GA 30260	404-366-6002	404-363-8072
Statewide Road Construction, Inc.	220 South Gaskin Avenue Douglas, GA 31533	912-384-7723	912-383-6895
Recovery Technologies Group of Georgia, Inc.	1593 Huber Street, NW Atlanta, GA 30318	404-355-0547 1-800-249-5086	404-355-0285
CEMEX	2720 Highway 341 S. Clinchfield, GA 31013	478-987-2121	478-987-1930

3.3.12.2 Christmas Tree Recycling (Existing Program)

Each year the City of Atlanta holds a Christmas tree recycling event in January, called "Bring One for the Chipper." The City partners with local agencies and retailers to encourage residents to recycle their Christmas trees after the holidays, by bringing their trees to a drop-off location where the tree is chipped into mulch. The mulch is given away free of charge to residents and is also used for public beautification projects and various wildlife habitats. Participants also received a free dogwood seedling, to complement the City of Atlanta's greenspace initiatives. The program is in its 15th year.

3.3.13 White Goods Recycling (Existing Program)

Both of the transfer stations that the City is currently using for disposal of its solid waste, Welcome All Transfer Station and Lee Industrial Transfer Station, recycle collected white goods. White goods include items such as refrigerators, ranges, washers, dryers, water heaters, and dishwashers. White goods that the City collects are placed in separate bins at the transfer stations, and the transfer stations remove any refrigerants present in the white goods and then recycle the metal.

3.3.14 Assessment of Recycling Programs

The following subsections present the City's assessment of the existing recycling programs in the City of Atlanta.

3.3.14.1 Residential Curbside Collection Program

The City believes that the current curbside recycling program is adequate to serve the needs of the residents; however, based on input from the public at several public meetings held for the solid waste management planning process, the City will consider and evaluate the following issues:

- Current residential curbside recycling contract, to determine if more commodities can be added
- Feasibility of increasing the recycling bin size or providing additional bins for customers
- Contractor to ensure timely pickup of recyclables
- Increase in education and public awareness of recycling

3.3.14.2 Drop-Off Centers

The City believes that its current drop-off recycling centers need to be improved. Based on public comments, and to reduce illegal dumping, the City will consider and evaluate the following needs:

- Since the City does not currently offer recycling collection programs for household hazardous waste, white goods (appliances), and bulky items, the City will determine if additional items can be accepted at the existing drop-off centers. Items would include paint, scrap metal, tires, and bulky waste items.
- The City may promote commercially operated drop-off centers by advertising and educating the public on the availability of these centers.
- The City may consider providing financial incentives to encourage companies to operate more recycling drop-off centers within the City.
- The City may consider providing additional drop-off centers.

3.3.14.3 Other City Recycling Programs

The City will continue to provide its recycling programs in City buildings; however, recently there has been somewhat of a disconnection with the Office of General Services and SWS on ensuring a comprehensive program. Several City employees are not familiar with the recycling program, the recycling bins are not always emptied on a regular basis, and recycling data on the program are not available. The City will ensure that General Services and SWS work together on improving the program and executing it appropriately. SWS currently has a Recycling Coordinator position, which will ensure that the program is managed well, that reporting of recycling data is regularly provided to SWS, and that compliance with the program is enforced.

The City will also continue its recycled-content procurement policy and its auction program. Although the Materials for the Arts Program is no longer funded, the SWS will partner with the City's Bureau of Cultural Affairs to determine if the MFA Program can be renewed and funded.

3.3.14.4 Commercial Multi-Family Recycling Programs

The City will re-evaluate the current solid waste ordinance on multi-family recycling. The current ordinance allows for enforcement of recycling collection at multi-family dwellings, but it is not being enforced. The City will also determine if it can offer recycling to the multi-family residences it serves through recycling contractors. Several citizens have expressed a desire to have landlords offer recycling at apartment, condominium, and townhouse

complexes. The City will evaluate the logistics of recycling collection at each multi-family unit on a case-by-case basis. To ensure that waste reduction efforts are conducted at multi-family units, the City will balance enforcement of the recycling collection ordinance with education.

The City will also evaluate potential legislative actions to ensure that recycling services are provided to the multi-family residences that are serviced by private waste haulers. The City will also research ways to ensure that accurate recycling data are reported to the City, so that it can track its progress towards meeting the State's waste reduction goal.

3.3.14.5 Commercial Business Recycling Programs

Since commercial solid waste comprises a large portion of the City's total solid waste stream, the City will research ways to encourage recycling in commercial buildings and facilities. One of the first steps in assessing commercial solid waste recycling will be to gather comprehensive data and information on current recycling programs. The City will then evaluate recycling logistics at commercial buildings, and research potential initiatives to encourage recycling, such as partnering with businesses, providing technical assistance, enacting legislation, providing education and public outreach, helping to conduct waste audits, and ensuring proper reporting.

The City will also inform the public on the private recycling centers that operate within the City, and to encourage residents and businesses to partner with these recycling centers on waste reduction initiatives. The City also may utilize financial incentives for existing private recycling centers to operate more within the City.

3.3.14.6 C&D Debris Recycling

Due to the increased development within the City of Atlanta over the past decade, C&D debris has accounted for a significant amount of waste that enters Georgia's landfills. The City of Atlanta and the majority of private haulers do not currently recycle the C&D debris they collect, but instead deliver it to C&D landfills. Currently, no dedicated C&D recycling facilities operate within the City of Atlanta. Therefore, the City will evaluate the need for a C&D debris recycling initiative, including evaluating current ordinances and considering providing financial incentives for private C&D debris recycling facilities to serve the City.

3.3.14.7 Tire Recycling

The illegal dumping of tires has become a growing problem in the City of Atlanta. To address this problem, the City has recently enhanced its current illegal dumping program (discussed in Section 4.6, Illegal Dumping/Littering). The City is also evaluating the addition of drop-off centers for tires.

3.3.14.8 Yard Trimmings Programs

The City of Atlanta will continue its yard trimmings collection program and Christmas tree recycling event. The City will evaluate upgrading the current yard trimmings processing equipment at the William B. Hartsfield Solid Waste Reduction Plant and the feasibility of purchasing a new chipper and grinder.

3.3.14.9 White Goods Recycling

The City has written into its contracts with the current transfer stations to recycle white goods and remove refrigerants from them. The City will continue to offer this program. The City does not currently have recycling programs for other special items, but will evaluate the implementation of a hazardous waste collection program and future programs that provide drop-off centers, amnesty days, and other programs to recycle special wastes. Public input has also indicated a desire for the City to collect other goods for recycling.

3.4 Waste Reduction Alternatives for Waste-Generating Disasters

In the event of a waste generating disaster, the City of Atlanta an Emergency Response Plan. The plan outlines the Department's responsibilities during an emergency, along with the level of interaction with other agencies. The plan establishes emergency communication and protocol. Emergencies that the plan covers include:

- Inclement weather
- Snow and ice removal
- Flooding
- Downed trees resulting from strong winds
- Water- and sewer-main breaks in the public ROW
- Barricade placement for vehicular and pedestrian traffic control
- Detour signage and barricades to cordon off hazardous areas
- Debris removal
- Repairs to traffic signals, signs, sidewalks, and streets
- Homeland security

To handle the reduction (recycling) of significant increases in volumes of waste that occur as a result of natural disasters such as hurricanes or ice storms, the City has specified in its contract with its curbside recycling company, Dreamsan, Inc., that the company will collect all recyclables at the curbside, regardless of size. For specific recyclables, the City uses another contractor for special pickups and also will use drop-off centers. Additionally, the City will consider paying its workers overtime and using its own equipment to support the collection of additional recyclables. The City may use other private recycling companies to handle the increased volume in recycling needs, and may use its own solid waste collection vehicles to transport recyclables to private material recovery facilities in metro Atlanta. The City anticipates that C&D materials (such as lumber, roofing materials, carpeting, and concrete) and yard trimmings would be the types of recyclable materials to result from a waste-generating disaster.

In the unlikely event of an increase in the generation of yard trimmings, the City has the following waste reduction alternatives in place:

- Use the City's adequate space to stockpile yard trimmings.
- Ship processed yard trimmings directly to reuse facilities, instead of using the current vendor.

- Contract out chipping and grinding if the City's equipment fails.
- Pay workers overtime to provide additional collection.
- Use spare equipment and fleet vehicles to continue collection, and if equipment or vehicles break down, use emergency funds to purchase replacements.

Section 4.7, Contingency Strategies, provides more detail on emergency collection procedures in the event of a waste-generating disaster or interruption of primary collection efforts.

3.5 Needs and Goals

To meet the State of Georgia's 25 percent per-capita reduction rate of the amount of solid waste being received at disposal facilities, the City has proposed the following new programs to help achieve the City's 10-year planning goals as well as the State's solid waste reduction goal. These programs have been categorized as either source reduction, reuse / recovery, recycling, or special items programs.

3.5.1 Waste Reduction Programs

The following new waste reduction programs will apply the City's plans for expanding its current educational program and focus on waste reduction in all facets of the program. Source reduction kits, like reusable shopping bags, backyard composting kits, junk mail termination kits, and others, will be expanded or created, and made available free of charge on request. Outreach programs to communities and schools will include source reduction concepts. The City will also evaluate the use of financial incentives, which may assist both residents and businesses in the City in reducing waste.

3.5.1.1 Pay-As-You-Throw (New Program)

The City will evaluate the feasibility of implementing a Pay-As-You-Throw (PAYT) program for the City's residents. A PAYT system may help reduce the amount of waste being disposed at landfills, and this program has significant public support. A PAYT system may help lower operational costs, increase recycling efforts, and promote greater awareness of solid waste disposal costs.

PAYT programs (also known as unit pricing or variable-rate pricing) charges residents for the garbage collection based on the volume. PAYT programs create a direct economic incentive to recycle.

Traditionally in the City of Atlanta, residents pay for waste collection and disposal through annual fixed fees, regardless of the volume generated. PAYT breaks from tradition and treats waste collection and disposal services like electricity, gas, and other utilities. Residents pay a variable rate depending upon the amount of service they use. This provides a financial incentive for residents to reduce waste, and can lead to lower transportation and disposal costs for the City.

Several variations of a PAYT collection system exist, including a prepaid bag or sticker system, a single or variable container subscription service, weigh at the truck or curb system, or a hybrid system.

Potential Obstacles and Problems with PAYT Systems

If the City implements a PAYT system, potential obstacles and problems may have to be overcome. These include:

- Illegal burning of waste
- Illegal dumping of waste, in non-approved ways or locations
- Overfill of curbside containers, causing refuse to spill onto streets, yards, and other locations
- Occasional overfills from holidays or parties, which can be remedied by a set of free passes offered each year by the City
- Illegal disposing of excess trash in other neighbors' trash cans
- Initial perceptions that the switch to PAYT pricing is simply an attempt to raise garbage rates
- Changes to statutes, ordinances, or contracts with private entities that provide solid waste collection, which may be necessary before volume-based rates can be implemented
- Degree of urbanization of a community, its surrounding area, and the strength of the local recycling markets
- Financial hardships on poor and fixed-income citizens, especially in light of fees and cost-based rates charged for other utility services, such as water and wastewater. Some communities have implemented special "lifeline" rates to reduce the financial impact on these groups.
- Potential resistance to increased enforcement efforts to ensure a fully functioning PAYT system.

The key to overcoming these and other obstacles is for the City to carefully design a PAYT system and public education campaign. Such a campaign will inform and educate residents well in advance about the costs of existing waste management practices, address specific community needs and concerns, and ensure compliance with the system.

3.5.1.2 Junk Mail Reduction (New Program)

To reduce waste, meet the State's reduction goal, and address public comments on reducing junk mail, the City will develop a junk mail termination kit, which gives details on how residents can remove their names and addresses from unwanted mailing and telephone lists. The kit will be provided on the City's website and made available free of charge by request. The kit will include opt-out toll-free phone numbers, websites, and pre-addressed postcards to send to various mailing distribution houses. The kit will also provide tips to prevent being placed on future mailing lists.

The junk mail termination kit will be available at City offices / City Hall, libraries, neighborhood associations, and other outlets. The program will be advertised through flyers, brochures, and other awareness materials. This source reduction program will help the City achieve goals by reducing the production of junk mail.

3.5.1.3 Financial Incentives (New Program)

The City needs to increase recycling and waste reduction efforts to meet the State's waste reduction goal and to address the public's desire for more recycling opportunities and initiatives. The City may use financial incentives, such as investment tax credits, to promote waste reduction and recycling activities. Tax credits may be given to businesses for the purchase of capital machinery or facilities that decrease the overall amount of waste generated, increase recycling levels, or encourage secondary materials processing. Under this type of program, the government allows businesses to reduce the amount of its tax liability in some proportion to the cost of capital expenditures for the approved activities.

Several states already use some form of tax credits for the reduction, reuse, or recycling of solid waste. In Arkansas, taxpayers receive an income tax credit for the purchase and installation of equipment used exclusively for reduction, reuse, or recycling. Oregon offers a Business Energy Tax Credit which allows companies a tax write-off on 35 percent of the cost of equipment used solely for recycling. The City of Camarillo, through the California Franchise Tax Board, offers a 6 percent tax credit for qualified property used in recycling. The credit can also be claimed for the purchase of manufacturing equipment and leased equipment. Oklahoma offers companies a one-time income tax credit for investing in new facilities that recycle particular industrial wastes. In Florida, tax incentives are provided for the transport of recyclable materials and products. This incentive encourages affordable transportation of recyclable goods from collection points to processing sites. Financial incentives (e.g., property tax credits) may also be offered to residents in a community that agrees to house a solid waste handling or recycling facility.

In addition to state initiatives, many communities have used financial incentives to encourage waste reduction and recycling of solid waste material. These options range from credits on the purchase of equipment to property tax credits on building recycling facilities. The City will evaluate financial incentives to determine which options would best serve the City.

3.5.2 Reuse/Recovery Programs

This subsection presents new reuse / recovery programs that will help the City meet its waste reduction goals and the State's 25 percent per capita reduction rate.

3.5.2.1 Don't Dispose – Donate (New Program)

Although various organizations accept tax-deductible reusable items, Atlanta underutilizes them. The City will develop a "Don't Dispose – Donate" program, which will unite these organizations with the public to promote reuse. As part of the program, the City will compile a current, centralized, database of for-profit and non-profit organizations within Atlanta that accept reusable items, and compile information on the following:

- Items they accept
- Whether the organization offers a tax-deductible receipt
- Drop-off locations and hours
- Whether the organization picks up items from the resident's dwelling

The City will post the database information on its website and will provide a printed copy of the listing free of charge on request. Advertising will be done through flyers, brochures, and other awareness handouts.

3.5.2.2 Metro Atlanta Waste Exchange (New Program)

The City of Atlanta currently underutilizes waste exchanges. Waste exchange services reduce waste being disposed to a landfill by allowing companies and individuals to exchange, recycle, or reuse items. The City will consider sponsoring a waste exchange program with institutional departments in metro Atlanta. This program would allow local governments and institutions (such as schools) to exchange reusable items such as furniture, office items, equipment, vehicles, and other items that would otherwise be disposed of in landfills. As appropriate logistically, private-sector groups could be added. The City would develop a catalog, available in printed copy by request and on the City's website, listing wanted or available reusable items. Vendors would be listed confidentially, and the City would only act as a liaison in coordinating the exchange of items. The City will initially propose a pilot program and research and evaluate the logistics of the program. A waste exchange helps meet waste reduction goals by reusing or recycling items that would otherwise be disposed of. It also helps institutions that need equipment, but lack funds for new items, to obtain working, reusable equipment.

3.5.3 Recycling Programs

This subsection presents new recycling programs or enhancements to existing programs that will help the City meet its waste reduction goals and the State's 25 percent per capita reduction rate.

3.5.3.1 Curbside Collection Program (Enhanced Program)

To move toward a higher diversion of residential waste and ensure that recycling services meet residents' needs (based on public input as listed in Section 3.3.14.1, Residential Curbside Collection Program), the City will review the current residential curbside recycling contract to determine if opportunities for additional commodities can be added to the curbside recycling collection program. The City will also examine the feasibility of increasing the current recycling bin size.

To continue to provide quality recycling to residential customers, the City will review the contract regularly to ensure that the contractor provides timely pickup of recyclables and notifies residents of improper recycling set-outs, and will increase education and public awareness of recycling to residents, schools, and community groups. More information on education and public awareness programs on recycling is provided in Section 7, Education and Public Involvement Element.

3.5.3.2 Drop-Off Centers (Enhanced Program)

The City's current drop-off centers do not adequately address the public needs nor help the City meet the State's waste reduction goal. Therefore, the City will expand its existing recycling drop-off centers or locate additional convenience centers. The City currently accepts fluorescent tubes, "E-waste," refrigerants, and cardboard. The City will determine if these drop-off centers can be expanded to accept additional items such as household hazardous waste (including paint and solvents), white goods, household batteries, scrap metal, tires, bulky waste items (such as furniture), and many other items. Expanded drop-off centers will help the City reduce waste going to landfills, prevent illegal dumping, aid in community cleanup and recycling efforts, and increase overall public awareness of solid waste management. Once the expanded drop-off centers are fully operational, the City will advertise and inform the public on their availability.

The City also will promote commercially operated drop-off centers through advertisement and public awareness. The City will evaluate potential financial incentives for companies to operate more recycling drop-off centers. Some incentives may include property tax credits on the location of operation or for the purchase of collection equipment (such as roll-off bins).

The expanded drop-off centers may also work in conjunction with a PAYT system. For white goods and bulky items, residents would have three options under the PAYT system:

- Request for the City to pick up the items, and pay an additional charge.
- Deliver reusable items to a charity organization and receive a tax deduction.
- Deliver the items to the City's expanded drop-off centers, without charge.

These options would allow the City to meet its waste reduction goals and also reduce illegal dumping.

3.5.3.3 City and Commercial Multi-Family Recycling (Enhanced Program)

The City will re-evaluate the current solid waste ordinance on multi-family recycling, to ensure that recycling collection at multi-family dwellings is enforced. Several citizens have complained about a lack of recycling at their apartment, condominium, and townhouse complexes. The City will work with the owners, to balance enforcement of recycling collection with education on waste reduction efforts at multi-family units. The City also will evaluate the logistics, convenience, and ease of recycling at multi-family complexes, since recyclable materials at multi-family dwellings cannot be collected easily at the curbside.

The City will determine if it can offer recycling to the multi-family residences it serves, through the use of recycling contractors, much like the recycling services provided to single-family residences. The City will evaluate potential legislative actions to ensure that private waste haulers offer recycling options to the multi-family residences they serve. The City will also research franchising, business licensing, and other legislative techniques for recycling contractors to serve multi-family residences. The City will also research potential reporting mechanisms, so that the City can track its progress towards meeting the State's waste reduction goal.

3.5.3.4 Commercial Business Recycling (Enhanced Program)

In 2003, Atlanta businesses generated approximately 359,958 tons of commercial waste that went to landfills. It is not known fully how many commercial businesses in Atlanta recycle their solid wastes. The City's Commercial Solid Waste Assessment Report found that 16 of 23 businesses surveyed managed recyclable materials. Because commercial waste comprises a large portion of the City's waste, commercial recycling initiatives will be evaluated as a means to achieve the State's waste reduction goal. Due to the lack of data and no reporting mechanism for the amount of materials recycled by a commercial business, it is unknown as to what extent the City can implement commercial recycling initiatives. Therefore, the City will evaluate ways to obtain accurate commercial recycling data, and once data are gathered, will determine initiatives to encourage recycling at commercial buildings. Initiatives may include evaluating recycling logistics at commercial buildings, researching educational and public outreach methods, establishing partnerships, providing technical assistance, offering financial incentives, and enacting legislative actions. The City will also research potential reporting mechanisms, so that the City can ensure it meets the State's waste reduction goal.

The City will also inform the public on the private recycling centers that operate within the City, and to encourage residents and businesses to partner with these recycling centers on waste reduction initiatives. The City also may utilize financial incentives for existing private recycling centers to operate more within the City.

3.5.3.5 Sales Tax Incentives (New Program)

One of the widespread uses of product value taxes is the deposit-refund system for beverage container recovery. Typically referred to as "bottle bills," these programs offer an incentive for users to recycle, by charging a small fee on the purchase price, which is not returned to the user until the material is returned for recycling.

Today, 10 states (Oregon, Vermont, Maine, Michigan, Iowa, Connecticut, Delaware, Massachusetts, New York, and California) have a bottle bill requiring refundable deposits on certain beverage containers. The principal purpose behind this program is reducing litter, but it is tied directly to the facilitation of recycling. Unclaimed monies can be used to support the following activities:

- Capital assistance grants
- Litter control
- Recycling promotion and education
- Technical assistance
- Research and development
- Administration

Recycling fees may be collected on recyclable items besides beverage containers. The State of California collects tire fees and electronic waste recycling fees from consumers at the time of the retail sale or lease. Funds established through these programs are then used to help fund the disposal, recovery, processing, or recycling of these materials.

The City of Atlanta does not currently provide product value tax incentives on recyclable items. Value tax incentives are typically provided on a statewide basis. Therefore, the City

will evaluate any statewide efforts on value tax incentives that reduce solid waste, and consider offering support and promotion on approved incentives.

3.5.3.6 C&D Recycling (New Program)

C&D debris accounts for a significant amount of waste that enters Georgia's landfills. A recent survey of landfills in the state determined that almost 12 percent of the waste entering the landfills was C&D debris. C&D waste is primarily wood and lumber, aggregates, carpet, and scrap metals. C&D debris disposal also contributed over 95,000 tons to the City's waste stream in 2003, and most likely impacted the City's 11 percent per capita reduction.

Due to the increased development within Atlanta over the past decade, the City will consider implementing a C&D debris recycling program. This program will involve two components: (1) zoning and building code regulations to mandate C&D recycling, and (2) financial incentives for businesses to build and operate a C&D recycling facility that serves Atlanta.

Zoning and Building Code Legislation for C&D Recycling

Zoning and building code modifications have become increasingly popular for municipalities as they realize their lack of control over who recycles and how materials are disposed. Without appropriate building codes, construction contractors are often free to dispose of C&D materials without considering recycling options.

By modifying zoning and building codes, a local government can establish control of C&D waste, particularly to prevent disposal, and require recycling of wastes generated on a construction site. C&D waste management parameters that can be established by modified zoning and building codes may include the following requirements:

- Applicants must submit a recycling plan to the Department of Planning and Community Development prior to permit approvals and start of construction.
- Applicants must calculate a project recycling rate that commits them to recycle a certain percentage of the wastes generated during construction.
- Certain construction materials must be separated for recycling, and separate recycling containers must be placed throughout the construction area so that proper separation of recyclables is possible.

The City will evaluate the current zoning and building codes to determine whether modifications to include waste reduction of C&D waste can be implemented.

Financial Incentives for C&D Recycling Facilities

The City may implement numerous financial incentive options to encourage C&D debris recycling facilities to build, operate, and serve the City of Atlanta. Options may involve investment tax credits to businesses for the purchase of machinery and equipment that reduces, reuses, or recycles C&D debris. Property tax credits may be offered to allow C&D facilities to build and operate within the City. The City may also subsidize the development of a recycling facility or incorporate it into an established recycling enterprise zone.

C&D recycling facilities are typically located on several acres and require heavy equipment for handling and processing waste, as well as space for storage of processed material. Processing equipment typically includes forklift trucks, crushers, and shaker screens.

Although no C&D recycling facilities are located in Atlanta, a few facilities are active in Georgia. Atlas Waste and Recycling Systems operates a C&D processing facility in Savannah that accepts concrete, wood, metal, and other building waste. Georgia Mountain Grinding in Blairsville accepts yard trimmings, pallets, logs, sheetrock, block, brick, concrete, shingles, rock, and asphalt.

C&D Recycling Facilities

C&D recycling facilities are typically located on several acres and require heavy equipment for handling and processing waste, as well as space for storage of processed material. Processing equipment typically includes forklift trucks, crushers, and shaker screens. No C&D recycling facilities are currently operating within the City of Atlanta.

Advantages of C&D recycling facilities include:

- Reduction in the amount C&D waste requiring disposal (potentially over 95,000 tons per year)
- Recovery of material for recycling / reuse and potential revenues.

Disadvantages include:

- Siting a processing facility
- Potential difficulty in marketing recovered materials.

A C&D waste processing facility would consist of an open site with a small, permanent building for the storage of miscellaneous materials, such as tools and maintenance equipment. A C&D recycling site would require about 5 to 10 acres on land zoned for industrial use, or commercial land zoned for heavy equipment use. The majority of the site would be used for incoming material and short-term product storage. Nearly 70 to 90 percent of the waste received at a C&D recycling facility can be recycled, and includes ferrous metals, wood, aggregate materials, and soil. Typical environmental impacts from a C&D recycling facility would be low and would be related to stormwater runoff, dust, and noise.

3.5.3.7 Tire Recycling (Enhanced Program)

The illegal dumping of tires is a growing problem in the City of Atlanta. Therefore, the City will evaluate adding or enhancing existing drop-off centers to accept used tires, which will be sent to a tire recycling vendor.

3.5.3.8 Conversion of Hartsfield Solid Waste Reduction Plant to Environmental Education Center and Park (New Program)

The City will conduct a feasibility study on converting the existing William B. Hartsfield Solid Waste Reduction Plant into an Environmental Education Center and Greenspace Park. The Hartsfield Solid Waste Reduction Plant is currently a yard trimmings processing area that grinds, chips, and stores yard trimmings, collected from residents, for delivery to

various mills in the Southeast. The mills use the processed yard trimmings as boiler fuel and energy recovery.

The City may bring together the Hartsfield Solid Waste Reduction Plant, the local community, the City of Atlanta's Department of Parks, Recreation, and Cultural Affairs, and others to purchase an adjacent property to develop as greenspace and a park. The park would house an environmental education facility that provides meeting space, classrooms, museums, and demonstration areas for environmental education. Topics would include solid waste reduction and recycling, environmental sustainability, clean water, and clean air issues. Other City departments, such as the Department of Watershed Management, the Department of Parks, Recreation, and Cultural Affairs, and the Department of Planning and Community Development, also could use the educational center. Atlanta Public Schools and community groups could use the facility for educational field trips. The park and greenspace area, for use by the surrounding neighborhoods, would include park and playground equipment manufactured from recycled materials, such as tires and building materials. The yard trimmings processing area would be upgraded and enhanced with state-of-the-art equipment, and educational tours would be provided in conjunction with the education center.

3.5.3.9 Backyard Composting (Enhanced Program)

In the past, the City has provided backyard composting kits to residents and has assisted community gardening centers with composting. The City will expand this program with increased educational and public awareness efforts. Informational and other materials to assist in starting a composting program will be made available free of charge. Backyard or home composting allows individual residents to reduce their yard and food wastes by decomposing the waste into material for use as a soil conditioner for garden and landscaping needs.

The City will promote backyard composting in its educational outreach programs, and will provide frequently asked questions (FAQs), flyers and brochures, technical assistance, and detailed information on its website on home composting.

3.5.3.10 Yard Trimmings Pay-As-You-Throw (PAYT) Program (New Program)

A PAYT system may also be extended to yard trimmings collection. The City will evaluate the feasibility of providing variable rate fees for the collection and processing of yard trimmings. An example of a PAYT option for yard trimmings would involve requiring residents to purchase paper bags that are only sanctioned by the City. The cost of the paper bags would help pay for the collection and processing of the yard trimmings. The City can also arrange for local distributors (e.g., grocery and hardware stores) to sell the City-sanctioned bags.

3.5.3.11 Amnesty Days and Household Hazardous Waste Events (New Program)

Since the City of Atlanta currently does not collect household hazardous waste, it plans to hold two household hazardous waste collection events a year. The events would be held at a location with several bins for the collection of wastes such as paint, tires, scrap metal, and solvents. The City would ensure that material recyclers were contracted to accept and collect these items. The City will also evaluate hosting Amnesty Days, where residents can take any type of waste from their households to drop-off centers free of charge. These events will help the City to meet its waste reduction goals and also reduce illegal dumping.

This page intentionally left blank.

SECTION 4

Collection Element

Goal of This Planning Element:

To ensure the effective collection for the subsequent ten year plan period of solid waste, and recyclable and compostable materials within each community.

This section provides information on the current collection programs in the City of Atlanta for garbage, recyclables, yard trimmings, bulky waste, and beautification/common good services. Information on operations, collection schedules, and collection vehicles is also provided. In addition, each program is inventoried and assessed to determine its effectiveness. This section also includes needs and goals for operating an efficient collection system for the 10-year planning period.

4.1 Service Area and Existing Multi-Jurisdictional Agreements

The service area for the City of Atlanta is approximately 131.6 square miles located within the city limits. The City provides service to approximately 87,000 single-family and 33,600 multi-family residences. Land use within the City ranges from the highly urbanized Central Business District and other high-rise commercial areas to suburban residential areas. The 2000 Census population for the City was 416,474 and estimates prepared by the ARC indicate that the 2004 population for the City of Atlanta is approximately 434,900. Population trends indicate that the City is experiencing an approximate annual growth of 1.1 percent. From population estimates based on the ARC's 2003 forecasts and the City of Atlanta's Bureau of Planning 2004 forecast interpolations, the City will have an approximate population of 484,562 in 2015. The City will ensure that its collection systems are capable of handling increased population growth in the City.

The City of Atlanta does not currently have a multi-jurisdictional agreement with another governmental body for solid waste disposal.

4.2 Garbage Collection

Both the City of Atlanta and private haulers provide garbage collection in the City. SWS currently collects residential garbage, yard trimmings, garbage from City-owned buildings and facilities, some C&D debris, and performs various city beautification services (street sweeping, signage removal, etc.). The City contracts with a private company to provide curbside recycling collection. Private haulers collect commercial and industrial solid waste, C&D debris, and some multi-family residential garbage in the City.

4.2.1 City of Atlanta Garbage Collection

The City of Atlanta collects residential garbage from all of the single-family units and some of the multi-family units in the City. The City provides weekly semi-automated cart and

dumpster refuse collection to roughly 120,600 residential units. This includes approximately 95,400 single-family and multi-family dwelling units that receive cart collection and 25,200 multi-family dwelling units that receive dumpster service in the City. Most collections take place curbside, but the City also provides special backdoor services (at no additional charge) to residents who are certified to be handicapped or who pay a premium rate for the service.

The City also collects residential bulky waste items, such as mattresses, refrigerators, large appliances, furniture, and carpet. Bulky, oversize waste items are collected separately from residential garbage and only by appointment via a call-in system to schedule pickups.

In 2003, the City collected 146,101 tons of solid and bulky waste from residential units.

4.2.1.1 City of Atlanta Collection Operations (Existing Program)

The City operates from four substations located throughout the City. These substations, their number of routes, their current schedules, and the typical collection services they provide are presented in Table 4-1.

TABLE 4-1
City of Atlanta Solid Waste Collection Substations

Substation	Address	Times of Operation	Service
Lakewood	128 Claire Drive, SE Atlanta, GA	M-F, during the day 7:30 am – 4:00 pm	Curbside cart and dumpster refuse routes
Liddell	1540 Northside Drive, NW Atlanta, GA	M-Th, during the day 7:30 am – 4:00 pm	Curbside and backdoor cart refuse routes
Chester Avenue	315 Chester Avenue Atlanta, GA	Su-Sat, day and night 7:30 am – 4:00 pm; 7:30 pm – 4:00 am	City buildings and facilities routes & beautification
Maddox Park	1120 North Avenue Atlanta, GA	M-F, during the day 7:30 am – 4:00 pm	Curbside yard trimmings routes, bulky waste routes

Curbside refuse collection is conducted by two-person crews who operate rear-end loading packer trucks equipped with semi-automated cart tippers. Residents are to place all refuse in plastic bags and then place the bags into the City-provided 96-gallon containers (Herbie Curbies). Dumpsters at multi-family units are collected by two-person crews who operate front-end loading packer trucks. Backdoor refuse is collected by two-person crews with "mini-packer" 8-cubic-yard (CY)trucks.

Curbside and backdoor refuse collection operates weekly, Monday through Thursday. Dumpster refuse collection operates weekly, Monday, Tuesday, Thursday, and Friday. Typically for residential collection routes, crews begin their day at 7:30 a.m. and end their day at 4:00 p.m. On Fridays, residential refuse crews are also used to support bulky waste collection, yard trimmings collection, and other unscheduled refuse collections.

Bulky waste is collected separately from residential garbage by four- or five-person crews using rubber-tire loaders and either tandem or single-axle open dump trucks, or grapple (knuckleboom) trucks and dump trucks. Bulky waste is collected only by appointment via a call-in system to schedule pickups.

If collection vehicles cannot make it to the transfer stations at the end of the regular routes, the collection vehicles are parked at the substations and a "shuttle crew" will drive the vehicle to the transfer stations between 4:00 pm and 11:00 pm. The use of shuttle crews helps to reduce overtime, increases the amount of waste collected during the regular route, and helps alleviate problems caused by afternoon traffic. Shuttle crew employees are still full-time employees and help on other SWS tasks.

Collection operations for yard trimmings, City buildings and facilities refuse collection, and City beautification services are discussed in Sections 4.4.1, 4.5.1, and 4.5.2, respectively.

4.2.1.2 City of Atlanta Collection Vehicles (Existing Program)

The City's solid waste collection fleet consists of compacting rear-end loaders, mini-packers, front-end loaders, knuckleblooms, rubber-tire loaders, and dump trucks. The City also has spare vehicles to assist the fleet in the event of emergencies, maintenance protocols, or breakdowns. Table 4-2 provides a list of vehicles in the City's fleet and the services they provide.

TABLE 4-2
City of Atlanta Solid Waste Collection Vehicles

Service	Vehicle	Minimum Required Number to Service Daily Routes
Residential Refuse Collection (Carts)	Rear-end Loader	40
Yard Trimmings Collection	Rear-end Loader	18
Residential Refuse Collection (Dumpsters)	Front-end Loader	6
City Buildings and Facilities Collection		
Residential Backdoor Refuse Collection (Carts)	Mini-Packer	6
Bulky Waste Collection	Knuckleboom	6
	Rubber-Tire Loader	1
	Dump Truck	15
City Beautification Services[a]	Street Sweeper	14
	Refrigerator Truck[b]	2
	Vacuum Truck	2
	Street Flusher	1
	Rubber-Tire Loader	2
	Dump Truck	4

Notes:
[a] The City also owns several lawnmowers and tractors for ROW cleanup.
[b] For dead animals.

The City currently has a preventative maintenance program that provides maintenance service for the fleet every 60 days. The City also has a pre- and post-trip vehicle inspection program in place. In general, though, the City's fleet is aging and many vehicles are in need

of replacement. The age of the fleet has an impact on the City's collection productivity and operating costs. Previous assessments of the City's solid waste collection fleet recommended the implementation of a maintenance and replacement schedule. However, implementation of this type of program requires a high capital investment that is currently not available. The City is currently in the process of initiating a vehicle maintenance and replacement program that will help reduce overall costs. Although a higher up-front capital outlay would be required for a vehicle fleet maintenance and replacement program, this initial investment would translate into more efficient operations and savings in maintenance and reparative costs in the long-term.

4.2.2 Private Garbage Collection

Private hauling companies collect some residential multi-family garbage, all commercial, non-residential solid waste, industrial sector solid waste, and C&D debris in the City of Atlanta. There are approximately 20,000 commercial establishments within the city limits, and approximately 182,936 employees worked within the City in 2000. It is estimated that in 2003, approximately 358,814 tons of commercial solid waste were collected by private waste companies in Atlanta for disposal.

The commercial waste stream consists of waste from facilities such as sports facilities, exhibit halls, convention centers, museums, theaters, shopping areas, airports, restaurants, nightclubs, hotels, colleges, universities, hospitals, offices, some multi-family residential housing, and many other retail, wholesale, and service establishments. Consequently, because of the large number of persons commuting into the City for work and recreation, it is expected that the commercial waste volume in Atlanta is higher on a per capita basis than in most communities.

To assess commercial solid waste in the City of Atlanta, the City conducted interviews with five major private haulers that collect waste from the city – United Waste Services, BFI, Waste Management, Rock-Tenn Recycling, and American Recycling Company. Collection information was obtained on a broad spectrum of commercial generators including large, medium and small-scale apartments, entertainment and convention facilities, restaurants, bars, grocery stores, retail stores, hotels, and high-rise office buildings. Small restaurants, bars, and large apartments had the highest frequency of waste collection—five to six times each week compared to once a month for small apartments. Convention facility waste collection varied with events and seasonal convention and sports schedules. On the average, waste collections at convention and sports facilities was collected every 2 weeks.

4.2.3 Assessment of Garbage Collection Programs

Information on the City's current solid waste collection operations was obtained through a benchmarking study conducted in 2004, titled "City of Atlanta Solid Waste Collection Efficiency and Benchmarking Analysis." The Executive Summary of this report is provided in Appendix B. This benchmarking study assessed the City's current operations and provided recommendations for improving the City's collection efficiency. Information from this study is summarized below.

4.2.3.1 City of Atlanta Collection Operations

Several single-family and multi-family units were observed setting out large amounts of garbage at the curb and not following the set-out limits established in the City's Solid Waste Ordinance, Section 130-37. Although residents were observed placing garbage at higher amounts than what is allowed in the ordinance, the set-out limits established in the ordinance itself are very high compared to requirements of most cities and private haulers in the U.S. The ordinance allows for a 90-gallon Herbie Curbie and an additional five bags of refuse to be placed at the curbside. Bulky waste items (such as mattresses, furniture, carpet, and other bulky items) were also observed to be mixed with yard waste. Therefore, the City will review the need to establish new, lower set-out limits, to educate residents on adhering to proper set-out limits, and to take necessary enforcement actions. The City's goal is to encourage compliance while ensuring customer satisfaction, controlling litter, and preventing illegal dumping.

The City's collection productivity and operational efficiency were also assessed in the benchmarking study. Recommendations that the City will consider or has already implemented include:

- Establishing a task pay system for City collection employees to provide incentive-based pay for performance
- Using dedicated collection crews working either four 10-hour days or five 8-hour days each week to achieve higher productivity
- Continuing the current financial management transition that SWS is undergoing, in order to help align costing data more accurately with the services provided

The City will also consider the feasibility of offering waste collection service to non-residential customers. Although non-residential and non-public waste collection is currently handled by private hauling companies, the City will determine if more cost-competitive, enhanced customer service, and more efficient collection can be provided by the City to non-residential customers.

The City is currently performing a cost of service and rate analysis study to determine fair and reasonable rates among the various services it provides. The study will be utilized in conjunction with this SWMP to help determine the true costs necessary to cover the new programs in this SWMP. The study will determine how the City can adequately fund these new programs while providing fair rates.

4.2.3.2 City of Atlanta Collection Vehicles

Based on the benchmarking study, the City of Atlanta's solid waste collection fleet is aging and many vehicles are in need of replacement. Also, in February 2004, United Parcel Service (UPS) performed an assessment of the fleet and recommended a vehicle maintenance and replacement schedule. Based on these recommendations, the City is currently in the process of initiating a vehicle maintenance and replacement program that will help reduce overall costs. A better preventative maintenance, pre- and post-trip inspection, and reparative schedule will also be implemented. Although a higher up-front capital outlay will be required for a vehicle fleet maintenance and replacement program, this initial investment

will translate into more efficient operations and savings in maintenance and reparative costs in the long-term.

The City has made several strides in improving its vehicle collection fleet. The City recently underwent a reorganization of procedures and responsibilities for its Motor Transport Division to improve efficiency. Also, the use of transfer stations, starting in 2005, has helped reduce the maintenance of the City's collection vehicles, due to reduced transportation time. By delivering collected waste to multiple transfer stations, instead of hauling waste long distances to a single landfill, the City has been able to reduce maintenance and wear on its vehicles. The more widely distributed transfer stations that the City can use, the more the City can reduce transportation and fuel costs and vehicle maintenance and wear, and can increase productivity and efficiency.

4.3 Recycling Collection

4.3.1 Residential Curbside Recycling Collection (Existing Program)

The City currently contracts with Dreamsan Recycling Group, Inc. (Dreamsan), a subsidiary of Dream Sanitation, to provide weekly residential curbside collection of recyclable materials. Dreamsan provides curbside recycling service to approximately 87,000 single-family residences. Recyclable materials are collected on the same day as residents' refuse collection, either Monday, Tuesday, Wednesday, or Thursday. The City currently bills residents for recycling collection as part of the garbage service fees.

Billing for recycling collection in the City is necessary to provide added convenience for recycling to residents and also to supplement Dreamsan's operating costs and revenue. The collection costs allow residents the ease and convenience of placing commingled recyclables at the curbside and having them picked up on a regular basis. By comparison, a drop-off center is less expensive to operate, though they do not typically have high recycling participation and add the inconvenience of having to transport recyclables to the site.

Dreamsan uses compartmentalized, trough-loading collection vehicles, with one to two operators per vehicle. Residents place commingled recyclable materials in a wheeled, 18-gallon recycling bin, which can be provided free of charge by request to the City or to Dreamsan, if residents do not currently have a bin. The recycling bins have detachable lids. The types of recyclable materials that are collected include newspaper, aluminum cans, glass bottles and jars, steel cans, plastics (PETE #1 and HDPE #2), mixed paper, office paper, junk mail, phone books, and boxboard. Corrugated cardboard is not collected curbside, but residents can bring cardboard to the recycling drop-off centers located at the Liddell and Lakewood substations. The City can also provide additional recycling bins to residents upon request.

The Dreamsan operator manually separates the paper from the other recyclable materials in the bin. Even though the collection vehicles are designed with several compartments, the driver only separates the items into two categories: (1) paper and (2) all other recyclables. Dreamsan then sorts the other commingled recyclable materials at their MRF. Detailed information on Dreamsan's MRF is provided in Section 3.3.2, Materials Recovery Facility.

4.3.2 Multi-Family Recycling Collection (Existing Program)

The City does not currently offer recycling services to the multi-family residences it serves. Due to the logistics and difficulty of collecting recyclables from multi-family residences, recycling service has traditionally been provided to single-family residences, since curbside recyclables are much easier and more efficient to collect. Single-family residents also pay a separate fee for the recycling service. The City, however, has heard several public comments desiring more recycling opportunities at multi-family units.

For residential multi-family housing, the City of Atlanta requires owners of any multi-family dwelling (including public housing, condominiums, and townhouses consisting of six or more living units) to provide containers for the collection of recyclables and to provide for their collection (Section 130-38(e) of the City of Atlanta Solid Waste Ordinance). Additionally, plans and specifications for new construction of multi-family housing units are required to set aside space for recycling containers on the premises (Section 130-38(f) of the City of Atlanta Solid Waste Ordinance).

Some private waste haulers provide recycling services for the multi-family complexes they service for garbage collection. These private waste haulers include United Waste Services, BFI, Waste Management, Rock-Tenn Recycling, and American Recycling Company. Table 4-3 indicates the types of recyclable materials that these haulers collect. Recycling data were not available from these private waste haulers.

TABLE 4-3
Private Waste Haulers That Provide Residential Recycling Service in City of Atlanta

Name of Hauler	Category of Service	Recycling Collection Frequency	Types of Recyclables Collected	Recycling Container Provided	Are Waste Audits Offered?
United Waste Services	Residential and Commercial	Determined by customer	Paper products, glass, plastic, and metal containers	Bins	Yes
BFI	Residential and Commercial	Determined by customer	Paper products, glass, plastic, metal containers, and wood pallets	Bins	Yes
Waste Management Inc.	Residential and Commercial	Determined by customer	Paper products, glass, plastic, and metal containers	Bins	Yes
Rock-Tenn Recycling	Residential and Commercial	Determined by customer	Paper products and metal cans	Bags, Bins, or Compactors	Yes
American Recycling Co.	Residential and Commercial	Determined by customer	Paper products and plastics	Bags, Bins, or Compactors	Yes

Source: City of Atlanta Commercial Solid Waste Management Assessment Report, 2004.

4.3.3 Commercial Business Recycling Collection (Existing Program)

The City of Atlanta does not mandate recycling collection at commercially owned buildings. However, any applicant for a non-residential building permit is required to submit plans to

the Commissioner of the City's DPW (or designee), identifying the locations of space designated for garbage and recycling containers. The approval of the Commissioner must be obtained prior to the issuance of a building permit by the Director of the City's Bureau of Buildings (Section 130-38(f) of the City of Atlanta Solid Waste Ordinance).

Twenty-three businesses in the City of Atlanta were surveyed as part of an assessment of commercial solid waste collection in the City. Of those 23 businesses, only 16 businesses collect recyclable materials. The Georgia Dome, a major event venue, collects aluminum cans, paper products, and wood pallets for recycling. The Georgia World Congress Center collects paper products generated from the executive business office for recycling, but does not provide recycling services for large conventions. The Georgia Institute of Technology has an Office of Solid Waste Management and Recycling, which operates a comprehensive recycling program. The program includes 24 outdoor collection sites and indoor recycling services for 80 academic and support buildings.

4.3.4 Other Recycling Programs (Existing Programs)

Several other recycling programs are in operation in the City, including drop-off centers and recycling in City-owned buildings. For more information on these programs, see Section 3.0, Waste Reduction Element.

4.3.5 Assessment of Recycling Collection Programs

4.3.3.1 Residential Curbside Recycling Collection

The City's current residential curbside recycling contractor collects a wide variety of recyclables; however, the City will review the current residential curbside recycling contract to determine if more commodities can be added. The City will also evaluate the curbside recycling program to ensure timely pickup of recyclables; provide adequate notification and education of set-out requirements; promote recycling education, public awareness, and marketing campaigns to the community and residents; evaluate the possibility of increasing the size of the recycling bins; add more drop-off recycling centers in the City; and improve customer service. The City will also identify legislative avenues to encourage participation in the recycling program in order to ensure that waste reduction goals are met. Many of the public comments on recycling in the City have addressed education, marketing, and convenience.

4.3.3.2 Multi-Family Recycling Collection

Although owners of a multi-family dwelling (including public housing, condominiums, and townhouses consisting of six or more living units) are required, by City Ordinance, to provide collection of recyclables, there has typically been low recycling participation at multi-family dwellings in the City of Atlanta. Several public comments have also expressed concern over lack of participation and recycling services at apartment and condominium complexes. The City will consider the following initiatives to increase recycling at multi-family residences:

- Evaluate reporting mechanisms to collect recycling data. This will help the City track its progress towards meeting the State's waste reduction goal and will also help provide an

enforcement component to ensuring that recycling opportunities are provided to multi-family residences.

- Re-evaluate the Solid Waste Ordinance.
- Consider offering recycling services through contractors to the multi-family residences the City serves.
- Evaluate legislative avenues to ensure that private waste haulers offer recycling options to the multi-family residences they serve.
- Address residents' concerns about the lack of recycling services at their complexes.
- Work with the City's Department of Planning and Community Development to consider specifying new recycling requirements for permit applications on new multi-family housing construction.
- Balance enforcement with education on recycling.

4.3.3.3 Commercial Business Recycling

Since it would be difficult for the City to regulate recycling in commercially owned buildings, the City will instead implement a program to collect more data on potential recyclables from commercially owned buildings and research feasible initiatives to encourage recycling programs at these buildings. The City will also evaluate providing more education, ideas, and opportunities to businesses to start a recycling program. The recycling information provided by the City will take into consideration small- and large-scale companies and the feasibility of implementing and operating a recycling program. For new construction of buildings, the City will work with the Department of Planning and Community Development to consider specifying new recycling requirements for permit applications. The City also plans to establish partnerships with the business community and will provide incentives to businesses in the forms of environmental stewardship awards and recognition, as well as potential financial incentives.

The Georgia Institute of Technology's Office of Solid Waste Management and Recycling operates a comprehensive recycling program. The City plans to establish a partnership with Georgia Tech and consider encouraging the use of Georgia Tech's program model for large office complexes and other schools and universities that do not currently have a recycling program.

The City will also encourage the Georgia World Congress Center and other conference centers to establish recycling and source reduction protocols for solid waste generated at their conventions. The City will establish partnerships with the City's conference centers and provide information on recycling and source reduction initiatives.

Because of the large number of commercial establishments within the City and the large number of persons commuting into the City for work and recreation, it is expected that the commercial waste volume in Atlanta is higher on a per capita basis than in most communities. Therefore, the City will research feasible initiatives to implement recycling programs at these commercial establishments and lead businesses to increase recycling efforts.

4.3.3.4 C&D Debris Recycling

There are currently no City of Atlanta regulations that require the recycling of C&D debris. A survey of solid waste entering all landfills in Georgia revealed that almost 12 percent of the total waste stream was C&D debris ("Non-MSW Survey Results," Georgia Department of Community Affairs, June 2002). The City of Atlanta and the majority of private waste haulers do not currently recycle the C&D debris they collect, but instead deliver it to C&D landfills. C&D debris disposal contributed over 95,000 tons to the City's waste stream in 2003, and most likely impacted the City's 11 percent per capita reduction. The City also recognizes that development in the City has increased over the past 10 years.

Therefore, the City will evaluate legislative actions to encourage C&D recycling through building permit requirements, will research educational initiatives to encourage contractors to recycle C&D debris, and will consider the use of financial incentives for companies to build and operate C&D Debris Recycling facilities that will serve the City.

4.4 Yard Trimmings Collection

4.4.1 Residential Curbside Yard Trimmings Collection (Existing Program)

Beginning in 1996, SWS began collecting yard trimmings separately from residential garbage. Yard trimmings are collected bi-weekly in bagged, contained, bundled, or loose curbside set-outs, by three-person crews using rear-end loader packer trucks. Yard trimmings are collected from single- and multi-family residential users, commercial, and industrial properties. All yard trimmings collection routes (18 per day) are dispatched from the Maddox Park substation.

Yard trimmings collections are scheduled to coincide with the refuse collection day. Monday and Tuesday's residential refuse routes have yard trimmings collected the 1st and 3rd week of each month. Wednesday and Thursday's residential refuse routes have yard trimmings collected the 2nd and 4th week of every month. Yard trimmings are collected during the day, Monday through Friday, during these scheduled weeks.

After being collected, yard trimmings are taken to a chipping, grinding, and staging area at the William B. Hartsfield Solid Waste Reduction Plant on James Jackson Parkway in Atlanta. The processed yard waste is then sent through a private contractor to various mills in the Southeast to be used as boiler fuel.

Large brush piles are collected separately from residential garbage by four- or five-person crews using rubber-tire loaders and either tandem or single-axle open dump trucks, or knuckleboom trucks and dump trucks. Large brush pile collection is conducted only by appointment via a call-in system to schedule pickups. Large brush piles are delivered to the William B. Hartsfield Solid Waste Reduction Plant where they are processed and delivered to various mills to be used as boiler fuel.

4.4.2 Assessment of Residential Yard Trimmings Collection Programs

From the benchmarking study, several single-family units were observed not following the yard trimmings set-out limits established in the City's Solid Waste Ordinance, Section 130-36(d) and (e). The ordinance requires yard trimmings to be placed in containers with a

maximum volume of 32 gallons per container or in kraft paper bags with a maximum weight of 50 pounds per bag. If yard trimmings cannot be containerized (such as tree branches, tree trunks, and heavy brush), these yard trimmings must be less than 6 inches in diameter and 4 feet in length. Several set-outs of yard trimmings were observed to be uncontainerized (that could have been containerized) and larger than the uncontainerized set-out limits specified in the ordinance. Bulky waste items (such as mattresses, furniture, carpet, and other bulky items) were also observed to be mixed with yard waste. If yard waste is improperly prepared or not separated, a minimum fine of $50.00 or 20 hours of community service can be levied by the City (Sections 130-12(b)(1) and 130-36(i) of the Solid Waste Ordinance).

The City will re-evaluate the Solid Waste Ordinance to determine the need to establish new, lower set-out limits, to educate residents on adhering to proper set-out limits, and to take necessary enforcement actions. The current ordinance does not set a limit on the amount of uncontainerized yard trimmings that can be placed at the curb, even if the yard trimmings meet the "6 inches in diameter and 4 feet in length" set-out limit. The City's goal in re-evaluating the set-out limits is to encourage compliance while ensuring customer satisfaction, controlling litter, and preventing illegal dumping.

Several public comments have also indicated a desire to have the frequency of yard trimmings pickup increased. The City will consider evaluating an increase in yard trimmings pickup frequency to once a week, instead of the current bi-weekly schedule. However, at this time, the City does not have the equipment and labor to increase pickup frequency. The City would require additional funding to accomplish this, and will evaluate purchasing additional equipment and possibly hiring temporary/seasonal labor (due to seasonal increases in yard trimmings generation). Better adherence to yard trimmings set-out limits established in the Solid Waste Ordinance will also help the City in accommodating a weekly pickup frequency, since the City will be able to collect yard trimmings more efficiently. When yard trimmings are uncontainerized or are larger than the required collection dimensions, the City must take time to ensure these yard trimmings can fit into the packer trucks.

4.5 Non-Traditional Solid Waste Collection Services

4.5.1 City-Owned Buildings and Facilities Collection (Existing Program)

The City of Atlanta provides dumpster collection from roughly 70 City-owned buildings. Refuse containers at city buildings range from single 2-CY dumpsters to several 8-cubic-yard dumpsters at a single location.

There is one nightly city building front-end load refuse route, which is dispatched from the Chester Avenue substation. Crews begin their day at 7:30 p.m. and end their day at 4:00 a.m. City buildings are serviced 7 days per week by 2-person crews using a front-end loader truck. Collection days vary for different buildings; some have daily collection, while others have weekly collection.

4.5.2 City Beautification and Common Good Services (Existing Program)

The City of Atlanta has historically provided and continues to provide a range of other special solid waste collection services to maintain a clean and aesthetically pleasing City. These beautification and common good services include:

- Street basket collection on selected City streets
- Street sweeping
- Vacant lot cleanup by the City's Trash Troopers
- Dead animal collection
- Removal of illegal signage
- ROW mowing by the City's Trash Troopers

The City uses a separate crew from the residential refuse, yard trimmings, bulky waste, and City buildings collection routes to perform City beautification services. Street basket collection operates 7 days a week, day and night; street sweeping occurs during the day 5 days a week, and at night for 7 days a week; vacant lot cleanup and ROW mowing occur during the day, 5 days a week; dead animal collection occurs during the day, 6 days a week; and signage removal operates during the day, 5 days a week. The types of vehicles used to perform beautification services include street sweepers, refrigerator trucks for dead animal collection, open top dump trucks, rubber-tire loaders, vacuum trucks, and street flushers for washing down streets.

4.5.3 Assessment of City Beautification and Common Good Services Programs

Based on the benchmarking study results, the City will evaluate the current routes for City building collection and determine if route efficiency can be improved. Currently, these routes are conducted separately from the other solid waste collection services; therefore, the City will determine if it may be more efficient to couple the City building routes with current multi-family dumpster collection routes.

The City will continue to provide beautification and common good services in order to ensure that Atlanta maintains its status as a clean and healthy city. The City will also perform a cost of service and rate analysis study to develop fair and reasonable rates for customers. For City building collection and City beautification services, this cost of service study is especially important in determining if these services are being adequately funded by the appropriate funding mechanisms. The City is also currently undergoing a financial management transition, which will help align costing data more accurately with the services provided.

4.6 Illegal Dumping/Littering

4.6.1 Inventory of Chronic Problem Areas

The City of Atlanta keeps a current database on chronic illegal dumping problem areas that the City has identified as "Hot Spots." Most illegal dumping occurs in the southwest portion of City. These Hot Spots have been identified through the City's solid waste management Hansen System, which is a computer software tracking database of customer service requests and work orders. The Hot Spots are identified by street and location in each of the

City's council districts (12 total), and the database is maintained by SWS. Each council district also has the opportunity to notify SWS of additional locations that can be deemed illegal dumping spots. Citizens can also notify SWS by calling the Illegal Dumping Hotline number – (404) 521-DUMP (3867) – to report illegal dumping activities.

4.6.2 Prevention/Enforcement Strategy (Existing Program)

Sections 130-2, 3, 4, 6, and 7 of the City of Atlanta's Solid Waste Ordinance prohibit illegal dumping of debris, uncontainerized garbage, litter, trash, solid waste, or uncontainerized yard trimmings upon streets, sidewalks, public places, public property, and public ROWs within the city. Section 130-12 of the Solid Waste Ordinance sets forth enforcement penalties for illegal dumping and violation of the Solid Waste Ordinance.

In August of 2004, the City of Atlanta expanded its Illegal Dumping Program to form partnerships and establish a new approach to combat illegal dumping. SWS will work in conjunction with the City of Atlanta Police Department (Quality of Life Program), the Department of Planning and Community Development Housing Code Compliance office, and the Atlanta City Council to eradicate illegal dumping.

The City's Illegal Dumping Program has four primary components:

1. Education. The program involves educating citizens on the definition of illegal dumping, how to report illegal dumping, how to distinguish illegal dumping from unscheduled bulk rubbish or yard trimmings piles, and procedures for proper disposal and scheduling for all solid waste services. Many of these efforts are conducted through the Solid Waste Education and Enforcement Team (S.W.E.E.T.). S.W.E.E.T. collaborates with the various community and neighborhood associations to form a High Intensity Visibility Enforcement (HIVE) operation. A HIVE operation is discussed in more detail in Section 4.6.2.2.

2. Inter-agency Partnerships. The goal of this program is to aggressively attack illegal dumping by forming partnerships within the City of Atlanta's departments and programs such as the Department of Housing Code Enforcement, Atlanta Police Department Quality of Life Officers, and the Weed and Seed Program. All of the departments' resources are combined to work efficiently and provide a more visible enforcement infrastructure.

3. Community Partnerships. In this program, working relationships and partnerships are established with community and neighborhood associations to develop effective communication and participation with regard to the improvement, cleanliness, and beautification of places where they work, live, and play. These efforts will be accomplished through collaborative efforts such as the HIVE operation and neighborhood community cleanups.

4. Enforcement, Fines, and Court. This program focuses on enforcing and expanding the Solid Waste Ordinance to include increased fines for illegal dumping, the establishment of citizen rewards, and the creation of an environmental crimes unit, as well as environmental court.

4.6.2.1 Illegal Dumping Hotline

An Illegal Dumping Hotline number – (404) 521-DUMP (3867) – has been established to assist citizens in reporting illegal dumping actions. The hotline provides a quick response to illegal dumping and also provides education on alternative disposal options. The hotline also assists the City's Customer Service Division in distinguishing between unscheduled bulk rubbish pickups and illegal dumping sites.

When a citizen calls the City's Illegal Dumping Hotline, three options are provided:

1. If the citizen is calling to report illegal dumping in progress, the citizen is asked to provide detailed information on the exact location, cross streets or intersections, description of any vehicles involved, and a description of the persons involved in the illegal dumping incident. The call is received at the Chester Avenue substation, which provides 24-hour staffing. The employee on duty will then contact the Atlanta Police Department, Quality of Life Officer, and the Code Enforcement Officer assigned to that area.

2. If the citizen is calling to report illegal dumping which has already occurred, the citizen is connected to the Customer Service Division of the DPW at (404) 330-6333, and is asked to provide detailed information on the address, cross streets or intersections, and the type of debris (i.e., bulk rubbish, yard trimmings, or household garbage) that was dumped.

3. If the citizen is calling with questions pertaining to illegal dumping, bulk rubbish, yard trimmings, or disposal locations, the citizen is forwarded to an automated message which provides locations and telephone numbers for disposal options (i.e., area landfills and drop-off points).

As a safety precaution, the City informs residents to never attempt to confront an individual or persons they suspect or know are engaging in illegal dumping.

4.6.2.2 Solid Waste Education and Enforcement Team (S.W.E.E.T.)

S.W.E.E.T. collaborates with the various community and neighborhood associations to form a HIVE operation for an area in that neighborhood that requires education and enforcement on illegal dumping. This partnership proactively identifies and addresses specific needs with regard to illegal dumping and general solid waste management concerns in that area. The HIVE operation operates for 30 days in each formed area, with the first 2 weeks devoted to introductory meetings in the neighborhood. The meeting provides educational materials to the neighborhood and explains such items as courtesy tickets and proper disposal methods. The third week of the operation consists of illegal dumping cleanup and pickup of scheduled bulk rubbish and yard trimmings. The fourth week involves handing out citations in the area, if necessary, and culminates in a final major community cleanup over the weekend.

4.6.2.3 Program Monitoring

The illegal dumping program monitors the following to determine the effectiveness of the program:

- The number of bulk rubbish piles scheduled and picked up, along with illegal dumping "Hot Spots" eradicated in each area during the HIVE process.
- The total amount of revenue generated through fines, as well as the number of people prosecuted for illegal dumping.
- The overall appearance of the City through the eyes of the DPW, as well as the citizens of Atlanta.

4.7 Contingency Strategies

In the event of a waste-generating disaster or if the primary collection option becomes interrupted, the City of Atlanta has Emergency Response Standard Operating Procedures in place for the DPW. The Emergency Response Plan outlines the Department's responsibilities during an emergency, the level of interaction with other agencies, and the emergency communication and protocol guidelines and procedures in place. The DPW, which houses the SWS, is the lead agency to provide services to restore the City to normal operations following an emergency. The basic mission of the Department is to "maintain the infrastructure and physical environment" in the City of Atlanta. The following sections provide more detail on the contingency strategies for the various collection services the City provides.

4.7.1 Solid Waste Collection

In the event that the City's primary solid waste collection service becomes interrupted or if a disaster generates a significant increase in the volume of waste:

- The City can utilize weekends to collect increased volumes of waste.
- The City can increase the amount of overtime for its workers, add multiple shifts, and hire temporary/seasonal labor to handle increased collection service.
- The City currently maintains backup equipment to handle emergency collection. In the event that the equipment/vehicles break down, or additional equipment/vehicles are needed, the City has emergency funds to rent replacements.
- Private collection entities can be contracted to help handle the increase in waste or interruption in waste collection service.

4.7.2 Recycling Collection

In the event that the City's primary curbside recycling collection service becomes interrupted or if a disaster generates a significant increase in the volume of recyclables:

- The City can use other private recycling companies to handle the increase or interruption in recycling service.
- The City can use overtime pay for its workers and its own equipment to help support the collection of recyclables.

- The City can use its own vehicles to collect and deliver recyclables to MRFs in metro Atlanta.

4.7.3 Yard Trimmings Collection

In the event that the City's primary yard trimmings collection service becomes interrupted or if a disaster generates a significant increase in the volume of yard trimmings:

- The City has adequate space to stockpile yard trimmings.
- The City can acquire manpower and equipment to ship processed yard trimmings directly to end-users.
- The City has agreements in place to contract out chipping and grinding if the City's equipment fails. The City can also initiate emergency contracts for chipping and grinding, if necessary.
- The City can use overtime pay for its workers and hire temporary/seasonal labor to provide additional collection.
- The City has enough spare equipment and fleet vehicles to continue collection. In the event that the equipment/vehicles break down, or additional equipment/vehicles are needed, the City has emergency funds to rent replacements.

4.7.4 Non-Traditional Collection Services

In the event that the City's primary City building collection and beautification services become interrupted or if a disaster generates a significant increase in the volume of waste that these services handle:

- The City can use overtime pay for its workers to provide additional collection.
- The City has access to backup equipment to handle increased collection or interruptions in service.
- The City has emergency funds to purchase replacements.

4.8 Needs and Goals

The City believes that its current waste collection services are adequate for the present and future needs of the community; however, the City also believes that several operational efficiency improvements are needed. These improvements will help provide cost-effective and responsive services to the citizens of Atlanta. These improvements were a result of analyzing Best-In-Class benchmarks. The City compared similar services provided by other jurisdictions (both private and public) to determine the best, economically feasible programs for solid waste management. These operational improvements will help the City meet its waste reduction goals and will provide an effective and affordable collection system for the 10-year planning period.

4.8.1 Garbage Collection Programs

The following are proposed garbage collection programs under consideration by the City.

4.8.1.1 Education and Compliance – Curbside Garbage Set-Out Limits (New Program)

During the benchmarking study, the City observed residents of several single- and multi-family units setting out large amounts of garbage at the curb in violation of the set-out limits established in the City's Solid Waste Ordinance, Section 130-37. The City notes, however, that the set-out limits established in the ordinance itself are very high compared to requirements by most cities and private haulers in the U.S. Bulky waste items were also observed to be mixed with yard waste. Therefore, the City will:

- Review the need to establish new, lower set-out limits.
- Educate residents on adhering to proper set-out limits.
- Take necessary enforcement actions to ensure compliance with the set-out limits.

Proper adherence to established set-out limits allows the City to work more efficiently in collecting waste. Unnecessary labor is expended by workers who are forced to collect extra garbage that is not containerized. The City's goal is to encourage compliance while ensuring customer satisfaction, controlling litter, and preventing illegal dumping.

4.8.1.2 Collection Productivity and Operational Efficiency (New Program)

The benchmarking study also assessed the City's collection productivity and operational efficiency. Recommended improvements that the City will consider or has already implemented include:

- Establishing a task pay system for City collection employees to provide incentive-based pay for performance. An example of a task pay system for refuse collection would pay a worker to complete collection of a specific number of houses for a specifically assigned route.

- Using dedicated collection crews working either four 10-hour days or five 8-hour days each week to achieve higher productivity

- Continuing the current financial management transition that SWS is undergoing, in order to help align costing data more accurately with the services provided.

The City is currently performing a cost of service and rate analysis study to determine fair and reasonable rates for the various services it provides. The study will be utilized in conjunction with this SWMP to help determine the true costs necessary to cover the new programs in this SWMP. The study will determine how the City can adequately fund these new programs while providing fair rates.

4.8.1.3 Fleet Maintenance (Enhanced Program)

The benchmarking and UPS studies observed that the City of Atlanta's solid waste collection fleet is aging and that many vehicles are in need of replacement. The studies also recommended that a better preventative maintenance program, pre- and post-trip inspection program, and reparative schedule be implemented. The City is currently in the process of initiating a vehicle maintenance and replacement program that will help reduce overall costs. A higher up-front capital outlay will be required for a vehicle fleet maintenance and replacement program; however, this initial investment will translate into more efficient operations and savings in maintenance and reparative costs in the long-term.

The City's recent reorganization of the Motor Transport Division's procedures and responsibilities and the use of transfer stations, has improved the efficiency and reduced the maintenance and wear of its collection vehicles. The use of more widely distributed transfer stations has reduced the City's transportation and fuel costs, reduced its vehicle maintenance and wear, and has increased the City's productivity and efficiency.

4.8.1.4 Commercial Collection (New Program)

The City's Commercial Solid Waste Assessment Report was an initial preliminary assessment of commercial solid waste in the City. Another more detailed report will be developed by the City to gather more data and information. This report will help the City identify feasible initiatives for implementing collection and recycling programs at commercial establishments.

The City will consider the feasibility of offering waste collection service to non-residential customers. Although non-residential and non-public waste collection is currently handled by private hauling companies, the City will determine if more cost-competitive, enhanced customer service and more efficient collection can be provided by the City to non-residential customers.

4.8.1.5 Improved Overall Route Balance (New Program)

The City will also evaluate the current collection routes as part of a long-term system assessment. The City will utilize geographic information systems (GIS) and routing software to better plan the collection routes. Routing software will allow the City to improve the overall route balance and allow the flexibility of making specific routing improvements. Route balancing will allow the City to provide and operate collection services more efficiently for its customers.

4.8.2 Recycling Collection Programs

The new programs that the City plans to implement for recycling collection are discussed in Section 3.5.3, Recycling Programs.

4.8.3 Yard Trimmings Collection Programs

Additional programs for yard trimmings are discussed in Sections 3.5.3.8, 3.5.3.9, and 3.5.3.10.

4.8.3.1 Increased Frequency of Yard Trimmings Pickup (New Program)

The City will consider evaluating an increase in yard trimmings pickup frequency from the current bi-weekly schedule to once a week. However, the City does not have the equipment and labor to increase pickup frequency. The City would require additional funding to accomplish this, and will evaluate purchasing additional equipment and possibly hiring temporary / seasonal labor (due to seasonal increases in yard trimmings generation).

Better adherence to yard trimmings set-out limits established in the Solid Waste Ordinance will also help the City in accommodating a once a week pickup frequency, since the City will be able to collect yard trimmings more efficiently. When yard trimmings are uncontainerized or are larger than the required collection dimensions, workers must take time to ensure these yard trimmings can fit into the packer trucks. Through education,

enforcement, and re-evaluation of the set-out limits established in the Solid Waste Ordinance, the City will ensure that compliance with set-out limits is achieved. These efforts are discussed below in Section 4.8.3.2, Education and Compliance – Yard Trimmings Set-Out Limits.

4.8.3.2 Education and Compliance – Yard Trimmings Set-Out Limits (New Program)

In conjunction with the program outlined in Section 4.8.1.1, Education and Compliance – Curbside Garbage Set-Out Limits, the City will re-evaluate the current set-out limits established for yard trimmings in the Solid Waste Ordinance, and focus on educating residents and taking enforcement actions, if necessary. The City will also ensure that residents separate bulky waste from bulky yard trimmings. The City's goal is to encourage compliance while ensuring customer satisfaction, controlling litter, and preventing illegal dumping.

4.8.4 Non-Traditional Collection Services Program

The City's cost of service and rate analysis study that will be performed under the Collection Productivity and Operational Efficiency Program, as described above in Section 4.8.1.2, Collection Productivity and Operational Efficiency, will also develop fair and reasonable rates among the various City beautification and City building services. For City building collection and City beautification services, this study is especially important in determining if these services are being adequately funded by the appropriate funding mechanisms.

4.8.5 Illegal Dumping/Littering Programs

The following are proposed garbage collection programs under consideration by the City.

4.8.5.1 Expand Illegal Dumping/Littering Program (Enhanced Program)

For the 10-year planning period, the City of Atlanta plans to expand the illegal dumping program to include these three components:

- S.W.E.E.T. and the Trash Troopers program will be expanded to cover more areas in the City on a daily basis.
- An Environmental Crimes Unit will be established under SWS with the sole purpose of investigating and arresting illegal dumpers.
- An Environmental Court will be established to prosecute persons guilty of environmental and illegal dumping offenses. The environmental court will support the issuance of fines and penalties, and will uphold the strictness with which they are levied against violators.

This page intentionally left blank.

SECTION 5

Disposal Element

Goal of This Planning Element:

To ensure that solid waste treatment and disposal facilities serving the City of Atlanta meet regulatory requirements and are in place when needed to support and facilitate effective solid waste handling programs today and for the subsequent 10-year period, thereby maintaining and enhancing the quality of life of the residents within the area, and anticipates regional needs.

This section provides information on the current and future disposal practices in the City of Atlanta for solid waste. The current disposal program being used by the City is adequate for the 10-year planning period and meets the State's required assurance for 10-year disposal capacity. However, the City understands that its current disposal program is a short-term solution, and that future disposal options must be evaluated and considered for the long-term management of the City's solid waste. This section also includes a contingency strategy for the interim disposal of the City's solid waste in the event that the primary disposal option becomes interrupted.

This section focuses on disposal options and technologies. For a discussion on the siting of solid waste handling facilities, please refer to Section 6, Land Limitation Element, which discusses the siting process that both the City and private entities will follow.

5.1 Inventory of Solid Waste Disposal Practices

In 1991, the City of Atlanta ceased disposing of its waste to its four City-owned landfills: East Confederate Avenue Municipal Landfill, Gun Club Road Municipal Solid Waste Landfill, Key Road Municipal Solid Waste Landfill, and Cascade Road Municipal Landfill. Although several of these landfills still had remaining capacity, they were closed and the City continues post-closure care activities on them. Post-closure care involves groundwater, stormwater, and air monitoring; operation and maintenance activities; reporting to the State; and any necessary corrective actions. Post-closure care activities must be conducted for at least 30 years after the closure date.

After the City ceased to use its own landfills, it began disposing of its waste to Waste Management Incorporated's Live Oak Landfill in DeKalb County. The Live Oak Landfill was closed at the end of 2004. The City now has short-term, renewable contracts with privately owned landfills for waste disposal. The contracts consist of 1-year term contracts, with up to five 1-year renewals. Due to the location of these landfills, the City is using local transfer stations to minimize hauling distance and cost. A transfer station is a facility with a designated receiving area where waste collection vehicles deliver the collected waste. The waste is often compacted, then loaded into larger vehicles for shipment to a final disposal site, which is typically a landfill.

In the City of Atlanta, C&D debris is collected by both private haulers and the City of Atlanta and is disposed of in private C&D landfills. The City of Atlanta previously sent

C&D debris to Live Oak Landfill, an MSW landfill. Since the City is now currently using transfer stations, which do not accept C&D debris, the City will now begin using private dedicated C&D landfills for C&D disposal. The C&D landfills in Atlanta operate as a free market and do not require contracts to accept C&D debris. In 2003, approximately 95,341 tons of C&D debris were disposed by the City of Atlanta and private haulers.

There are a variety of C&D landfills in the Atlanta area that can be utilized for C&D disposal. A few of these landfills are Rogers Lake Road C&D and APAC/GA Donzi Lane Landfills in DeKalb County, Eagle Point Landfill in Forsyth County, and Reliable Tire Service Landfill in Hall County. Small amounts of C&D debris are also sent to MSW landfills; however, MSW landfills charge a higher tipping fee to accept C&D debris when compared to dedicated C&D landfills. This may be attributed to the increased use of dedicated C&D landfills for C&D disposal over the past 3 years (see Section 2.1.5, Construction and Demolition (C&D) Debris Generation).

5.1.1 Solid Waste Transfer Stations (Existing Program)

Beginning in 2005, the City is using Advanced Disposal Services' Welcome All Transfer Station in College Park, and Republic Services of Georgia's United Waste Service, Inc., Lee Industrial Transfer Station in Austell, for transport and disposal of solid waste to privately owned landfills in Forsyth and Butts Counties in Georgia.

Of the collected solid waste from the City of Atlanta, 20 percent of the waste will be delivered to **Advanced Disposal's Welcome All Transfer Station**. Welcome All Transfer Station is located at 5225 Welcome All Road, in College Park, Georgia. The Welcome All Transfer Station uses Eagle Point Landfill, located at 8880 Old Federal Road, in Ball Ground (Forsyth County), GA, for the disposal of its waste.

The remaining 80 percent of the City's collected solid waste will go to the **Republic Services' United Waste Service, Inc. Lee Industrial Transfer Station**, located at 7140 Delta Circle, in Austell, Georgia. Lee Industrial Transfer Station sends its solid waste to Pine Ridge Landfill located at 105 Bailey Jester Road, in Griffin (Butts County), Georgia.

5.1.2 Landfills (Existing Program)

Eagle Point Landfill is privately owned and operated by Federal Road, LLC of Jacksonville, Florida. The facility is a Class I municipal solid waste disposal facility permitted to dispose of municipal solid waste, C&D waste, industrial process waste, pollution control waste, and sludge waste. The facility cannot accept hazardous and unacceptable waste as defined by Federal and State regulations. Eagle Point Landfill has a total of 29,403,000 CY of total airspace (minus landfill cap). The permitted site is 577 acres with a disposal footprint of 163 acres. The vast majority of the property is surrounded by conservation easements (over 113 acres), which provide a forested buffer from existing buildings and roadways. Based on this permitted capacity and a disposal rate of 1,500 tons per day, the landfill has a life expectancy of 46 years.

Pine Ridge Landfill is a privately owned and operated by United Waste Service, Inc., a locally managed, wholly owned subsidiary of Republic Services, Inc. Pine Ridge Landfill is a Subtitle D approved and permitted landfill, which can accept household, commercial, and industrial waste; construction and demolition debris; land clearing materials, as well as

contaminated soils; asbestos; sludge; and other pre-approved non-hazardous wastes. Covering 101 acres, Pine Ridge Landfill has over 40 million CY of total airspace and an expected life of over 30 years.

Table 5-1 provides a list of the disposal facilities to be used during the planning period.

5.1.3 Assurance of 10-Year Disposal Capacity

The City has written commitments from the owners of the disposal facilities certifying sufficient capacity for the City of Atlanta's solid waste over the 10-year planning period. These commitments are provided in Appendix C. Table 5-2 provides information on the disposal capacity assurance from the two disposal facilities that the transfer stations will be using.

5.1.4 Assessment

The City's current use of landfills for disposal of its solid waste will be adequate for the 10-year planning period and will meet the State's required assurance for 10-year disposal capacity. However, the City understands that the use of landfills is a short-term solution, and that other disposal options must be evaluated and considered for the long-term management of the City's solid waste. The other disposal options that will be evaluated by the City are listed in Section 5.3, Needs and Goals.

Due to the increased development within the City of Atlanta over the past decade and the fact that C&D debris account for a substantial portion of the City's overall waste stream, the City of Atlanta will research the need for a C&D debris recycling initiative. The City will utilize C&D debris recycling initiatives to maximize C&D debris diversion, and then will utilize C&D landfills for the remainder of the C&D debris that cannot be recycled. More detailed information on C&D recycling initiatives were provided in Section 3.5.3.6, C&D Recycling.

5.1.5 Contingency Strategy

In the event that the current disposal option becomes interrupted, the City will use other existing regional transfer stations for the transfer and disposal of its solid waste. There are approximately 64 active transfer stations in the greater Atlanta region that the City could use. This would be handled through either an emergency contract or a re-bidding process. The City can deliver solid waste directly to other landfills in the State, if necessary.

5.2 Inventory of Thermal Treatment Disposal Practices (Existing Programs)

The City does not utilize thermal treatment technology to dispose of its solid waste. Collected yard trimmings from the residential yard waste collection program are processed in a chipping, grinding, and staging area at the Hartsfield Solid Waste Reduction Plant, and then sent to various mills that use the processed yard waste as boiler fuel.

Sludge generated from Water and Wastewater Treatment Plants in the City of Atlanta consists of two portions – (1) a biosolids portion, and (2) a non-biosolids portion, which

TABLE 5-1
Inventory of Disposal Facilities to be Used by the City of Atlanta during the Planning Period (2005 – 2014)

Facility Name	Facility Address	Owner/ Operator	Facility Type	Types of Waste Accepted	Transfer Station Used To Support Landfill Owner/Address	Remaining Capacity [1] (CY)	Remaining Life (Years)[1]
Eagle Point Landfill	8880 Old Federal Rd. Ball Ground, GA 30107	Federal Road, LLC	Landfill	Municipal Solid Waste, C&D Waste, Industrial Process Waste, Pollution Control Waste, Aboveground and Underground Storage Tanks (UST/AST) Contaminated Soils, Sludge Waste, Asbestos Containing Waste, Solidified Liquid Waste Cannot accept hazardous and unacceptable waste as defined by federal and State regulations	Welcome All Transfer Station Advanced Disposal, Inc. 5225 Welcome All Rd. College Park, GA 30349	23,609,066[2]	35[2]
Pine Ridge Landfill	105 Bailey Jester Rd. Griffin, GA 30223	United Waste Service, Inc.	Landfill	Household, Commercial and Industrial Waste, C&D Debris, Land Clearing Materials, Contaminated Soils, Asbestos, Sludge, and Other Pre-Approved Non-Hazardous Wastes	Lee Industrial Transfer Station Republic Services of Georgia, LLP and United Waste Service, Inc. 7140 Delta Cir. Austell, GA 30168	37,491,860[3]	38[3]

Notes:
[1] Remaining capacity and life of landfills does not include solid waste from the City of Atlanta for the planning period. This information is provided in Table 5-2.
[2] Beginning in 2004. Source: List of 2003 Landfill Remaining Capacity, Georgia Environmental Protection Division.
[3] As of November 30, 2004. Assumes landfill accepts 2,000 tons per day and the facility's compaction ratio. Source: Republic Services of Georgia Disposal Capacity Certification Letter, March 29, 2004.

TABLE 5-2
Disposal Assurance Capacity for the City of Atlanta for the 10-Year Planning Period

	Year 1 (2005)	Year 2 (2006)	Year 3 (2007)	Year 4 (2008)	Year 5 (2009)	Year 6 (2010)	Year 7 (2011)	Year 8 (2012)	Year 9 (2013)	Year 10 (2014)
Eagle Point Landfill Federal Road, LLC 8880 Old Federal Rd. Ball Ground, GA 30107										
Capacity Assured (CY)[1]	23,609,066	22,934,960	22,260,854	21,586,748	20,912,642	20,238,536	19,564,430	18,890,324	18,216,218	17,542,112
Pine Ridge Landfill United Waste Service, Inc. 105 Bailey Jester Rd. Griffin, GA 30223										
Capacity Assured (CY)[2]	37,491,860	35,112,340	32,732,820	30,353,300	27,973,780	25,594,260	23,214,740	20,835,220	18,455,700	16,076,180

Sources:

[1] Advanced Disposal Services, Inc. Disposal Capacity Certification Letter, September 13, 2001 and Georgia Environmental Protection Division List of 2003 Landfill Remaining Capacity.

[2] Republic Services of Georgia Disposal Capacity Certification Letter, March 29, 2004.

typically includes grit and other non-sludge waste, such as catch-basin trash, rocks, wood, branches, and gravel. The biosolids portion is handled by the City of Atlanta's Department of Watershed Management and is incinerated at the treatment plants. The ash from the incineration is sent to a brick facility for recycling as an amendment in the manufacturing of bricks. The remaining non-biosolids portion is handled by SWS and is disposed of through the landfills. In 2003, approximately 71,741 tons of sludge were incinerated, and approximately 46,984 tons were sent to Live Oak Landfill. Sludge is typically not considered a solid waste, but is discussed in this Plan to assist in disposal planning purposes.

5.2.1 Assessment

Although the City does not currently use thermal treatment technologies for the disposal of its solid waste, the City will consider and evaluate waste-to-energy solutions for the long-term management of its solid waste. These solutions are discussed in Section 5.3, Needs and Goals.

The City will continue to process yard trimmings for use as a boiler fuel for mills, for which it receives revenue. Although yard trimmings (or biomass) only have about 60 percent of coal's heating value, yard trimmings produce lower air emissions, are a renewable resource, and can be less expensive. The City will consider marketing to other mills and plants that desire to use processed yard trimmings for fuel.

Although the City has heard several public comments on establishing a composting program for collected yard waste, the City will not pursue this alternative at this time. The current yard-waste-processing program is less expensive to operate than a composting facility, and the City receives revenue for its processed yard trimmings. Even though finished compost could be sold, the capital and operational costs of a composting facility would outweigh the revenues received. Compost facilities require large amounts of land to operate, generate odors, and require labor intensive operation and maintenance. Due to the large amount of heat that is generated when organic mass starts degrading, there is also a potential for fires to start in large compost piles.

For sludge, the City will continue to incinerate the biosolids portion and recycle the ash. For the non-biosolids portion, the City will continue to utilize landfills for disposal. Since sludge comprises a large portion of the City's waste stream, the City will continue to manage the amount of sludge generation. Since this waste competes for landfill space, the City will continue to evaluate alternative disposal or recycling options for sludge and also ensure available landfill capacity.

5.3 Needs and Goals

The City believes that its current waste disposal practice of using privately owned landfills is adequate for the 10-year planning period. However, the City understands that the use of landfills are a short-term solution to the disposal of solid waste. Therefore, the City will consider and evaluate other disposal options and technologies to manage the long-term disposal of its solid waste. The following discussion focuses on feasible disposal options and technologies for the City, and does not discuss the siting of a solid waste handling facility. For a discussion on the siting of solid waste handling facilities, please refer to Section 6, Land Limitation Element, which discusses the siting process that both the City and private

entities will follow. It should also be noted that feasibility studies and evaluations will be conducted for these disposal options first, and do not provide any commitments to a chosen disposal technology.

The disposal options are listed below:

- Combustion Waste-To-Energy Solutions
- Regional Landfills
- Use of Transfer Stations to Support Regional Disposal Facilities
- Eco-Industrial Park

5.3.1 Combustion Waste-to-Energy Solutions

Two-combustion waste-to-energy solutions that the City will research and evaluate are mass-burn combustion and refuse-derived-fuel combustion. Both of these solutions provide energy from the combustion of municipal solid waste. The technologies can significantly reduce the amount of waste that is disposed to landfills (almost 90 percent by volume), but poses cost, siting, and public opposition issues.

Waste-to-Energy solutions can handle most types of solid waste from the City of Atlanta, except for C&D debris, which typically hinders the optimum combustion levels desired.

5.3.1.1 Mass Burn Combustion (New Program)

5.3.1.1.1 Description

Mass-burn combustion is the most common waste-to-energy technology used in the U.S. The process involves the burning of waste as it is received with no processing prior to incineration. The heat from the combustion is typically used to generate steam or electricity onsite or for sale offsite to an industrial customer. Approximately 100 mass burn facilities operate in the U.S., including one large waste-to-energy facility in Chatham County, Georgia. The Chatham County facility receives about 310 tons per day of municipal solid waste from the City of Savannah.

Mass-burn facilities typically carry these components:

- A waste feed system
- A combustion chamber with a moving hearth to transport burning refuse and ash through the chamber
- A heat recovery boiler (and often a turbine-generator)
- An air pollution control system to treat gases resulting from combustion (flue gases)

A typical mass-burn facility would require a 5- to 10-acre site and high initial capital costs for construction. Estimated costs for a typical mass burn facility are detailed below:

- Capital cost, median estimate = $480 million
- Operations and maintenance cost = $37 million
- Revenue = $26 million

After amortizing the capital costs and factoring in operating and maintenance costs and revenue, a typical mass burn facility would require an approximate tipping fee ranging

from $60 to $80 per ton. The City of Atlanta currently pays around $30 per ton using transfer stations and landfills. The economics of operating a mass-burn facility can also be affected by risk, market, overhead, litigation, and host fees. Due mainly to air emission regulations and siting difficulties, no new mass burn facilities have been built in the U.S. over the last 10 years.

5.3.1.1.2 Advantages and Disadvantages

Advantages of using a mass-burn facility include:

- Reduction in landfill disposal requirements (almost 90 percent volume reduction)
- Proven technology
- Opportunity to apply new systems and technologies
- Energy recovery and sales

Disadvantages of using a mass-burn facility include:

- Public opposition and difficulty in siting
- High initial cost with high associated tipping fees to continue operation
- Lengthy construction and startup period, several years in duration, which is often prolonged by litigation
- Discharge of pollutants through air emissions (Atlanta is in a non-attainment zone)
- Need for ash disposal capacity

5.3.1.2 Refuse-Derived Fuel (New Program)

5.3.1.2.1 Description

Refuse-derived fuel (RDF) is a solid fuel produced by the mechanical pre-processing of municipal solid waste. The technology is based on the premise that waste combustibility can be improved by processing the waste prior to burning. The processing removes some noncombustible materials, makes the waste more homogeneous, and thus makes it easier to work with and more consistent in its heat generation.

RDF has a higher heating value than unprocessed, mixed municipal solid waste. When compared to soft coal, RDF has about half the heating value and can be used as a combustion fuel for boilers, furnaces, and fluidized bed units and kilns. Often, RDF is co-fired with another type of conventional fuel, such as wood, coal, oil, or natural gas. An RDF facility may sell its fuel offsite for incineration at another facility such as an electric power plant, or may burn the fuel onsite in a dedicated boiler.

The purpose of RDF processing is to remove noncombustible components from the municipal solid waste. This increases the heat value of the RDF, produces a smaller quantity of ash than is generated at a mass burn facility, and potentially produces less heavy metal contamination in the facility emissions. The noncombustible components of municipal solid waste are primarily metals and glass. Items such as paper, cardboard, and plastic contribute to a high heating value for the RDF product.

RDF facilities include a municipal solid waste receiving and storage area, front-end processing area, and product handling and storage areas. The production of RDF typically includes shredding, breaking up bulk material, screening to remove grit and glass, air classification to separate the light-weight fuel portion (such as paper and cardboard) from

the heavy materials (primarily noncombustibles), and final processing into the desired shape, hardness, density, and percent of extraneous material.

The average RDF plant size capacity is approximately 1,500 tons per day of processed municipal solid waste. Twelve RDF facilities are in operation in the U.S. RDF plants incur high initial capital costs involved with construction. Estimated costs for a typical RDF facility are detailed below:

- Capital cost, median estimate = $460 million
- Operations and maintenance cost = $44 million
- Revenue = $13 million

After amortizing the capital costs and factoring in operating and maintenance costs and revenue, a typical RDF facility would require an approximate tipping fee of $110 per ton. The City of Atlanta currently pays around $30 per ton using transfer stations and landfills. The economics of operating a RDF facility can also be affected by risk, market, overhead, litigation, and host fees.

5.3.1.2.2 Advantages and Disadvantages

Advantages of using an RDF facility include:

- Proven technology
- Reduction in the need for landfill disposal capacity
- Opportunity to recover recyclable material and energy
- Revenue and sales from fuel
- Ability to blend fuels
- Lower air emissions than mass-burn combustion
- Lower ash-to-fuel ratio than mass-burn combustion
- Potential for use in existing boiler facilities

Disadvantages of using a RDF facility include:

- Difficulty in siting and public opposition
- High initial cost with high associated tipping fees to continue operation (RDF is more expensive than mass-burn facilities.)
- Discharge of pollutants through air emissions (Atlanta is in a non-attainment zone)
- Lengthy construction and startup period, several years in duration – which can be prolonged by litigation
- Ash disposal issues
- Difficulty in marketing RDF as a fuel
- Processing costs sometimes exceed the benefit of the end product

It should be noted that RDF combustion facilities do not have to be built and operated within the City. The RDF produced at a local facility can be transported to plants that desire the fuel. Shipping and transportation costs will be affected, however.

5.3.2 Regional Landfills (New Program)

To handle the future disposal of its solid waste, the City will evaluate the feasibility of utilizing regional landfills. The City will evaluate using privately owned landfills,

contracting with another local government, or developing their own landfill outside of the City. To account for long-distance hauling costs to regional landfills, the City can use transfer stations to support cost-effective shipments to these distant facilities.

The types of waste from the City of Atlanta that landfills can accept, include MSW, residential waste, commercial/institutional waste, land clearing materials, sludge, industrial solid waste, and industrial process waste. MSW landfills cannot accept hazardous and unacceptable waste as defined by federal and State regulations.

MSW landfills can accept C&D debris; however, it is typically accepted at a higher tipping fee when compared to dedicated C&D landfills.

5.3.2.1 Description

The nationwide trend in solid waste disposal is toward the construction of larger, more remote, regional landfills. Regulatory, social, political, geographical, and economic forces have been compelling factors leading to this result. Federal regulations passed in 1991 established new design requirements for municipal solid waste landfills. Many communities found the cost of upgrading existing facilities or constructing new landfills to be prohibitively high, and opted to close existing facilities. For these communities, transferring waste to a large regional landfill was an appealing alternative.

In addition to regulatory requirements, public opposition frequently makes siting new landfills near population centers difficult. Also, adequate land is often not available near densely populated or urban areas.

Economic considerations, especially economies of scale, further promote development of large regional facilities. To offset the high cost of constructing and maintaining a modern landfill, facility owners construct large facilities that attract high volumes of waste from a greater geographic area. By maintaining a high volume of incoming waste, landfill owners can keep the per-ton tipping fees low, which subsequently attracts more business. Rural and urban communities alike are finding that an economically viable solution to their waste disposal needs is shipping their waste to these facilities. In these circumstances, a transfer station serves as the critical consolidation link in making cost-effective shipments to these distant facilities.

Estimated costs for a new Class I landfill with a capacity of 2,500 tons per day of solid waste are detailed below:

- Capital cost = $192 million
- Operations and maintenance cost = $4.7 million
- Post-closure cost = $1 million

5.3.2.2 Advantages and Disadvantages – Regional Landfills

Advantages of using a regional landfill include:

- Avoidance of siting and public opposition issues within the City
- Potential economy-of-scale cost savings
- Provides potential long-term disposal capacity
- Flexibility in controlling waste that is delivered to a City-owned landfill

Disadvantages of using a regional landfill include:

- Loss of control of disposal if using a privately owned landfill
- Potential for increased liability for using a privately owned landfill
- Loss of control of future tipping fees at a privately owned landfill
- Difficulty in siting and public opposition of a new regional landfill
- Potential for air and water quality impacts

5.3.3 Use of Transfer Stations to Support Regional Disposal Facilities (New Program)

To support hauling to a regional disposal facility, the City can utilize either a privately run transfer station, or develop its own. A transfer station is a facility with a designated receiving area where waste collection vehicles deliver the collected waste. The waste is often compacted, then loaded into larger vehicles (usually transfer trailers, intermodal containers, railcars, and barges) for long-haul shipment to a final disposal site—typically a landfill, waste-to-energy plant, or composting facility. No long-term storage of waste occurs at a transfer station; waste is quickly consolidated and loaded into larger vehicles and moved offsite, usually in a matter of hours.

The City currently uses two transfer stations under short-term renewable contracts for the transfer of its collected solid waste. Because these transfer stations are privately owned, the stations determine the cost of the tipping fees and where the solid waste is disposed. Although several stipulations can be written into the City's contracts with these transfer stations, the City could maintain better control of its solid waste and associated costs if the transfer stations were owned by the City.

The use of transfer stations can also help reduce the maintenance of the City's collection vehicles, due to reduced transportation time. Instead of hauling waste long distances to a single landfill, the City can utilize multiple transfer stations that are close in proximity to the routes or substations. This can reduce transportation and fuel costs, can reduce vehicle maintenance and wear, and can increase productivity and efficiency.

5.3.3.1 Advantages and Disadvantages – Transfer Stations

During the 10-year planning period, the City will evaluate the feasibility of developing City-owned transfer stations. The primary reason for using a transfer station is to reduce the cost of transporting waste to distant disposal facilities. Consolidating smaller loads from collection vehicles into larger transfer vehicles reduces hauling costs by enabling collection crews to spend less time traveling to and from distant disposal sites, and more time collecting waste. This also reduces fuel consumption and collection vehicle maintenance costs, and produces less overall traffic, air emissions, and road wear.

In addition, a transfer station also provides:

- An opportunity to screen waste prior to disposal
- Flexibility in selecting waste disposal options
- An opportunity to serve as a convenience center for public use

At a City-owned transfer station, workers would screen incoming wastes on the tipping floors or in receiving pits. Waste screening has two components: separating recyclables from the waste stream, and identifying any wastes that might be inappropriate for disposal (such as hazardous wastes or materials, white goods, whole tires, auto batteries, or infectious waste). Identifying and removing recyclables reduces the weight and volume of waste sent for final disposal and, depending on local recycling markets, may generate revenue. Screening for inappropriate wastes is more efficient at the transfer station than the landfill or other disposal facility.

City-owned waste transfer stations would offer more flexibility in terms of disposal options. The City could select the most cost-effective and/or environmentally protective disposal sites, even if they are more distant. The City could consider multiple disposal facilities, secure competitive disposal fees, and choose a desired method of disposal (such as landfilling or incineration). The City would also have more control of disposal costs, since it would contract directly for the disposal of its waste.

Finally, a City-owned transfer station could include multi-purpose convenience centers open to public use. These centers would enable individual citizens to deliver waste directly to the transfer station facility for ultimate disposal or recycling. A City-operated convenience center could also offer programs to manage yard waste, bulky items, household hazardous waste, and tires; and would recycle these types of wastes if possible. Convenience centers would assist the community in achieving recycling goals, increasing the public's knowledge of proper materials management, and diverting materials that would otherwise burden existing disposal capacity.

The main disadvantages and obstacles to a City-owned transfer station are facility siting and public opposition. Transfer stations also may pose unsightly visual, noise, odor, and litter issues. Depending on the existing road infrastructure, transfer stations may also increase traffic in the area. Due to the increased development of existing industrial areas into residential zones, there may be limited areas where transfer stations could be sited.

To help mitigate potential public opposition to City-owned transfer stations, the City would involve the public in all steps of the decision-making process—from the decision to build or site a transfer station, to the design and functionality of the transfer station. City-owned transfer stations would include convenience and recycling centers for residents, and would follow the procedures in Section 6, Land Limitation Element, to minimize any impacts from building and siting a transfer station. The City would also focus on any community-specific criteria, including environmental justice considerations, air quality, impacts on the local infrastructure, adjacent land uses, other environmental stressors that may already exist, and proximity to schools, churches, recreation sites, and residences.

Also to help alleviate public opposition, host community agreements could be established between the City and the community hosting the transfer station. These agreements typically specify design requirements, operating restrictions, oversight provisions, and other services and benefits that the immediate community would receive. Some examples of these provisions include:

- Steps to reduce negative environmental impacts in the immediate area
- Limitations on waste-generation sources

- Roadside cleanup of litter on access routes
- Restrictions on facility operating hours
- Restrictions on vehicle traffic routes
- Assistance with recycling and waste diversion
- A fee paid to the local community for every ton of waste received at the facility
- Free or reduced-cost use of the facility for the community's residents and businesses
- Tax incentives for the community
- Guaranteed preference to the community's residents for employment at the facilities
- Funding for road or utility improvements
- Financial support for other community-based activities

5.3.4 Eco-Industrial Park (New Program)

5.3.4.1 Description

An Eco-Industrial Park (or Eco-Park) is a group of businesses that work together and with the community to efficiently share resources (materials, water, energy, infrastructure, natural habitat, and information), enhance economic prosperity, and improve the environment. Eco-Parks rely on concepts such as by-product synergy (reuse of waste material as a feedstock to another industrial process), waste exchange, green energy, green buildings, and mass transit. Green building designs use energy and resource efficiency, waste reduction, and pollution prevention practices, indoor air quality standards, and other environmental initiatives in the construction of new buildings and/or refurbishment of existing ones. Eco-Parks are not a stand-alone technology, rather they are a combination of processing and treatment technologies that separate or convert waste for reuse and reprocessing.

Eco-Parks can handle all types of solid waste from the City of Atlanta, and will be dependent upon the combination and configuration of the different processing and treatment technologies utilized.

Eco-Parks often offer some public incentive such as reduced taxes, public land leases, and public endorsement of the businesses. The parks are arranged to foster sustainable business arrangements and sustainable practices for the entire community. They generally consume less energy and fewer raw materials, produce less waste and pollution, and provide an inviting workplace and integration with the surrounding community. They often rely on groups of technologies that work together with the community to efficiently share resources and improve the environment in comparison to more conventional arrangements.

Figure 5-1 presents an example process flow diagram of an Eco-Park configuration.

Several business models and arrangements may be considered in designing an Eco-Park. One example would be an Eco-Park that invites reuse, recycling, and composting businesses to collocate in one area. In these instances, areas with reuse, recycling, and composting businesses as the main focus become known as a "Resource Recovery Park." A Resource Recovery Park is a co-location of reuse, recycling, and composting processing, manufacturing, and retail businesses in a central facility to which the public can bring all wastes and recoverable materials. A Resource Recovery Park enables the public to decrease

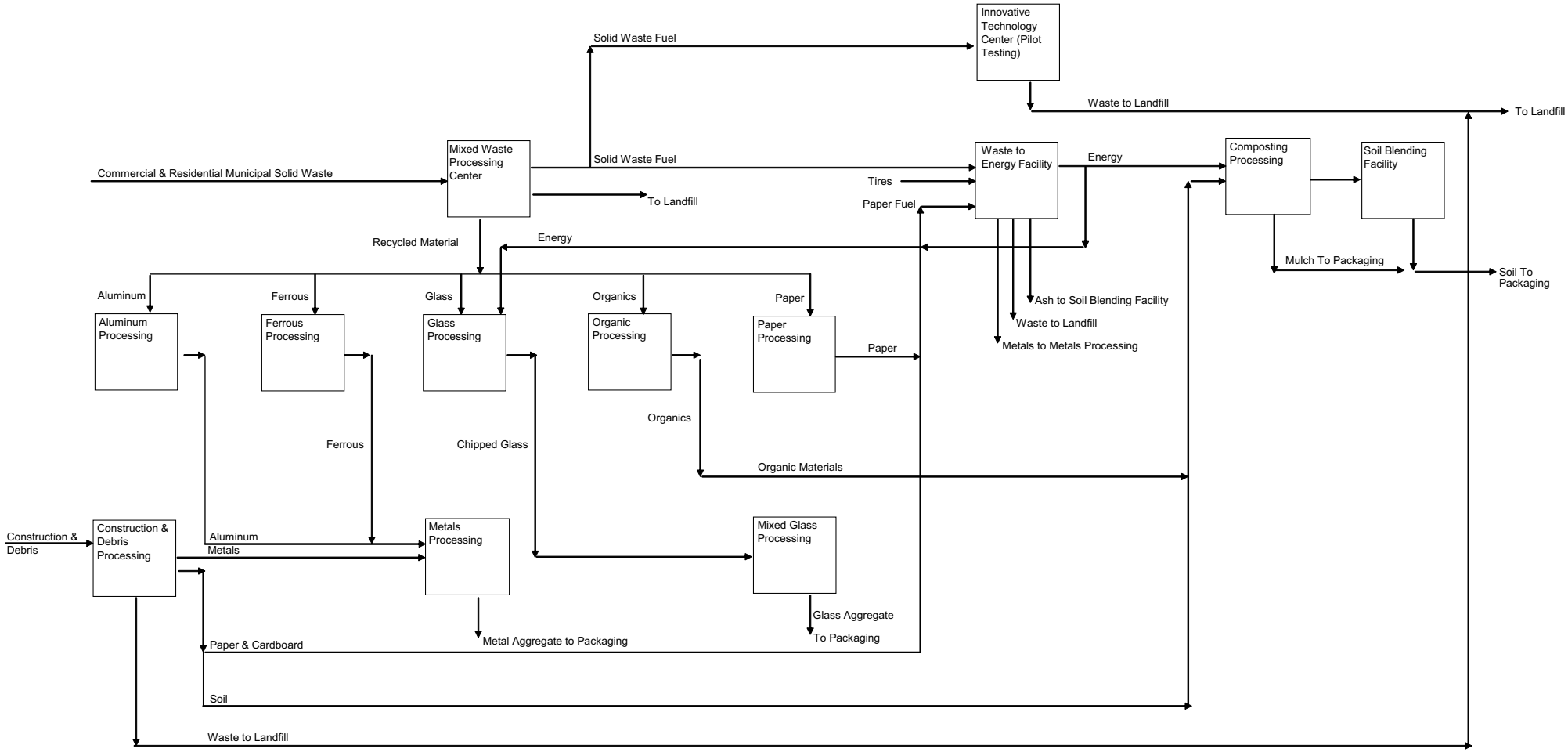

Figure 5-1
Simplified Process Block Flow Diagram of Eco-Industrial Park
City of Atlanta
Comprehensive Solid Waste Management Plan

CH2MHILL / williams-russell and johnson, inc. engineers • architects • planners

E022005005ATL\chart101.ai

their waste disposal costs, recover some value from their discards, and buy other items at bargain prices. A Resource Recovery Park would enable participating businesses to share space and facilities; operating equipment (such as forklifts, balers, shredders, loaders, and trucks); technical, administrative, and professional services; promotions and advertising; communications equipment and services (e.g., copiers, computers, Web sites, fax, radios, phones); staff recruitment and training; and educational facilities and services.

Another example would be an Eco-Park for manufacturers and distributors that make sustainable products. The purpose of the park would be to attract buyers to the park through the co-location of like businesses. A brokered distribution center in the renewable energy sector, for example, could sell bio-diesel, bio-based compressed natural gas, ethanol, bio-oil (from pyrolysis), and hydrogen. Another complex could sell green building materials.

Resource Recovery Parks can be developed in numerous ways:

- Zoning a district within a community specifically for such businesses
- Siting these businesses on or around a landfill or transfer station
- Renovating one or more abandoned buildings or industrial sites (such as a brownfield or military base) for such businesses
- Co-promoting nearby reuse, recycling, and composting businesses
- Develop a master plan to attract desired types of businesses to available sites

Some Resource Recovery Parks are developing as a natural clustering of reuse, recycling, and composting businesses on the site of, or around, a landfill or transfer station. Alternatively, other sites, such as brownfield sites or abandoned buildings, could serve as a site for a Resource Recovery Park.

Resource Recovery Parks do not have to be large in scale, and could succeed on a smaller scale in a rural area or an urban brownfield. Small-scale Resource Recovery Parks focus on attracting appropriately sized reuse, recycling, and composting businesses that meet local needs.

To develop an Eco-Park, special land-use designations, zoning, permitting, development conditions, and operating permits may be required. Innovation at Eco-Parks is important, however, so a process should be in place to allow proponents to propose alternative requirements for consideration. In general, it would take approximately 4 to 6 years to site, design, permit, and construct an Eco-Park.

Tenants of the Eco-Park should be qualified as appropriate for the park through a transparent review process. Incentives could be created through land lease, tax credits or deferments, public promotion, and leading-edge park design. Disincentives could be created to prevent poor environmental performance, high resource consumption, or high wastewater and waste production in these parks.

Currently the City operates the Hartsfield Solid Waste Reduction Plant, which is used to process yard waste through chipping and grinding for use as boiler fuel. This facility and

the surrounding area could be expanded into a Recycling Recovery Park. This park could include other recycling recovery and materials recovery uses.

The City will research and evaluate the feasibility of hosting and developing Eco-Parks in Atlanta as a future, long-term management solution for its solid waste.

5.3.4.2 Advantages and Disadvantages

Advantages of Eco-Parks include:

- Dramatic environmental benefits in air, water, material, and energy resource use
- Educational opportunities for the entire community
- By-product synergy
- Sales synergy
- Markets established for recycled products, services, and sustainable products that might not flourish without a catalyst like the Eco-Park concept

Disadvantages of Eco-Parks would be facility siting and public opposition. Waste processing operations may also pose unsightly visual, noise, odor, and litter issues. Depending on the existing road infrastructure, facilities may also increase traffic in the area. Due to the increased development of existing industrial areas into residential zones, there may be limited areas in the City where facilities could be sited. Other disadvantages include:

- Standards of performance must be created before tenants are selected.
- Public reporting is critical to community acceptance.
- Vacating or terminating a non-compliant business may be difficult.
- Economic success depends upon the tenants' success and current markets.