

I. INTRODUCTION

A. Plan Approval Date, Counties in District, and Planning Period Length

1. *Under current approved Plan:*

Date of Approval:	December 20, 2001
Counties within District:	Greene
Years in planning period:	15

2. *Plan to be implemented with approval of this document:*

Counties within the District:	Greene
Years in planning period:	15
Year 1 of the planning period:	2008

B. Reasons for Plan Submittal

This is the mandatory five year Plan Update for the District.

C. Process to Determine Material Change in Circumstances

The District will use its normal operational procedures to monitor plan implementation activities and determine whether and when a material change in circumstances has occurred affecting the District that requires a formal Plan Amendment. The Greene County Board of County Commissioners and the Policy Committee meet at least once per year, to receive updates on District implementation activities, enact necessary legislative actions, and perform the annual review of the implementation of the District's Plan. The frequency of these meetings is scheduled as necessary to allow both the County Commissioners and the Policy Committee to detect and respond to changing circumstances.

The District continually monitors and evaluates solid waste activities within the District that would indicate significant changes in how the District's solid waste stream is managed. Circumstances that may result in a material change include, but are not limited to the following:

- ◆ Solid Waste Generation in the District decreases by 25%
- ◆ Solid Waste Facilities accepting District waste
 - ✓ Landfill(s) permitted and daily capacity decreases by 25%
 - ✓ Transfer Facility permitted and daily capacity decreases 25%
 - ✓ Transfer Facility(s) recycling activities decreases by 25%
 - ✓ Waste Hauler activities
- ◆ Projected Solid Waste Generation decreases by 25%

- ◆ Private Recycling Activities decreases by 25%
- ◆ Financing for Plan Implementation decreases by 20%
- ◆ Changes in Strategies for Waste Reduction or Recycling
- ◆ Delay of more than One Year in Program Implementation
- ◆ Legislative Changes

If any member of the Board of County Commissioners or the District Director believes that a material change has occurred, the member or the Director will notify the Chairperson of the Board of County Commissioners and place an item on the agenda for the next meeting, or schedule a special meeting, as appropriate. The County Commissioners will review the changed circumstances, and utilizing any of the applicable criteria described above, or based on the estimated impact of the change on the projections, timetables, programs, and activities contained in the approved District Plan, approve or disapprove a resolution to recommend the preparation of a formal Plan Amendment. Also, the County Commissioners will contact OEPA and seek guidance to determine if a material change is necessary or required. The County Commissioners may refer this matter to the Policy Committee for further analysis or for a preliminary recommendation.

The County Commissioners will make a determination on whether to request that a Plan Amendment be prepared by the Policy Committee within 90 days after the matter is first placed on its agenda, unless the time period is formally extended by the County Commissioners. Upon making the determination, the County Commissioners will provide press releases to newspapers of general circulation within the District informing the public of its decision. If a recommendation for a Plan Amendment is adopted, the Policy Committee will prepare the Plan Amendment to address the material change in circumstances. The schedule for the development of the Plan Amendment, and the approval, ratification, and implementation, will be established by the Policy Committee, depending upon the extent of the amendment required to address the change in circumstances.

D. District Formation and Certification Statement

The District's configuration has remained the same since the submittal of the District's approved Plan. However, a copy of the original certification for District formation is found in **Appendix A**.

Appendix B includes all public notices, as they appeared in local newspapers, publicize hearings, and comments on the District Plan. **Appendix C** includes a certification statement signed by the Policy Committee members asserting that the contents of the Plan are true and accurate, a resolution by the Policy Committee adopting the Plan prior to ratification, and a resolution certifying the Plan has been properly ratified. **Appendix C** also includes a list of all political jurisdictions in the District which voted on ratification of the Plan, their population

represented by each, and the percentage population of the District as represented by the political jurisdictions which ratified the Plan.

E. Policy Committee Members

Ralph Harper, County Commissioner	County Commissioner
Michael Cornell City Manager	City of Beavercreek
Mark McDonnell Health Commissioner	Health Department
John Martin Bath Township Trustee	Township Trustee
Fred Luttenberger Cedarville, Ohio	Interested Party Representative
William Meinerding Waste Management Branch WPAFB	Industrial Representative
Matthew McNelly Rumpke Waste & Recycling Systems	Public Sector Representative

F. Board of Directors

Ralph Harper, President County Commissioner
Alan Anderson, Vice-President County Commissioner
Richard Perales, Member County Commissioner

G. District Address and Phone Number (Contact Person)

Greene County Solid Waste Management District
Dana Storts
2145 Greene Way Boulevard
Xenia, OH 45385

Telephone: 937-562-5925
Fax: 937-562-5940
Web site: www.co.greene.oh.us/
e-mail: dstorts@co.greene.oh.us

H. Technical Advisory Committee and Other Subcommittees

1. Advising the Planning Period

Ed Amrhein	Village of Yellow Springs
Theresa Lee	BioSource
Denny Jarvi	Beavercreek Wetlands Association
Kyle Aughe	Rumpke Waste Removal & Recycling Systems
John Minear	District Manager, Waste Management, Inc.
Helen Wickline	Wickline's Nursery
David Beach	Beavercreek City Engineer
Jill O'Banion	Greene County Soil & Water Conservation District
David Linkhart	Supervisor, Greene County Soil & Water Conservation District & Farmer
Pat Campbell	City Council, City of Bellbrook
Debbie Leopold	Environmental Services Director, Greene County Combined Health District

2. Implementing the Plan

To prepare the Plan Update, the District conducted two joint meetings of the District Policy committee and Technical Advisory Committee to review existing program and provide input on future District programs. Minutes from those meetings are included in Appendix H.

II. Executive Summary

Section III. Inventories

The District has established 2005 as the Reference Year for the Plan Update. The first year of the planning period is 2008, extending to 2022 as the last year of the planning period.

In 2005, District generated solid waste was taken to eight sanitary landfills in Ohio. Two of these, Stony Hollow Sanitary Landfill in Montgomery County and Rumpke Sanitary Landfill in Cincinnati accepted over 99% of the wastes disposed. Additionally, one transfer station in Greene County and two transfer stations in Montgomery County received some of the wastes generated by the District. There are three waste hauling companies that provide waste disposal and curbside recycling services to residents and business in the District. There are seven yard waste composting facilities in operation in the District that provide an outlet for leaves, grass, and brush.

Section IV. Population and Waste Generation

The adjusted population estimate for the District in 2005 is 148,404 people. The Residential/Commercial Sector's generation of solid waste was 155,922 tons, or 5.76 pounds/person/day. Included in this amount are 23,429 tons of recyclable material and 19,376 tons of yard waste. The District's recycling percentage for 2005 was 27.45%, which exceeds the state goal of 25% for the Residential/Commercial Sector.

The amount of solid waste generated by the Industrial Sector equaled 37,460 tons for 2005, or 1.13 pounds/person/day. Industries reported that of the amount of waste generated, approximately 30,529 tons were recycled. This results in a recycling rate for the Industrial Sector of 81.5%, which exceeds the state goal of 50% for this sector.

Section V. Planning Period Projections and Strategies

The District used the population projections for the planning period from the Ohio Department of Development, Office of Strategic Research. Based upon the information provided, the District's adjusted population was 148,404 in 2005. This is expected to increase to 156,704 people in 2022. Waste generation throughout the planning period for the Residential/Commercial Sector is projected to increase from 155,922 tons in 2005 to about 167,587 tons in 2022. Based upon this increase, the per capital generation for the Residential/Commercial Sector would increase from 5.76 pounds/person/day in 2005 to 5.86 pounds/person/day in 2022.

The District is projecting that the amount of waste generated by the Industrial Sector will actually decrease over the course of the planning period. Based upon projections by the Ohio Bureau of Employment Services, the District will experience a 0.7% decrease in employment by this sector through 2012. For planning purposes, the District extended this decrease through 2022, or the end of the planning period. This results in an estimated generation of industrial solid waste of 37,460 tons in 2005, decreasing to 33,244 tons in 2022.

All activities and strategies implemented by the District are based from and revolve around the Recycling Center. This facility supports the operations of the drop-off recycling services, yard waste composting, litter collection, inter-agency recycling, scrap tire disposal, plus special collections from materials like household hazardous waste, scrap metal, appliances, and electronics recycling. The following is a brief description of these programs as well as other recycling programs operating in the District by the private sector.

P-1 Residential Curbside Recycling, Non-Subscription - Residential collection provided by private haulers contracting with local governments. The cities of Bellbrook, Fairborn, Xenia, and the villages of Yellow Springs, Jamestown, Cedarville, and Spring Valley have this service. Materials collected include cardboard, newspapers, mixed papers, glass, plastics, beverage cans, and metals.

P-2 Residential Curbside Recycling, Subscription - Residential curbside collection is provided by private haulers through arrangement with individual homeowners. This service is offered in the City of Beavercreek and virtually all unincorporated areas of the District. The materials collected are the same as for P-1.

P-3 Commercial Recycling – Businesses collect and transport materials to markets, contract with a hauler to perform this service, or have the materials backhauled to a central location. In 2005, over 8,597 tons of materials were recycled by this sector. The District's involvement in this program is to periodically survey these commercial entities to gauge the volume of material recycled.

P-3A Wright Patterson Air Force Base - Wright Patterson Air Force Base (WPAFB) has an active and organized recycling program on the base. This program which is operated for base personnel, collects aluminum and steel cans, newspapers, office papers, ferrous and non-ferrous metals, glass, plastics, wood, and yard wastes. In 2005, WPAFB recycled 2,929 tons of material and 413 tons of yard waste. WPAFB also has a vermicomposting operation on the base.

P-4A Recycling Center Drop-Off Recycling – The Recycling Center provides a drop-off site for a full range of recyclables including newspaper, cardboard, mixed paper, #1 and #2 plastic bottles, glass, bi-metal cans, aluminum cans, lead-acid and ni-cad batteries, plus cell phones. The hours of operation for the drop-off program at the Recycling Facility are: Monday-Thursday 7:30 AM to 8:00 PM, Friday 7:30 AM to 4:30 PM, Saturday 9:00 AM to 4:00 PM.

P-4B Recycling Center Yard Waste Drop-Off Program – The Recycling Center provides residents no-charge drop-off service for leaves, grass, and brush. The material is processed into mulch/soil amendment, and made available to various organizations and the general public. The central site at 2145 Greene Way Boulevard is open all year. Satellite sites are also offered in Beavercreek, Sugarcreek, and Fairborn during the months April through November. In 2005, approximately 13,000 tons of material was processed through the Recycling Center.

P-4C Recycling Center Special Wastes Collection Events – Monthly collection events are held at the Recycling Center, accepting household hazardous waste, old computers/electronics, and appliances/scrap metal. Tonnages for these materials can be found in Section III. The monthly events are held on Saturday, from 9:00 AM to 1:00 PM.

P-4D Recycling Center Roadside Litter Collection – this program provides for the collection of litter and tires along county roadways. Scrap metal and tires collected through this program are recycled. The program relies on inmate workers from the Adult Detention Center.

P-4E Recycling Center Inter-Agency Recycling Network – The District provides for the recycling of numerous materials from local governmental offices. Offices by way of example include Greene County Sanitary Engineering, Greene County Commissioners offices, City of Beavercreek. Materials collected are picked up by District personnel and taken to the Greene County Recycling Center. Materials include office papers, newspapers, magazines, cardboard, plastics, and cans.

P-4F Recycling Center Scrap Tire Program – This program collects and disposes of scrap tires through the Roadside Litter Collection Program. Through the Inter-Agency Recycling Network, old tires generated from county-owned vehicles are collected and recycled.

P-5 Residential and Commercial Education & Awareness

This program provides information and assistance to residents of the District, encouraging proper source reduction, recycling, and yard waste management practices. This strategy consists of four components:

P-5A Residential and Commercial Public Information – Brochures are published and disseminated, offering source reduction and recycling information, as well as how to use the District’s services at the Recycling Center. Brochures and flyers are sent to the local jurisdictions, which provide the citizens with the program information either in print form or on their website. Brochures are also posted on the County website. In addition, press releases are issued announcing new program offerings or changes.

P-5B Residential and Commercial Outreach Efforts – District staff is involved in seminars on waste reduction, recycling, and yard waste management; staff the County Fair exhibit; routinely have exhibits at 2-3 community events; make presentations at various local schools and community groups; and conduct tours of the Recycling Complex.

P-5C Residential Waste Reduction Information – Includes waste reduction information for the residential and commercial sectors in *Pipelines*, the quarterly publication of the County.

P-5D Residential Waste Reduction Information – Provide source reduction tips, including re-use options; working with vendors on materials exchanges and purchasing alternatives.

P-6 Industrial Sector Technical Assistance and Education – Similar to the residential/commercial sector program, this program provides information and assistance to industries, encouraging proper source reduction, recycling, and yard waste management practices. This program has three components:

P-6A Industrial Sector Outreach Efforts – District staff are involved in seminars on waste reduction, recycling, and yard waste management; they staff a County Fair exhibit; and routinely have exhibits at 2-3 community events.

P-6B Industrial Sector Publication – Includes waste reduction information for the industrial sector in *Pipelines*, the quarterly publication of the County

P-6C Industrial Sector Waste Reduction Information – Provide source reduction tips, including re-use options and materials exchanges.

Future Strategies

One of the most challenging revelations was the lack of solid baseline data for the residential, commercial, institutional, and industrial sectors. Absent data included numbers for the residential curbside programs

including participation rates by community. The District plans to initially create a comprehensive database that will form the foundation for policy direction in the future.

Survey and database development – This strategy will address the three waste generators categories of residential, commercial, and industrial. The strategy will survey each of these categories on a schedule in order to evaluate their recycling, report accurate data for the Annual District Report (ADR), and prepare for the next plan update.

Recycling Center and Services Promotion – The District will increase promotional activities designed to maximize the investment in the Greene County Environmental Services Central Recycling Complex. This facility currently provides drop-off and recycling of several materials. The recyclable materials include, but will not be limited to, newspaper, mixed office paper, cardboard, #1 and #2 plastic bottles, metal cans, yard waste, used electronics, and household hazardous waste.

Section VI. Methods of Management: Facilities and Programs to be Used

The District has demonstrated that it has access to sufficient disposal capacity at sanitary landfills to accommodate solid waste generated by the District. While the District has identified sanitary landfills where the District's waste may be placed, the District is not designating any facilities as part of this Plan Update for the receipt of District generated solid waste.

Implementation of the District's Plan requires that the District receive adequate annual funding to implement the programs, and for some programs, having access to qualified service providers. If financial or operational conditions exist that prevent the District from implementing District programs, District staff will prepare a recommendation report which prioritizes which programs the District will provide based upon the following criteria:

- The program's impact on reducing the waste stream;
- Long-term impacts of the program;
- The program's association with the enforcement of solid waste management laws and regulations;
- The program's impact on Greene County's human health and environment; and;
- The availability of non-District entities to provide the program.

This report will be provided to the Board for their review and recommendations regarding modification or elimination of District programs. If, based upon this report, it is determined that elimination or modification of District programs has a substantial impact on the

implementation of the District's Plan, the Board may consider this as a Material Change in Circumstances and amend the Plan.

Section VII. Measurement of Progress Toward Waste Reduction Goals

The State Solid Waste Plan **mandates** that Districts must demonstrate compliance with one or both of the following goals:

Goal #1 – Program standards for Solid Waste Management Districts (SWMDs): ensure the availability for reduction, recycling, and other waste reduction alternatives for residential/commercial solid waste by the Year 2000.

Goal #2 – By the Year 2000, a) 25% waste reduction for the Residential/Commercial Sector, and b) 50% waste reduction for the Industrial Sector.

The District has demonstrated a recycling rate of 27.45% for the Residential/Commercial Sector for the Reference Year, 2005, and an Industrial Sector recycling rate of 81.5%. The District is projecting that these percentages will remain relatively consistent over the planning period. Therefore, the District has met, and will continue to meet, the standards established in Goal #2.

While the District feels that there is sufficient access to recycling opportunities for both of these sectors, strict compliance with Goal #1 would be difficult and expensive to meet due in part to the required calculations for compliance.

Section VIII. Cost and Financing of Plan Implementation

The District relies on its Generation Fee to provide sufficient revenue for the implementation and continuation of programs and activities in the District. Currently, the Generation Fee is set at \$10/ton. The District is proposing to maintain that fee until 2016, when the Generation Fee is recommended to increase to \$10.50/ton

Section IX. District Rules

The proposed District Plan authorizes the Board of County Commissioners to adopt rules under every subsection of ORC 343.01(G) as follows:

- Rules limiting or prohibiting the receipt of waste generated outside the District.

- Rules governing the maintenance, protection and use of solid waste collection, transfer, disposal, recycling, or resource recovery facilities.
- Rules governing a program to inspect out-of-state waste.
- Rules exempting an owner or operator of a solid waste facility from compliance with local zoning requirements.

Table ES-1. General Information

District Name: Greene County Solid Waste Management District		
District ID #: (for OEPA use only)	Reference Year: 2005	Planning Period: 2008-2022
Plan Status: RD	Approval Date: December, 2001	Reason for Plan Submittal: 5 Year Plan Update
RD = Ratified Draft Plan		

Table ES-1. District Director/Office

Name: Dana Storts, Director, Office of Environmental Services		
Address: 2145 Greene Way Blvd.		
City: Xenia	State: Ohio	Zip: 45385-2695
Phone: (937) 562-5925	Fax: (937) 562-5940	

Table ES-3. Plan Data Summary

Plan Data		Reference Year	2010	2015	2020
Population:		148,404	151,614	153,374	156,444
Generation	Industrial	37,460.00	36,167.00	34,919.00	33,714.00
	Res/Comm.	155,922.00	160,207.00	162,906.00	167,024.00
	Exempt	953.00	953.00	953.00	953.00
	Total	194,335.00	197,327.00	198,778.00	201,691.00
Waste Reduction	Industrial Source Reduction	0	0	0	0
	Industrial Recycling	30,529.00	29,476.00	28,459.00	27,477.00
	Res/Comm. Source Reduction	0	0	0	0
	Res/Comm. Recycling	42,805.00	43,418.00	43,920.00	44,686.00
	MSW Composting	0	0	0	0
	Incineration	0	0	0	0
	Ash Disposal	0	0	0	0
	WR Total:	73,334.00	72,894.00	72,379.00	72,163.00
Disposal (DL)	LF-in-District	0	0	0	0
	LF-out-of-District	121,001.00	123,480.00	125,446.00	128,575.00
	Total LF	121,001.00	123,480.00	125,446.00	128,575.00
WRR		37.74%	36.94%	36.41%	35.78%
Note: The values under Generation, Waste Reduction and Disposal are expressed as "TPY"					

Existing Disposal Facilities Used in the Reference Year				
Name	County	District Tons	Total Tons	Years Left
WMOI Stony Hollow	Montgomery, OH	112,805.00		4
Rumpke Waste, Inc.	Hamilton, OH	8,172		20

III. Inventories

The purpose of the inventory section is to identify the existing waste reduction and recycling services operating in the District. Measurements of the quantity of waste source reduced, recycled, composted, incinerated and disposed are identified within this section for the purposes of establishing the basis for the plan projections.

A. The Reference Year

The District has determined that 2005 is the reference year for the Plan Update. Data collection on residential, commercial and industrial disposal and recovery efforts took place in 2006, thus 2005 was the most recent year for which complete data was available.

B. Existing Solid Waste Landfills

The existing landfills used by the District for solid waste generated within the District are outlined in Table III-1. Based on the Ohio EPA landfill records, Greene County disposed a total of 121,000 tons of waste during 2005. This included 118,237 tons of residential/commercial waste, 1,775 tons of industrial waste and 953 tons of exempt waste. Exempt waste is defined as material excluded from the definition of solid waste in ORC 3734.01 (E) including slag, uncontaminated earth, non-toxic fly ash, spent toxic foundry sand, and material from mining and debris from construction and demolition operations.

In the landfill records, the distribution of tonnage between residential/commercial and industrial appears to understate the industrial tonnage (and conversely, overstate the residential/commercial tonnage) by a significant amount. The industrial survey conducted for this Plan Update determined that 16,878 tons of waste was disposed in 2005 by Greene County industries. However, Ohio EPA expressed concerns that this industrial disposal quantity may be overestimating the 2005 disposal quantity. Therefore, the District worked with Ohio EPA to develop a methodology where the District would use a combination of data reported by industrial survey respondents and extrapolated data from non-respondents to the industrial survey to calculate an adjusted industrial generation quantity. The steps involved with methodology are as follows:

- First the District quantified the amount of solid waste that was disposed by industrial survey. This amount is 5,228 tons.
- Next, the District calculated the percentage of total waste generation that was reported as having been disposed by the industrial facilities that responded to the survey (5,228 divided by 35,758 = 14.62%).
- To estimate the quantity of waste disposed by industries that did not respond to the survey, the District multiplied the total amount of waste that non-respondents were estimated to have generated by 14.62% (11,640 X 14.62% = 1.702 tons).

- The District then added the reported and extrapolated disposal quantities, 5,228 and 1,702 tons respectively, which equals 6,931 tons.
- Finally, the District deducted the quantity of industrial waste that Ohio EPA records reported, 1,775, from the 6,931 tons of reported and extrapolated disposal quantities to calculate the adjusted industrial disposal quantity of 5,156 tons. This adjustment is reflected on Table III-1.
- As a result of these calculations, the 2005 industrial waste disposal number is 6,931 tons.

To calculate that residential/commercial disposal quantity, the District deducted the 953 tons of exempt waste, and the industrial disposal quantity of 6,931 tons, from the total 2005 disposal quantity of 121,000 tons, which yields a residential/commercial disposal quantity of 113,117 tons. The final adjusted landfill disposal data is listed on Table III-1.

The District is not aware of the use of any out-of-state landfills for the disposal of Green County waste. Therefore, Table III-7 is not included in this Plan Update.

C. Existing Incinerators and Resource Recovery Facilities

The District used no incinerators or resource recovery facilities in 2005. Therefore, Table III-2 is not included in this Plan Update.

D. Existing Transfer Facilities

The District used three transfer stations in 2005 which, according to Ohio EPA waste flow reports, reported receiving a total of 16,718 tons of Greene County waste. This data is shown in Table III-3.

E. Existing Recycling and Household Hazardous Waste Collection Activities

Residential/Commercial Recycling

As shown in Table III-4, three waste haulers collected residential curbside recyclables on a subscription basis throughout Greene County in 2005. In addition, each of the haulers had at least one community under contract for the collection of recyclables. Recyclables that were collected curbside include:

- Corrugated Cardboard;
- Newspapers;
- Magazines;
- Mixed Papers;
- PET Bottles;
- HDPE Bottles;
- Plastic # 6 Bottles;
- Glass Jars and Bottles;

- Bi-Metal Cans; and
- Aluminum Cans.

In addition to the above curbside collection of recyclables, the District operated the residential recycling (and yard waste) drop-off facility at 2145 Greene Way Boulevard in Xenia. Also, the District provided special collection events for household hazardous waste, appliances, scrap metals and computers/electronics. Table III-5 list the 169 tons of materials collected and recycled at this facility. More information on these District programs is provided in Section 5. The data for yard waste collected and processed as a result of the facilities operations is listed on Table III-6

A survey of the Xenia Iron and Metal, a local scrap facility, showed the facility recycled 852 tons of residential and commercial metals. OEPA also visited the site to validate this data.

The total amount of District-generated materials recycled in 2005 was 23,429 tons. Of that amount, a reported 10,685 tons (approximately 46 percent of the total) were collected curbside from Greene County residents. The residential recyclables collected at the curb by Waste Management, Inc. are processed at the Fairborn/WMI MRF in Greene County. The recyclables collected curbside by Rumpke of Dayton and Dempsey Waste Systems are processed at the Rumpke Recycling Facility in Montgomery County. The processing facility was not able to report the amount of recyclables each waste hauler delivered to them.

The 23,429 tons of residential/commercial recyclables also includes 11,718 tons that Greene County commercial and institutional establishments reported as recycled during 2005. The materials include:

- Old Newspaper
- Corrugated Cardboard
- Other Paper
- Wood Pallets
- Aluminum/Other Non-Ferrous
- Steel Cans and Scrap
- Glass Jars and Bottles
- Plastics
- Lead Acid Batteries

These recyclables are also included in Table III-5. This information was determined based on a survey of the commercial sector businesses. The survey targeted large commercial establishments and institutions. To conduct the survey, an instrument was developed and a list of the commercial business was determined. The list was very specific. It included business that had not been previously surveyed because they have a contractor back-haul their recyclables. This service is arranged through corporate contacts. Each of the target business was surveyed via a telephone interview using the survey instrument.

The results of the survey are listed on Table III-5. A copy of the survey report is included in Appendix G. This report includes the survey tool and copies of the data provided by the business.

The recyclable materials generated are back-hauled from the individual business and sent directly to mills. Therefore, the possibility of double counting is eliminated.

Industrial Recycling

The total amount recycled in 2005 was 30,529 tons. Additional information about this effort is presented in Section 4 of this Plan Update.

As described in Table III-5, below, Greene County recycled approximately 5 tons of household hazardous waste (HHW) in 2005.

F. Existing Composting/Yard Waste Management Facilities

As indicated in Table III-6, seven composting/yard waste management facilities served the District in 2005. In aggregate, these facilities recycled 19,376 tons of yard waste.

One private-use-only facility reported plans to make improvements to their storage and processing equipment, but did not report the projected additional tonnage, if any, that those improvements might produce. While all three waste haulers in Greene County provide curbside yard waste collection to some customers, it is not guaranteed that all residents have access to this service.

G. Existing Open Dumps and Waste Tires Dumps

There was one waste tire dump site in the District during 2005. The Greene County Combined Health District is actively working with the property owner to remediate this site. Table III-8 provides more information about this site, and Appendix E shows its approximate location within the District.

H. Ash, Foundry Sand, and Slag Disposal Sites

Table III-9 provides a summary of foundry sand sites in the County. The site is a non-toxic foundry sand site which was used by a business in the District during 2005.

I. Map of Facilities and Sites

A map that shows the location of the recycling and composting facilities located in the District is provided in Appendix E.

J. Existing Collection Systems - Haulers

Three waste haulers provided refuse collection services in Greene County. All of the waste haulers also provided curbside collection of recyclables and yard waste for some customers. However, it is not guaranteed that all residents have access to these services.

Two of the haulers reported that they do not use a pay-as-you-throw (PAYT) system whereby the residents pay according to the volume of waste that they generate for collection. One hauler reported that they do offer their subscription customers a volume limit program with varying rates, but not the “traditional” PAYT system. Such a system is in place in the city and township of Beavercreek, Fairborn, Bowersville, Clifton, Village and Township of Spring Valley, Bath, Caesercreek, Cedarville, Jefferson, Miami, New Jasper, Ross, Silvercreek, Sugarcreek and Xenia Township.

Six villages or cities in the County currently contract for the provision of solid waste management services. The rest of the District is serviced through a subscription approach where individual residents subscribe with whichever hauler they choose. Table III-10 provides additional details about the District’s haulers.

**Table III-1
Landfills Used by the District**

Facility Name	Type of Landfill	Location		Waste Received from the SWMD (TPY)			
		County	ST	Residential/ Commercial	Industrial	Exempt	Total
<i>Out-of-District Facilities</i>							
Rumpke	PA, PO	Hamilton	OH	8,151	22	0	8,172
Rumpke- Brown County	PA, PO	Brown	OH	0	6	0	6
Pine Grove Regional Facility LF	PA,PO	Fairfield	OH	0	2	0	2
Hancock Co. Sanitary LF	PA	Hancock	OH	6	7	0	13
Stony Hollow	PA, PO	Montgomery	OH	110,113	1,736	952	112,801
American Landfill	PA, PO	Stark	OH	0	2	0	2
WMI Suburban South	PA, PO	Perry	OH	3.00		0	3
Cherokee Run LF	PA, PO	Logan	OH	0.00	0	1	1
Reported totals				118,237	1,775	953	121,000
OEPA corrections				-5,156	+5,156	0	0
Totals				113,117	6,931	953	121,000

PA = publicly available

PO = privately owned

**Table III-3
Solid Waste Transfer Facilities Used by the District**

Facility Name	Type	Location		Waste Received from the SWMD (TPY)				
		County	ST	Sources of Waste				
				Residential/ Commercial	Industrial	Exempt	Other	Total
WMI Transfer Station 1700 N. Broad St. Fairborn, OH 45324 937-318-6325	PA, PO	Greene	OH	5,800	0	0	0	5,800
Montgomery County North Transfer Facility 6589 N Webster St Dayton, OH 45414 937-496-3108	PA	Montgomery	OH	278	0	0	0	278
Montgomery County South Transfer Facility 2550 Sandridge Dr Dayton, OH 45439 937-496-3108	PA	Montgomery	OH	10,640	0	0	0	10,640
Total				16,718	0	0	0	16,718

U/A = Unavailable
N/A = Not Applicable

PA = Publicly Available
PO = Privately Owned

**Table III-4
Residential Curbside Recycling Activities Used by the District**

Curbside Recycling Name Mailing Phone Number	Types of Curbside*	# of Households Served	Frequency of Collection	Population	Service Area		Types of Materials Accepted**	Recyclables Processed from the SWMD (TPY)
					County	Townships/Areas		
Rumpke Transportation 1932 E. Monument St. Dayton, Oh 937.461.0004	SCS,NCS	U/A	Weekly	148,404	Greene	All areas	OCC, ONP, Mag, MxP, HDPE, PETE, Plastic #6, GIC, GIBG, SC, ALC	3,830
Waste Management 1700 N. Broad St. Fairborn, Ohio 45324 937.878.6699	SCS,NCS	U/A	Weekly	148,404	Greene	All areas except for the City of Xenia, City of Bellbrook, and Yellow Springs Village	OCC, ONP, Mag, MxP, HDPE, PETE, Plastic #6, GIC, GIBG, SC, ALC,	6,920 6,855 tons R/C + 65 tons industrial = 6,920

**Table III-4
Residential Curbside Recycling Activities Used by the District**

Curbside Recycling Name Mailing Phone Number	Types of Curbside*	# of Households Served	Frequency of Collection	Population	Service Area		Types of Materials Accepted**	Recyclables Processed from the SWMD (TPY)
					County	Townships/Areas		
Dempsey Waste Systems 1577 West River Road Dayton, OH 45418 937.267.5007	SCS,NCS	U/A	Weekly	148,404	Greene	Cities of Beavercreek, Bellbrook, Fairborn, Xenia, Village of Cedarville, Townships of Beavercreek, Spring Valley, Sugarcreek, and Xenia	OCC, ONP, Mag, MxP, HDPE, PETE, Plastic #6, GIC, GIBG, SC, ALC	Included in Rumpke's Quantities
Totals								10,750

*Type of Facility abbreviations are as follows: PA = publicly available, MRF = materials recovery facility, DO = drop-off, HC = hauler collection, SY = scrap yard, PUO = private use only, SCS = subscription curbside, PAYT = pay-as-you-throw, NCS = non subscription curbside

** Material Types are abbreviated as follows: ALC = aluminum cans, ALS = aluminum scrap, CP = Copper, AONF = All Other Non-ferrous Metals, SC = Bi-metal/tin food cans/steel (cans, drums, scrap), WG = White goods, AOF = All Other Ferrous, CM = commingled materials, GIC = glass – clear, GIBG = glass – brown & Greene, HDPE = high-density polyethylene, Mag = magazines, MxP = mixed paper, MxPI = mixed plastics, OCC = old corrugated cardboard, ONP = old newspaper, PBd = paperboard, PETE = polyethylene terephthalate, PS = polystyrene plastic, AOP = All Other Plastic, SC = steel cans/scrap, YW = Yard Waste, U/A = Unavailable, N/A= Not Applicable.

Table III-5

Drop-offs, Buybacks, Hauler Collection, Other Recycling Activities, and HHW Collection Used by the District

Facility/Activity Name Mailing Address Phone Number	Type of Facility or Activity *	Types of Materials Accepted**	Service Area			Hours Available to Public	Recyclables Processed from the SWMD (TPY)	% of Materials from Sector	Processing Capacity	
			County	Townships and Cities	Population Served				Daily (TPD)	Annual (TPY)
Drop-off Recycling Facilities										
Greene County Sanitary Engineering, Environmental Services Division 2145 Greene Way Blvd. Xenia, 45385 937.562.5929	PA, DO	ONP,OCC,M xp,CM, SC,lead acid & other batteries, old computers & electronics	Greene	All Townships and Cities	148,404	Business Hours plus Saturdays	169 ¹ 3=Batteries 9=paper 4=paper 124=ONP 10=tires 19=electronics	100% R&C	U/A	U/A
Buyback Recycling Facilities										
Xenia Metal Recycle Inc. dba Xenia Iron & Metal PO Box 296 Xenia 45385 937.372.3533	PA, BuyBack	ALC,ALS, CP, AONF, WG,	Greene, Others	All	U/A	Business Hours plus Saturdays	852	100% R&C	200	60,000

¹ This does not include the 36 tons of appliances that were processed at Xenia Iron & Metal, the 248 tons of recyclables that were processed by the Rumpke MRF or the 5 tons of HHW that was recycled.

Facility/Activity Name Mailing Address Phone Number	Type of Facility or Activity *	Types of Materials Accepted**	Service Area			Hours Available to Public	Recyclables Processed from the SWMD (TPY)	% of Materials from Sector	Processing Capacity	
			County	Townships and Cities	Population Served				Daily (TPD)	Annual (TPY)
Other Recycling										
WMI MRF 1700 N. Broad Street Fairborn, OH 45324 937.878.6699	PA, MRF, DO	ALC, CM, GIC, GIBG, HDPE, MAG, MXP, OCC, ONP, PBD, PETE, PS, SC	Greene, Montgomery	All Townships and Cities	U/A	Business Hours	6,855 ²	100% R&C	200 tons	U/A
Rumpke Recycling MRF 1300 E. Monument Ave. Dayton, OH 937.220.9058	PUO, MRF	ALC, ASC, CM, GIC, GIBC, HDPE, MAG, MXP, OCC, ONP, PBD, PETE, PHBK, SC	Greene, Montgomery, Clark, others	All Townships and Cities	U/A	Business Hours	3,830	100% R&C	U/A	U/A
CEMEX, Inc. 3250 Linebaugh Road Xenia, OH 45385 937.879.8380	PUO	Fly Ash/Coal Boiler Ash	Greene	Wright Patterson Air Force Base	N/A	N/A	0	100%R&C	490	100,000 to 150,000

² All 6,855 tons are residential and commercial; industrial tonnage is not included. In addition, the 6,855 tons does not include a reported 179 tons of yard waste that was transferred to BioSource and shown in Table III-6.

Facility/Activity Name Mailing Address Phone Number	Type of Facility or Activity *	Types of Materials Accepted**	Service Area			Hours Available to Public	Recyclables Processed from the SWMD (TPY)	% of Materials from Sector	Processing Capacity	
			County	Townships and Cities	Population Served				Daily (TPD)	Annual (TPY)
Battery Warehouse Beavercreek 4100 Industrial Lane Dayton, OH 45430 937.426.2525	PUO	Batteries	Greene	N/A	N/A	N/A	52	N/A	N/A	N/A
Battery Plus Sugarcreek 4496 State Route Dayton, OH 45459 937.433.9222	PUO	Batteries	Greene	N/A	N/A	N/A	52	N/A	N/A	N/A
Drug Mart 4441 State Route 725 Bellbrook, OH 45305 937.848.3700	PUO	OCC	Greene	N/A	N/A	N/A	26	100% Commercial	N/A	N/A
Handyman Xenia 165 South Orange Street Xenia, OH 45385 937.376.5751	PUO	OCC	Greene	N/A	N/A	N/A	52	100% Commercial	N/A	N/A

Facility/Activity Name Mailing Address Phone Number	Type of Facility or Activity *	Types of Materials Accepted**	Service Area			Hours Available to Public	Recyclables Processed from the SWMD (TPY)	% of Materials from Sector	Processing Capacity	
			County	Townships and Cities	Population Served				Daily (TPD)	Annual (TPY)
Home Depot #3854 5860 Wilmington Pike Centerville, 45459 215.542.1074	PUO	OCC	Greene	N/A	N/A	N/A	78	100% Commercial	N/A	N/A
Home Depot #3855 3775 Presidential Dr. Fairborn 45324 215.542.1074	PUO	OCC, metals	Greene	N/A	N/A	N/A	94 52=OCC 42=metals	100% Commercial	N/A	N/A
JC Penny Fairfield Mall 2727 Fairfield Commons Blvd. Dayton, OH 45431 937.427.3300	PUO	OCC	Greene	N/A	N/A	N/A	104	100% Commercial	N/A	
K-Mart 4480 Indian Ripple Beavercreek 45177 937.429.3460	PUO	OCC	Greene	N/A	N/A	N/A	156	100% Commercial	N/A	N/A

Facility/Activity Name Mailing Address Phone Number	Type of Facility or Activity *	Types of Materials Accepted**	Service Area			Hours Available to Public	Recyclables Processed from the SWMD (TPY)	% of Materials from Sector	Processing Capacity	
			County	Townships and Cities	Population Served				Daily (TPD)	Annual (TPY)
K-Mart 224 East Dayton- Yellow Springs Road Fairborn 45324 937.879.2231	PUO	OCC	Greene	N/A	N/A	N/A	104	100% Commercial	N/A	N/A
K-Mart #9611 200 W. Main Street Xenia 45385 937.376.4326	PUO	OCC	Greene	N/A	N/A	N/A	78	100% Commercial	N/A	N/A
Kohl's Sugarcreek 6400 Wilmington Pike Dayton, OH 262.703.6078	PUO	OCC	Greene	N/A	N/A	N/A	260	100% Commercial	N/A	N/A
Kohl's 2850 Centre Drive Beavercreek, OH 45431 262.703.6078	PUO	OCC	Greene	N/A	N/A	N/A	208	100% Commercial	N/A	N/A
Krogers 6480 Wilmington Pike Dayton, OH 45459 937.848.5990	PUO	OCC	Greene	N/A	N/A	N/A	546	100% Commercial	N/A	N/A

Facility/Activity Name Mailing Address Phone Number	Type of Facility or Activity *	Types of Materials Accepted**	Service Area			Hours Available to Public	Recyclables Processed from the SWMD (TPY)	% of Materials from Sector	Processing Capacity	
			County	Townships and Cities	Population Served				Daily (TPD)	Annual (TPY)
Krogers 1161 E. Dayton-Yellow Springs Road Fairborn, OH 45324 937.754.1491	PUO	OCC	Greene	N/A	N/A	N/A	728	100% Commercial	N/A	N/A
Krogers 3195 Dayton-Xenia Road Dayton, OH 45434 937.429.3151	PUO	OCC	Greene	N/A	N/A	N/A	546	100% Commercial	N/A	N/A
Krogers 1700 West Park Square Xenia, OH 45385 937.376.7962	PUO	OCC	Greene	N/A	N/A	N/A	455	100% Commercial	N/A	N/A
Lowes Beavercreek 2850 Centre Drive Fairborn, OH 45324 937.427.1110	PUO	OCC, pallets	Greene	N/A	N/A	N/A	383 246=OCC 137=pallets	100% Commercial	N/A	N/A

Facility/Activity Name Mailing Address Phone Number	Type of Facility or Activity *	Types of Materials Accepted**	Service Area			Hours Available to Public	Recyclables Processed from the SWMD (TPY)	% of Materials from Sector	Processing Capacity	
			County	Townships and Cities	Population Served				Daily (TPD)	Annual (TPY)
Lowes Sugarcreek 6300 Wilmington Pike Dayton, OH 45459 937.848.5600	PUO	OCC, pallets	Greene	N/A	N/A	N/A	497 360=OCC 137=pallets	100% Commercial	N/A	N/A
Meijer Fairborn 3822 Colonel Glenn Highway Fairborn, OH 45324 937.427.6101	PUO	OCC	Greene	N/A	N/A	N/A	720	100% Commercial	N/A	N/A
Sam's Club Beavercreek 3446 New Germany-Trebein Road Beavercreek, OH 45431 937.426.1511	PUO	OCC, plastic shrink wrap	Greene	N/A	N/A	N/A	403 390=OCC 13=plastic	100% Commercial	N/A	N/A

Facility/Activity Name Mailing Address Phone Number	Type of Facility or Activity *	Types of Materials Accepted**	Service Area			Hours Available to Public	Recyclables Processed from the SWMD (TPY)	% of Materials from Sector	Processing Capacity	
			County	Townships and Cities	Population Served				Daily (TPD)	Annual (TPY)
Save-A-Lot 21 E. Dayton-Yellow Springs Road Fairborn, OH 45324 937.482.0305	PUO	OCC	Greene	N/A	N/A	N/A	91	100% Commercial	N/A	N/A
Sears Fairfield Mall 2711 Fairfield Commons Blvd. Dayton, OH 45431 937.427.8500	PUO	OCC	Greene	N/A	N/A	N/A	104	100% Commercial	N/A	N/A
Target #1128 2490 N. Fairfield Beavercreek, OH 612.304.8057	PUO	OCC	Greene	N/A	N/A	N/A	234	100% Commercial	N/A	N/A
Target #1940 4341 Feedwire Rd. Dayton, OH 612.304.8057	PUO	OCC	Greene	N/A	N/A	N/A	260	100% Commercial	N/A	N/A

Facility/Activity Name Mailing Address Phone Number	Type of Facility or Activity *	Types of Materials Accepted**	Service Area			Hours Available to Public	Recyclables Processed from the SWMD (TPY)	% of Materials from Sector	Processing Capacity	
			County	Townships and Cities	Population Served				Daily (TPD)	Annual (TPY)
Toys-R-Us 2626 North Fairfield Road Beavercreek, OH 45431 937.427.9580	PUO	OCC	Greene	N/A	N/A	N/A	78	100% Commercial	N/A	N/A
WalMart 6244 Wilmington Pike Centerville, 45459 937.848.3188	PUO	OCC, plastic shrink wrap	Greene	N/A	N/A	N/A	1,093 1,080=OCC 13=plastic	100% Commercial	N/A	N/A
WalMart 3360 New Germany- Trebein Road Beavercreek 45431 937.426.8227	PUO	OCC, plastic shrink wrap	Greene	N/A	N/A	N/A	733 720=OCC 13=plastic	100% Commercial	N/A	N/A
WalMart 70 Hospitality Way Xenia 45385 937.376.9878	PUO	OCC, plastic shrink wrap	Greene	N/A	N/A	N/A	463 450=OCC 13=plastic	100% Commercial	N/A	N/A
Wright Patterson AFB 5490 Pearson Rd - Bldg 89 WPAFB, 45433 937.357.4769	PUO	ONP, OCC, MxP, WP,ALC, AONF,SC,A OF,GI, AOP, YW	Greene	N/A	N/A	N/A	2,929 ³	100% Commercial (institutional)	N/A	N/A

³ Does not include 413 tons of yard waste that was taken to BioSource and shown in Table III-6.

Facility/Activity Name Mailing Address Phone Number	Type of Facility or Activity *	Types of Materials Accepted**	Service Area			Hours Available to Public	Recyclables Processed from the SWMD (TPY)	% of Materials from Sector	Processing Capacity	
			County	Townships and Cities	Population Served				Daily (TPD)	Annual (TPY)
Wright State University 3640 Col. Glenn Highway Dayton 45440 937.775.4132	PUO	OCC, Mxp, AONF	Greene	N/A	N/A	N/A	192	100% Commercial	N/A	N/A
HHW Collection Programs										
Greene County Sanitary Engineering, Environmental Services Division 2145 Greene Way Boulevard Xenia, OH 45385 937-562-5929	PA, DO	Typical HHW materials, excluding paint and motor oil	Greene	All	148,404	Quarterly collection events	5 ⁴	Residential = 80% Commercial = 20%	N/A	N/A
Totals							23,430			

*Type of Facility abbreviations are as follows: PA = publicly available, MRF = materials recovery facility, DO = drop-off, HC = hauler collection, SY = scrap yard, PUO = private use only, SCS = subscription curbside, PAYT = pay-as-you-throw, NCS = non subscription curbside

** Material Types are abbreviated as follows: ALC = aluminum cans, ALS = Aluminum scrap, CP=Copper, AONF=All Other Non-ferrous Metals, SC=Bi-metal/tin food cans/Steel (cans, drums, scrap), WG=White goods, AOF=All Other Ferrous, CM = commingled materials, GIC = glass – clear, GIBG = glass – brown & Greene, HDPE = high-density polyethylene, Mag = magazines, MxP = mixed paper, MxPI = mixed plastics, OCC = old corrugated cardboard, ONP = old newspaper, PBd = paperboard, PETE = polyethylene terephthalate, PHBK = phonebooks, PS = polystyrene plastic, AOP= All Other Plastic, SC = steel cans/scrap. U/A = Unavailable, N/A = Not Applicable, YW=yard waste

⁴ Approximately 5 tons of HHW were recycled of the total 8.72 tons of HHW collected in 2005.

**Table III-6
Composting/Yard Waste Management Activities Used by the District**

Facility Name or Activity (e.g., XYZ Composting, Land Application, etc.)	Facility Type*	Location		Waste Received from the SWMD		Processing Capacity		Non-Compostables Landfilled (TPY)	Compost Produced (TPY)
		County	Address/City/ST/Zip/Phone	Type	Amount (TPY)	Daily (TPD)	Annual (TPY)		
Beam Springs, Inc.	PUO/ Class IV	Greene	2910 Henville Road Xenia, OH 45385 937.376.1535	Mulch	100	5	200	0	50
Greene County Sanitary Engineering Environmental Svcs. Div.	PA, DO	Greene	2145 Greene Way Blvd. Xenia, OH 45385 937.562.5931	Grass/ Leaves /Brush	13,864	71	22,157	0	13,864
My Lawn Inc.	PUO Class IV	Greene	3159 St. Rt. 42 South Spring Valley, OH 45370 937.862.8686	Grass/ Leaves /Brush	187	20	5,200 ⁵	N/A	187
Phillips Companies	PUO Class IV	Greene	620 Phillips Drive Beavercreek, OH 45434 937.431.7992	Grass/ Leaves /Brush	4,263 ⁶	N/A	N/A	Unknown	4,263

⁵ Estimated based on reported capacity of 20 TPD and an assumed 260 working days per year.

⁶ These 4,263 tons were received at the Greene Co. Sanitary Eng./Environ. Svcs. drop off, but hauled to Phillips for composting. This tonnage is not included in the 13,864 tons for Greene Co. Sanitary Eng./Environ. Svcs., above. The remaining yard waste at the Greene County facility was ground into mulch and made available to residents and used on public properties.

**Table III-6
Composting/Yard Waste Management Activities Used by the District**

Facility Name or Activity (e.g., XYZ Composting, Land Application, etc.)	Facility Type*	Location		Waste Received from the SWMD		Processing Capacity		Non-Compostables Landfilled (TPY)	Compost Produced (TPY)
		County	Address/City/ST/Zip/Phone	Type	Amount (TPY)	Daily (TPD)	Annual (TPY)		
Village of Cedarville	PA, DO Class IV	Greene	152 West Cedar Street Cedarville, OH 45314 937.766.2911	Grass/Leaves/Brush	60	N/A	N/A	0	13
AJ Stapleton Excavating Co.	PUO Class IV	Greene	9073 SR 48 Centerville, OH 45458 937.885.5025	Yard Waste	407	U/A	U/A	U/A	407
Bio Source	PA, DO Class IV	Greene	875 US Route 68 South Xenia, OH 45385	Yard Waste	592 ⁷	U/A	U/A	U/A	592
Total Yard Waste Recycled:									19,376

*Facility Type abbreviations include PUO= private use only, PA= publicly available, DO=Drop Off
U/A = Unavailable
N/A = Not Applicable

⁷ This 592 tons is the quantity of yard waste that Waste Mgt., Inc. (179 tons) and Wright-Paterson AFB (413 tons) reported as being delivered to BioSource for composting. BioSource did not respond to the survey.

**Table III-8
Existing Open Dumps and Waste Tire Dumps**

Dumpsite # for map	Site Location (Address or Description)	Latitude (Deg, Min, Sec)	Longitude (Deg, Min, Sec)	Land Owner (Street Address, City/State/Zip, Phone)	Types of Materials Disposed	Est. No. of Tires (If tire dump)	Approximate Size of Site in Acres	Time Period Dump Site Existed from (year) to (year)	2005 Status Active, Abandoned, Cleaned Up, No Longer Exists
Shown on Appendix E	3595 Houston Road	084°00'34W	39°34'57N	Joseph Noble 3595 Houston Rd. Waynesville, OH 45068	Scrap Tires	22,220	Property -- 6.23 Acres Site -- Approx 0.34 Acres	2004 to present	Active

**Table III-9
Ash, Foundry Sand and Slag Disposal Sites**

Site Location	Mailing Address Name Address City, State, ZIP Phone	Description of Materials Disposed at Site	Approx. Size of Site (In Acres)	Time Period Site has Existed
½ mile east of St. Rt. 68 On Hyde Road	Morris Bean Company 777 E. Hyde Rd. Yellow Springs, OH 45387 (937) 767-7301	Foundry Sand	6 acres	50+ years (Active, as of 2005)

**Table III-10
Solid Waste Haulers Operating in the District**

Name of Hauling Company	Mailing Address: Street, City ST Zip Phone	Description of Collection Routes (Include Townships, Cities, Villages in the District where Waste is Collected.)	Type of Materials Collected	Tons Collected from the District
BFI/Allied dba Dempsey Waste Systems	1577 West River Road Dayton, OH 45418 937-267-5006	Cities of Beavercreek, Bellbrook ⁸ , Fairborn and Xenia; Village of Cedarville; Townships of Beavercreek, Spring Valley, Sugarcreek, and Xenia	Residential, commercial, and industrial solid waste, yard waste, recyclables and bulk	Solid Waste: 6,222 Recyclables: 383
Rumpke of Dayton	1932 E. Monument Dayton, OH 937-461-0004	All areas ⁹ except for Jamestown, Fairborn, and Bellbrook	Residential, commercial, industrial solid waste, yard waste (Yellow Springs only), recyclables, and bulk.	Solid Waste: 8,178 (does not include Stony Hollow) Recyclables: 3,447
Waste Management of Ohio, Inc.	1700 N. Broad Street Fairborn, OH 45324 937-318-6325	All areas ¹⁰ except for the Cities of Xenia and Bellbrook, and the Village of Yellow Springs	Residential, commercial, and industrial solid waste, yard waste, recyclables and bulk	Solid Waste: U/A Recyclables: 6,920 ¹¹

⁸ Dempsey has Bellbrook under contract; all other areas via subscription.

⁹ Rumpke is the contracted hauler for the City of Xenia, Cedarville and Yellow Springs, and serves all other areas via subscription.

¹⁰ Waste Management is the contracted hauler for the Village of Jamestown and City of Fairborn, serves other areas via subscription.

¹¹ Includes industrial waste recycled, this tonnage is not shown in Table 3-5.

IV. Reference Year Population, Waste Generation, and Waste Reduction [ORC Section 3734.53(A)(5)-(6)]

A. Reference Year Population and Residential/Commercial Generation

The planning period for the District's Plan Update is 15 years (2008 through 2022), with 2005 being the Reference Year. Table IV-1 presents the District's adjusted population and residential/commercial waste generation for 2005.

The 2005 reference year adjusted population of 148,404 was determined by using the Greene County population projections from the Ohio Department of Development, Office of Strategic Research, *Population Projections by Age and Sex: 2005-2030*.

In accordance with Ohio law, the adjustment to the District's population for 2005 reflects the addition and subtraction of population segments of cities or villages that straddle the County line. Since the majority of the population of the Village of Clifton is located in Greene County, the 49 Clifton residents living in Clark County were added to the District's population. Conversely, the 195 residents of the City of Kettering were subtracted from Greene County's population since the majority of Kettering residents are in Montgomery County. This resulted in a net subtraction of 146 residents.

To estimate the amount of solid waste generated in the District by the Residential/Commercial Sector, the Ohio EPA recommended that a generation rate of 4.74 pounds/person/day be used. To calculate solid waste generation including recycling, the District used the following methodology:

Per Capita Generation Rate x population x 365 days / 2,000 pounds

$4.74 \text{ pounds} \times 148,404 \text{ people} \times 365 \text{ days} / 2,000 \text{ pounds} = 128,377 \text{ tons}$

The District has determined that this sector recycled 42,805 tons in 2005. If that amount is subtracted from the estimated generation of 128,377 tons, then the District would have landfilled about 85,572 tons. This does not correspond with revenues from the generation fee. As discussed in Section III, the 2005 landfill records do not accurately reflect the distribution between residential/commercial and industrial generation categories of the quantities of Greene County waste disposed in 2005. The methodology to quantify the amount of residential/commercial waste that was disposed in 2005, 113,117 tons, is provided in Section III.

B. Industrial Waste Generation

To estimate the amount of industrial waste generated during 2005, the results of the District's 2005 industrial survey were used to determine the per employee generation rate for SIC Codes 20 and 22-39. Once this had been determined, the per employee generation rate was applied (or where appropriate, the Ohio EPA rates from the State Format 3.0, Appendix JJ) to the 2005 employment for SIC Codes 20, 22-39 to estimate the 2005 generation quantities. The District chose to use Appendix JJ for SIC Codes 23, 28, 32, 33, 34 and 39 because the generation rates from respondents were either significantly higher or lower than the state average. A copy of the District's industrial survey data is provided in Appendix F.

As presented by Table IV-3, the industrial generation quantity for 2005 was 47,408 tons. This tonnage differs from the reported industrial waste disposal of 6,931 tons in Section III. This is due to the fact that the information in Section III is a result of landfill owners reporting the amount of industrial waste that was disposed in 2005 to the Ohio EPA. As described in Section III, this reported data was adjusted by the Ohio EPA. The 47,408 tons is based upon the industrial surveying, and the calculation of the waste generation for the non-responding industries, plus the reported amount from the responding industry. To determine the industrial generation rate on a lbs./per capita/day basis, using survey data, the following equation was used.

$$\text{Generation Rate} = (\text{industrial waste generation}/\text{population}) \times 2,000/365$$

$$\text{Generation Rate} = 47,408/148,404 \times 2,000/365$$

$$\text{Generation Rate} = 1.75 \text{ lbs./capita/day}$$

C. Exempt Waste

This category of waste includes all waste disposed in publicly-available solid waste landfills, that is not characterized as solid waste. Examples of such include construction and demolition debris, and non-toxic foundry sand.

The 2005 landfill reports show that 953 tons of exempt waste was disposed in publicly-available landfills in 2005, with a generation rate of 0.04 lbs./capita/day. Table IV-4 displays the exempt waste disposed within this category. The calculation to determine the generation rate was:

$$\text{Generation Rate} = 953/148,404 \times 2,000/365 = .04 \text{ lbs/capita/day}$$

D. Total Waste Generation

Table IV-5 presents the total waste generation for the District in 2005 using national averages for residential/commercial generation, the exempt waste, and the results of the industrial survey for both the responding and non-responding industries. Based upon these categories, the District would have generated 176,738 tons.

E. Reference Year Waste Reduction

To the District's knowledge, there were no specific source reduction programs or activities being implemented in the residential/commercial or the industrial sector in the reference year. During the industrial surveying, industries were asked for information concerning any minimization programs they may have initiated. However, for those that responded, it was determined that the activities were, by definition, recycling programs rather than minimization efforts. A complete description of the existing and proposed programs and strategies can be found in Section V.

Residential/Commercial Sector

Residential/commercial recycling tonnage was determined through surveys from individual haulers, large commercial establishments, institutions, composting facilities and recyclers. All recycling tonnages have been checked for double counting by using information requested in the survey as well as phone calls to ensure that recyclables were not sold to or received by other recyclers that collect from the District. After eliminating double counting, the total amount of material recycled by the residential/commercial sector was 42,805 for 2005 (23,429 tons residential/commercial recycling and 19,376 tons of yard waste). The quantity of each material recycled or composted is presented in Table IV-6. Detailed descriptions of the residential/commercial waste reduction programs, and their strengths and weaknesses, are provided in Section V.

Industrial Sector

The amount of solid waste recycled by the industrial sector in 2005 was 30,529 tons. This is the reported amount by the responding industries to the industrial survey. A breakdown by material type recycled can be found in Table IV-7. Detailed descriptions of the industrial waste reduction programs, and their strengths and weaknesses, are provided in Section V.

F. Total Waste Generation: Historical Trends of Disposal Plus Waste Reduction

Table IV-8 presents the total waste generated in the District in 2005 based upon disposal plus waste reduction. This estimate is based upon the use of landfill records for residential/commercial generation, exempt waste, and the industrial survey. As shown, total waste generation was estimated to be 194,335 tons.

G. Reconciliation of Waste Stream

The District utilized two different methodologies to estimate waste generation in 2005. The first used national averages, results of the industrial survey for both responding and non-responding industries, and exempt waste. The resulting total generation equaled 176,738 tons.

The second method used had residential/commercial generation equaling 155,922 tons including both disposal and recycling tonnages. Industrial generation is based upon Ohio EPA adjusted landfill records indicating 6,931 tons disposed, and 30,529 tons recycled as per the industrial survey. Total industrial generation equaled 37,460 tons. When exempt waste is added to these, total generation for the District equaled 194,335 tons.

For planning purposes, the District has elected to use the second method for determining total waste generation, resulting in a total generation of 194,335 tons.

H. Waste Composition

Waste composition for the residential/commercial sector was estimated using data from the landfill composition study conducted by the Ohio Department of Natural Resources, Division of Recycling and Litter Prevention. The percentages from this study were applied to the 2005 Greene County residential/commercial disposal quantity, which was 113,117 tons. The quantities of each waste stream that were disposed in 2005 are shown in Table IV-10.

Only a limited number of industries were able to provide information of the composition of their disposed waste stream. Therefore, Table IV-11 was not completed.

Table IV-1. Reference Year Population and Residential/Commercial Generation

County Name	Population		Generation Rate (pounds/person/day)	Total District Generation (TPY)
	Before Adjustment	After Adjustment		
A - Greene	148,550	148,404	4.74	128,377
Adjustment 1 Clifton	49			
Adjustment 2 Kettering	-195			
Totals	148,550	148,404	4.74	128,377
Note: Add 49 residents for the Village of Clifton, subtract 195 residents for the City of Kettering.				
Calculation: 148,408 x 4.74 x 365 / 2,000 = 128,377 tons.				
Source: Ohio Dept. of Development, Office of Strategic Research - Population.				
Source: Ohio EPA - Per Capital Generation Rate				

Table IV-3.

Industrial Waste Generation Survey Respondents vs. Non-Responding

SIC Code	Survey Respondents				Amount Based Upon Secondary Data			Total Waste Generated (Tons)
	# of Industries	# of Employees	Tons of Waste Generated	Generation Rate (tons/emp/year)	# of Industries	# of Employees	Tons of Waste Generated	
20	1	85	9,440	111.06	2	11	1,222	10,662
22								
23	3	26	7	0.27	7	51	14	22
24	3	23	439	51.62	3	36	1,858	2,297
25	1	1	5	4.50				5
26	1	55	1,134	17.50	2	115	2,013	3,147
27	5	392	3,113	7.94	13	55	437	3,550
28	2	45	229	5.09	5	27	137	366
29								
30	1	17	139	8.18	4	63	514	653
31								
32	4	304	14,082	10.55	3	86	907	14,989
33	2	137	689	36.93	2	34	1,256	1,944
34	3	35	5,663	11.16	8	247	2,757	8,419
35	8	130	322	2.48	11	132	327	648
36	2	5	1	2.98				1
37	3	682	297	3.21				297
38	5	140	192	1.74	7	84	146	338
39	2	10	7	0.70	12	90	63	70
Total Tons	46	2,087	35,759	NA	79	1,031	11,650	47,408
Note: Tons of waste generated by the non-responding industries are based on estimates of the generation rates of the responding industries except for SIC categories 24, 26, 32, 33, 34, 36, 37 & 38 which are taken from the State Format 3.0, Appendix JJ.								
Sample Calculation: SIC 20 - Waste Generated 9,440 tons divided by # of Employees 85 = Generation Rate/Employee 111.06 tons/emp/year								

Table IV-4.

**Exempt Waste Generated in the District
and Disposed in Publicly-Available Landfills**

Type of Waste Stream	Generation Rate (lbs./person/day)	Total Exempt Waste Generation (TPY)
Exempt Waste	0.04	953
Total	0.04	953
Calculation: $953 \times 2000 / 148,404 / 365 = .04$		

Table IV - 5.

Reference Year Total Waste Generation for the District

Type of Waste	Generation Rate (lbs/person/day)	Tons/Year
Residential/Commercial	4.74	128,377.00
Industrial	1.75	47,408.00
Exempt	0.04	953.00
Total Waste Generation	6.53	176,738

Table IV-6.

Reference Year Residential/Commercial Waste Reduction

Waste Source Reduced	TPY	Type of Waste Recycled	TPY	Incineration, Composting, Resource Recovery		
				Total Waste Received	Residual Landfilled	Net Waste Processed
Residential	0	Tires	10	Incineration NA	Ash NA	Net Incinerated NA
Commercial	0	Batteries	107			
		HHW	5			
		Ferrous Metals	852			
		Non-Ferrous Metals	42	Composting 19,376	Residuals NA	Net Compost 19,376
		Cardboard	8,126			
		All Other Paper	137	Resource Rec. NA	Ash NA	Net RR NA
		Commingled Recyclables	13,806			
		E-Waste	19			
		Mixed Plastics	52			
		Wood	273			
Subtotals	0		23,429		Grand Total	42,805

Table IV - 7.

Reference Year Industrial Waste Reduction in the District

Type of Waste Recycled	TPY	Type of Waste Recycled	TPY	Incineration, Composting, Resource Recovery		
				Total Waste Received	Residual Landfilled	Net Waste Processed
Batteries	4	Plastics	52	Incineration NA	Ash NA	Net Incinerated NA
Co-mingled		Cardboard	891			
Slaughterhouse Waste	7,607	Paper-Other	2,100	Composting NA	Residuals NA	Net Compost NA
Ferrous Metals	5,912	Concrete	200	Resource Rec. NA	Ash NA	Net RR NA
Non-Ferrous Metals	315	Cement Kiln Dust	13,026			
Oil	10	Yard Waste	10			
Textiles		Wood	402			
Subtotal	13,848	Subtotal	16,681	Grand Total		30,529
Note 1. Phillips Cos. recycled 200 tons of concrete by making blocks for retaining walls.						
Note 2. Bob Evans Farms recycled 7,607 tons of slaughterhouse waste, a by-product of their sausage-making operations. It was recycled into animal feed by Anamax in Columbus, Ohio.						
Note 3. CEMEX, a cement manufacturer, recycled 13,026 tons of cement kiln dust, a by-product of their manufacturing process. It is used for road stabilization projects in Indiana.						

Table IV-8. Total Waste Generation Based Upon Disposal Plus Waste Reduction

Year	Management Method Used in TPY						Total Waste
	Source Reduction & Recycling	Yard Waste Composting	YW Land Appl.	Incineration	MSW Composting	Landfill Disposal	
2002	40,734	7,893	0	0	0	131,660	180,287
2003	39,925	8,624	0	0	0	115,095	163,644
2004	39,402	21,605	0	0	0	119,278	180,285
Reference Year 2005	53,958	19,376	0	0	0	121,001	194,335
Note: Included in the 2005 Landfill Disposal is 953 tons of Exempt Waste.							
Note: Landfill Disposal = 113,117 (R/C) + 6,931 (Ind.) + 953 (Exempt) = 121,001 tons.							

Table IV - 9.

Reference Year Total Waste Generation for the District

Type of Waste	Generation Rate (lbs/person/day)	Tons/Year
Residential/Commercial	5.76	155,922
Industrial	1.38	37,460
Exempt	0.04	953
Total Waste Generation	7.18	194,335

Table IV-10.

**Estimated Residential/Commercial Landfilled
Waste Stream Composition for 2005**

Material Category	Percent of Waste Stream	Tons Disposed by Greene County
Corrugated Paper	8.75%	9,898
Office Paper	8.47%	9,581
Mixed Paper	8.30%	9,388
Newsprint	8.88%	10,045
Magazines	3.66%	4,140
Paperboard	3.29%	3,722
LDPE #4	2.27%	2,568
PET #1	2.40%	2,714
HDPE #2	5.76%	6,515
PVC #3	0.49%	554
PP #5	0.61%	690
PS #6	1.63%	1,844
Other Plastics	2.41%	2,726
Aluminum Beverage Cans	1.34%	1,516
Alluminum Foil/Food Trays	0.45%	510
Other Aluminum	0.25%	283
Tin Food Cans	1.56%	1,764
Other Tin Cans	0.28%	317
Yard Waste	10.50%	11,877
Textiles	6.66%	7,534
Diapers	3.28%	3,710
Food	13.03%	14,739
Glass	4.77%	5,395
Empty Aerosol Cans	0.28%	317
Medical Waste	0.45%	510
Fines and Super Fines	0.23%	260
Total	100.00%	113,117

Source: Ohio Department of Natural Resources, Division of Recycling and Litter Prevention

V. Planning Period Projections and Strategies [ORC Section 3734.53(A)(5)-(6)]

A. Planning Period

The planning period for the District is 2008 through 2022.

B. Population Projections

The planning period for the District's Plan Update is 15 years, with the reference year being 2005. Table V-1 presents the District's adjusted population for the planning period. The 2005 reference year adjusted population of 148,404 was determined by using the Greene County population projection from the Ohio Department of Development, Office of Strategic Research.

The Ohio Department of Development (ODOD), Office of Strategic Research published the results of the 2000 census and made projections regarding the future population for each county in Ohio. For this Plan we are assuming that the population of Greene County will change according to the projections published by ODOD and that the population of a part of a municipality that is added or subtracted from the District will remain the same for each year of the planning period.

As explained in Section IV, the adjusted population resulted in a net adjustment (subtraction) of 146 residents. This adjustment is straight-lined throughout the planning period.

C. Waste Generation Projections

1. Residential/Commercial Sector

Table V-2 displays the residential/commercial waste generation estimates for the 15-year planning period. The 2005 generation rate was 5.76 lbs./capita/year. To project the annual generation rates throughout the planning period, the District used the annual percentage increases of 0.1 percent per year from the U.S. EPA Report, "Characterization of Municipal Solid Waste in the United States". As shown in Table V-2, the total quantity of residential/commercial waste is projected to increase during the 15-year planning period, corresponding to the projected increase in the generation rate from 5.76 lbs./capita/day to 5.86 lbs./capita/day in 2022.

Each year, during the development of the District's annual report, actual residential/commercial waste generation rates will be monitored and compared to the projections.

2. Industrial Sector

Table V-3 presents industrial waste generation estimates for the 15-year planning period with 2005 being the reference year. The District projects the industrial generation rate to remain constant, but the amount of industrial waste generated annually is projected to decrease due to a projected decrease in manufacturing employment. The Ohio Bureau of Employment Services (OBES) projects a 0.7 percent annual decrease in employment for SIC Codes 20, and 22-39. (Source: Southwest Central Ohio - Economic Development Region 4 Industry Employment Projections Report, 2002-2012). Currently, OBES does not have employment projections beyond 2012. For planning purposes, the District used the 0.7 percent decrease through 2022. The District will monitor both the industrial generation rate and employment throughout the planning period.

3. Total Waste Generation

Table V-4 displays the total waste generation for the 15-year planning period. The District has inserted an "Exempt Waste" column in the table. The 2005 report indicated that 953 tons of waste classified as "exempt" was disposed in publicly-available sanitary landfills. The District has assumed that this material was previously taken to a captive landfill. However, for planning purposes, the District incorporated this amount for each year of the planning period.

Overall, the total generation rate is projected to decrease, and the total amount of waste generated in the District is expected to increase slightly over the planning period. This reflects a combination of projected increases in the residential/commercial waste generation and decreases in industrial waste generation.

D. Projections for Waste Stream Composition

The District does not anticipate any measurable changes in the composition of the waste stream during the 15-year planning period.

E. Waste Reduction Strategies through the Planning Period

The District has successfully facilitated and monitored the reduction of the residential/commercial and industrial waste streams. As part of the planning process, the District's Policy Committee and staff participated

in a review of those programs and activities, identifying the strengths and weaknesses of each. All programs listed in this section were active during the reference year. It is planned these strategies will continue through the planning period.

Residential/Commercial Waste Reduction Strategies

P-1 Residential Curbside Recycling, Non-Subscription

Residential collection provided by private haulers contracting with local governments. The cities of Bellbrook, Fairborn, Xenia, and the villages of Yellow Springs, Jamestown, Cedarville, and Spring Valley have this service. Materials collected include cardboard, newspapers, mixed paper, glass, plastics, and beverage cans and metals.

Strengths:

- Services are consistent and convenient;
- Less hauler traffic than subscription communities;
- Service providers are reliable;
- Service providers respond quickly to complaints/issues;
- Recycling services-normally provided in cost of waste hauling;
- Recycling service is less expensive than in subscription communities;
- In some cases, bills are consolidated with other jurisdictional services; and,
- Local governments can insist that recycling be part of contract.

Weaknesses:

- Some haulers may not accept some items;
- No choice if unhappy with provider;
- Need more information on what can be recycled and to encourage recycling – many believe it goes to the same place as the waste; and,
- Can be eliminated if recycling is not specified as part of the contract.

P-2 Residential Curbside Recycling, Subscription

Residential curbside collection is provided by private haulers through arrangement with individual homeowners. This service is offered to the City of Beavercreek and virtually all unincorporated areas of the District. The materials collected are the same as for P-1.

Strengths:

- Residents given a choice;
- Can work well when a city backs a program and provides information to the citizens; and,

- Regular, reliable service.

Weaknesses:

- Recycling usually extra charge;
- Participants are scattered around the community, resulting in less efficient collection;
- Usually does not work well when a city does not back the program or educate its citizens;
- Doesn't necessarily offer curbside recycling services to all the customers who would like to recycle;
- Multiple trucks utilizing same roads – hard on infrastructure; and,
- Perception that trash and recycling materials go to the same place.

P-3 Commercial Recycling – Businesses collect and transport materials to markets, or contract with a hauler to perform this service, or have the materials backhauled to a central location. In 2005, over 8,597 tons of materials were recycled by this sector. The District's involvement in this program is to periodically survey these commercial entities to gauge the volume of material recycled.

Strengths:

- Businesses save on cost of waste bill by reducing trash;
- Getting paid for what can be recycled and reducing the amount of waste;
- Helps to cut down on waste going to landfill; and,
- Operates without cost to residents.

Weaknesses:

- Smaller businesses where labor is involved look at it as extra work – therefore offsets any savings;
- Not all businesses participate; and
- Volume must be great enough to justify.

P-3A Wright Patterson Air Force Base

Wright Patterson Air Force Base (WPAFB) has an active and organized recycling program on the base. This program which is operated for base personnel collects aluminum and steel cans, newspapers, office papers, ferrous and non-ferrous metals, glass, plastics, wood, and yard wastes. In 2005, WPAFB recycled 2,929 tons of material composted 413 tons of yard waste. In Table V-5, the 2,929 tons are reported in P-3A and the yard waste is included in P-4B. WPAFB also has a vermicomposting operation on the base.

Due to potential changes in military funding, potential base reorganizations and closings, the District has elected to straight-line the volume of recyclables for each year of the planning period.

P-4 The Recycling Center – This central facility, located at 2145 Greene Way Blvd. In Xenia, provides centralized operations of District programs. These include on-going drop-off for standard household and small business materials, special events for recycling, yard waste and special wastes (see following programs). In 2005, a total of 174 tons of materials (not counting yard waste) were recycled here.

Strengths:

- Good service and well laid out – easy in and out;
- Facility is clean, well-organized with plenty of room;
- Providing recycling at no or low cost to the county and its residents;
- Convenient hours of operation;
- Good programs provided;
- Good assistance at the facility;
- Available to everyone, providing a place for those that do not have recycling readily available (apartments, etc.) or may not be able to justify the expense (small business) to recycle; and,
- Contributes to the goals of the State Solid Waste Management Plan.

Weaknesses:

- Outlying communities feel it is too far to travel, and that it closes too early;
- Unmet demand for even longer hours of operation;
- Not being able to recycle everything that can be recycled such as various sizes of televisions and monitors;
- Might inadvertently contribute to some local communities not pursuing recycling;
- Costly to operate;
- Cost of gas making it expensive for residents to drive to site; and,
- Convincing people to use the facility.

P-4A Drop-Off Recycling – The Recycling Center provides a drop-off site for a full range of recyclable including newspaper, cardboard, mixed paper, #1 and #2 plastics, glass, bi-metal cans, aluminum cans, lead-acid and ni-cad batteries, and cell phones. The hours of operation for the Drop-Off program at the Recycling Facility are: Monday-Thursday 7:30 AM to 8:00 PM, Friday 7:30 AM to 4:30 PM, Saturday 9:00 AM to 4:00 PM.

Strengths:

- Most comments provided in P-4 apply to this program;
- Takes almost everything a household would want to recycle;
- Reduces the amount of recyclable materials that end up in landfills;
- Promotes Greene County in a positive light;
- Provides some cost recovery for the District; and,
- Provides some minor funding for program operation.

Weaknesses:

- Most comments provided in P-4 apply to this program; and,
- Difficulties with some of the markets for recyclables.

P-4B Yard Waste Drop-Off Program – The Recycling Center provides residents no-charge drop-off service for leaves, grass, and brush. The material is process into mulch/soil amendment, and made available to various organizations and the general public. The central site at 2145 Greene Way Blvd. is open all year. Satellite sites are also offered in Beavercreek, Sugarcreek, and Fairborn during the months April through November. In 2005, approximately 13,000 tons of material was dropped off at the Recycling Center. The hours of operation for the yard waste drop-off program at the Recycling Facility are: March through December, Monday-Thursday 1:00 Pm to 8:00 PM and Saturday 9:00 AM to 4:00 PM.

Strengths:

- Offers a service to residents who don't have a separate collection of yard waste;
- Convenient to large number of District residents;
- Very popular with residents – positive image for the District;
- Exposure to District services and Environmental Services outside Xenia;
- Mulch provided to residents free of charge;
- Receiving the materials and processing it for recycling in-house – good control over service; and,
- Provides a substantial portion of the tonnage needed to meet the recycling percentage goal.

Weaknesses:

- Resource and cost intensive;

- Most complaints received in Environmental Services are regarding hours of operation (closed Friday);
- Not very convenient to areas of eastern Greene County;
- Difficult to eliminate a service once it's offered; and,
- Not getting any revenues from the end product after it has been processed.

P-4C Special Wastes Collection Events – Monthly collection events are held at the Recycling Center, accepting household hazardous waste, old computers/electronics, and appliances/scrap metal. Tonnages for these materials can be found in Section III. The monthly events are held on Saturday, from 9:00 AM to 1:00 PM.

Strengths:

- Remove hazardous waste from municipal solid waste stream and from improper disposal in the sewers;
- Able to offer 12 times a year at a cost that is lower to the District than if HHW was collected at remote collection events;
- Monthly activity means residents don't call up a week after the event and have no options;
- Contributes to positive image for the District;
- Popular program;
- Efficient; good help provided to residents; and,
- Provides some cost recovery for the District.

Weaknesses:

- Difficulty getting word out to general public about program;
- Not offering 5 days a week during normal operating hours; and,
- The program is not always accommodating to individual schedules.

P-4D Roadside Litter Collection – Staff from the Recycling Center oversees this program which provides for the collection of litter and tires along county roadways. This program also provides support to the Recycling Center to clean and remove trash from the drop-off collection containers and assist, if needed, with processing the recyclables. Scrap metal and tires collected through this program are recycled. The program relies on inmate workers from the Adult Detention Center.

Strengths:

- Good outreach program – helps to promote litter reduction;
- Keeps Greene County roads clean;

- Utilization of inmate workers; and,
- A needed program offering service to local jurisdictions/road departments.

Weaknesses:

- Worker safety concerns (traffic and handling potentially dangerous materials);
- Only able to clean a certain amount of roadways per year;
- Program is reactive only – it does not stop littering; and,
- Enforcement of litter and dumping laws must compete with higher priority concerns.

P-4E Inter-Agency Recycling Network – The District provides for the recycling of numerous materials from local governmental offices. Offices by way of example include Greene County Sanitary Engineering, Greene County Commissioners offices, City of Beavercreek. Materials collected are collected by District personnel and taken to the Greene County Recycling Center. Materials include office papers, newspapers/magazines, cardboard, plastics and cans.

Strengths:

- Provides appreciated service to other government agencies;
- Easy to track recycling numbers;
- Convenient; is successful in getting the offices to recycle;
- Collectors are pleasant;
- County does not pay outside company to recycle; utilizes inmate workers; and,
- District getting the revenues for the recyclables.

Weaknesses:

- Fuel prices driving up costs;
- Limits on the number of locations that can be serviced; and,
- County employees need to be kept motivated to participate – be shown recycling really is taking place.

P-4F Scrap Tire Program – This program collects and disposes of scrap tires through the Roadside Litter Collection Program. Through the Inter-Agency Recycling Network, old tires generated from county-owned vehicles are collected and recycled.

Strengths:

- Adds to the total number of tires getting recycled;

- Keeps tires from becoming safety hazards related to breeding mosquitoes; and,
- Removes unsightly tires from roads.

Weaknesses:

- Just cleaning up – not enforcing laws against violators;
- Limited approach to dealing with scrap tires; and,
- Cost of disposal.

P-5 Residential/Commercial Sector Education & Awareness

This program provides information and assistance to residents of the District, encouraging proper source reduction, recycling, and yard waste management practices through four components.

P-5A The Recycling Center-Based Public Information – Brochures are published and disseminated, offering source reduction and recycling information, as well as how to use the District’s services at the Recycling Center. Brochures and flyers are sent to the local jurisdictions, which provide the citizens with the program information either in hard copy form or on their website. Brochures are also posted on the County website. In addition, press releases are issued announcing new program offerings or changes.

Strengths:

- Publications are clear and informative;
- Many local jurisdictions have District information on their website;
- Gets updated frequently and more options added;
- Handing out brochures is another tool to inform people of the programs and hours of operation; and,
- Growing utilization of the District’s website.

Weaknesses:

- Letting people know where/how to get information;
- Sometimes “preaching to the choir”; need to engage the non-recyclers;
- Could make better use of public access TV;
- The cost of printing;
- Need wider distribution effort; and,
- Can be time consuming to change web page.

P-5B Outreach Efforts – District staff is involved in seminars on waste reduction, recycling, and yard waste management; staff the County Fair exhibit; routinely have exhibits at 2-3 community events; make

presentations at various local schools and community groups; and conduct tours of the Recycling Complex.

Strengths:

- Good way to be seen/raise awareness of District and its programs;
- Gets more people involved; and,
- Popular programs.

Weaknesses:

- Need to be more places and actively promote programs;
- It seems to attract only those who are interested; and,
- Need more media coverage.

P-5C Publication – Includes waste reduction information for the residential/commercial and industrial sectors in *Pipelines*, the quarterly publication of the County.

Strengths:

- Well written and informative; and,
- Cost-effective advertising for District programs.

Weaknesses:

- Only reaches a certain number of people;
- Uncertain about readership levels; and,
- Uncertainty about its ability to get residents interested/stir them to action.

P-5D Waste Reduction Information – Provide source reduction tips, including re-use options; working with vendors on materials exchanges and purchasing alternatives.

Strengths:

- Provides information about the programs;
- Gives good one-on-one feedback opportunities;
- Gives residents options to disposal; and,
- Reduces residents' waste disposal costs.

Weaknesses:

- Reaches only a few people; and,

- Materials exchange not well known.

Industrial Waste Reduction Strategies

P-6 Industrial Sector Technical Assistance and Education –

Similar to the residential/commercial sector program, this program provides information and assistance to industries, encouraging proper source reduction, recycling, and yard waste management practices. This program has three components:

P-6A Outreach Efforts – District staff are involved in seminars on waste reduction, recycling, and yard waste management; they staff a County Fair exhibit; and routinely have exhibits at 2-3 community events.

Strengths:

- Offers a way to get the word out to industries about the programs and why they are important;
- Provides information on program hours and operations;
- Offers both group and one-on-one discussion of industry's needs; and,
- It is getting the word out at a low cost.

Weaknesses:

- Insufficient funding for advertising;
- Time consuming, including overtime costs, to staff community functions;
- It reaches only limited audiences; and,
- Users are not targeted.

P-6B Publication – Include waste reduction information for residential/commercial and industrial sectors in *Pipelines*, the quarterly publication of the County.

Strengths:

- Pipelines is very informative and useful;
- It can be done at a low cost;
- Have received numerous calls/customers from this source; and,
- Reaches over 20,000 homes/businesses at no additional cost to the District (many more than local newspapers).

Weaknesses:

- Not sure if *Pipelines* is really read extensively by people in businesses; and,
- Does not reach all of the District's customers.

P-6C Waste Reduction Information – Provides source reduction tips, including reuse options, working materials exchanges and purchasing alternatives. The District also participates in the *Materials Interchange*, which allows business and industry to post excess materials they may have for sale, or the purchase of another company's materials.

Strengths:

- Provides useful information about the programs and lets companies know the wide range of alternatives;
- Gives good one-on-one feedback opportunities; and,
- Win/win situation – helps District meet goals and usually saves companies money on disposal costs.

Weaknesses:

- Limited penetration of information within organizations;
- Companies reluctant to let outsiders look at processes that create waste; and,
- Companies overall reluctance to use the tools.

The District's solid waste management programs for industries address state Goal #3 and Goal #4.

In addition to addressing the solid waste management needs of the residents and businesses of the District, these programs and activities described above addressed the following seven solid waste management goals of the State of Ohio Solid Waste Management Plan.

Goal #1: Ensure the availability of reduction and recycling opportunities/programs for residential/commercial waste.

Goal #2: Reduce and/or recycled at least 50 percent of the industrial waste generated, and reduce and/or recycle at least 25 percent of the residential/commercial waste generated by the year 2000.

Goal #3: Provide informational and technical assistance on source reduction.

Goal #4: Provide informational and technical assistance on recycling, reuse, and composting opportunities.

Goal #5: Develop strategies to manage scrap tires and household hazardous wastes (HHW).

Goal #6: Annual reporting of Plan progress.

Goal #7: Prepare a market development strategy.

Program or Activity Code	Goal 1	Goal 2	Goal 3	Goal 4	Goal 5	Goal 6	Goal 7
P-1	X	X					
P-2	X	X					
P-3		X					
P-3A							
P-4	X	X	X	X	X		
P-4A	X	X					
P-4B	X	X					
P-4C	X	X			X		
P-4D			X	X			
P-4E		X	X	X			
P-4F		X	X	X	X		
P-5A			X	X			X
P-5B			X	X			
P-5C			X	X			
P-5D					X		
P-6			X	X			
P-6A			X	X			
P-6B			X	X			

The programs and activities operated by the District have resulted in District-wide conformance to all of the state goals.

F. Future Solid Waste Management Strategies and Programs

The current District programs are effective and all will be continued for the next 15 years. The District's new Director began in December of 2007, and while late in the planning process, began an extensive review of the Plan Update.

One of the most challenging revelations was the lack of solid baseline data for the residential, commercial, institutional, and industrial sectors. Absent data included numbers for the residential curbside programs including participation rates by community. The District plans to initially create a comprehensive database that will form the foundation for policy direction in the future.

Following are specific strategies that the District plans to implement to address these deficiencies and make improvements to the District's management of solid waste. In addition, Tables V-5 and V-6 project the impact of the District's programs and strategies on the quantity of materials that will be recycled or composted throughout the 15-year planning period.

Survey and database development – This strategy will address the three waste generator categories of residential, commercial, and industrial. The strategy will survey each of these categories on a schedule in order to evaluate their recycling, report accurate data for the Annual District Report (ADR), and prepare for the next plan update.

Residential – Each year the District will survey the waste haulers to determine the amount of non-subscription and subscription residential curbside recycling. This activity will begin in 2008. This activity will provide data for the strategies listed on Table V-5 titled curbside recycling – non-subscription and curbside recycling – subscription.

Since baseline data is not available for the individual non-subscription and subscription curbside programs as well as historical data, the District is not projecting recycling increases for these programs during the planning period. As a result, the recycling projections for this portion of the residential sector infrastructure are flat-lined in Table V-5.

Commercial - For this plan update the District conducted an extensive recycling survey of the commercial sector. This data is and will be valid for several years. However, the District will continue to update the recycling data. In 2009, the District will review the commercial business that were surveyed and determine if they are still in business. If all of the businesses are still operating, the data compiled from the survey will be reported in the ADR. Additionally, the District will determine if there are new businesses that should be added to the survey. New business will be surveyed to determine the amount of materials they are recycling. This data will be listed in the ADR.

To prepare for the plan update, the District will conduct a full survey of the commercial sector. The baseline for this survey will be 2010 or 2011. The actual baseline year will be determined in conjunction with OEPA in order to gather accurate data that can be used to complete the next plan update.

For this strategy, the annual increase in recycling shown in Table V-5 is attributed to the expected increase in surveying of the commercial sector. This increase is considered conservative with a total increase

in recycling of approximately 6% over the fifteen-year planning period or 0.4% annually. In the ADR, actual reported recycling data will be listed.

Industrial – Table V-6 is where data for this sector is currently listed. As part of this plan update a survey of this sector was completed. The survey indicated 30,529 tons of materials were recycled. No major change in the amount of industrial waste generation or recycling is listed in the plan update. To monitor recycling and prepare for the next plan update, the District will compile a comprehensive list of industrial businesses. Then the District will survey the business. The baseline year for this survey will be 2010 or 2011. The actual baseline year will be determined with input from OEPA so the data will apply for the next plan update.

Volumes of recyclable materials determined through the survey process will be included in the current District strategies. As demonstrated on Table V-6, the projected recycling will decrease through the planning period because as described in this Section V, Part 2, the total amount of industrial waste will decrease. The recycling rate is fixed at the baseline rate of 81.5%.

The District, Policy Committee, waste haulers, recyclers, local governments, and business will benefit from this strategy because it will monitor the current recycling and prepare for future District plan updates.

The recycling data collected through the survey process will be placed into a database. This will allow both qualitative and quantitative measurement of the success of the strategy. As the strategy is developed, the District and policy committee will easily be able to evaluate the volume of recycling generated by each category of generator.

Recycling Center and Services Promotion – The District will increase promotional activities designed to maximize the investment in the Greene County Environmental Services Central Recycling Complex. This facility currently provides drop-off and recycling of several materials. The recyclable materials include, but will not be limited to, newspaper, mixed office paper, cardboard, #1 and #2 plastic bottles, metal cans, yard waste, used electronics, and household hazardous waste.

To raise citizens' awareness of this service, the District will launch a renewed public information campaign. The campaigns will take place

in 2009, 2013, and 2017. Examples of activities or programs that may be included in the strategy are:

- press releases,
- paid advertising for print, radio, or TV,
- recycling contest,
- development of additional brochures, flyers, or fact sheets
- educational lessons to school children
- presentations to adults focusing on professional organizations
- web site information

Additional materials recycled as a result of the implementation of this strategy will be listed in the strategy for the Recycling Center, including, drop-off recycling, yard waste composting, special wastes events, roadside litter collection, inter-agency network, and scrap tires. As listed in Table V-5, the total projected annual increases in recycling from this strategy are based on generation, but the District will attribute the recycling increases to the public relations campaign.

For any existing or new strategy listed, the District reserves the right to modify the activities. Changes will be made in order to provide services that achieve the recycling goal and are within the financial resources of the District.

Optional Future Solid Waste Management Strategies and Programs

Listed below are activities or programs that the District may pursue during this planning period. This list is provided to allow the District to pursue additional programs that will increase recycling and provide cost effective services to the residents or business of Greene County. A date of implementation is not listed because these are programs the District may pursue. Nothing is definite since the District is currently in compliance with the percent recycling goal. If any of the below listed activities are developed, the cost will be included in current District expenditures. Areas of expenditures would mostly be addressed in the line items titled salaries, printing and advertisement, equipment, or professional development. These line items expenditures are listed in Section 8.

- Provide technical assistance to communities to secure solid waste services and increase recycling.
- Encourage food waste composting by providing information and introducing entities that generate large quantities to Paygro, a company that is licensed to compost food waste.

- Encourage and support Cemex in its efforts to use scrap tires as an alternate fuel for its cement kiln operations.
- Provide information about and possibly promote vermicompost
- Provide technical assistance to increase recycling to the business community
- Expand drop-off recycling or yard waste

Table V-1.

District Population Projections

Year	Greene County Population	Adjustments to Population	Total District Population
2005	148,550	146	148,404
2006	149,192	146	149,046
2007	149,834	146	149,688
2008	150,476	146	150,330
2009	151,118	146	150,972
2010	151,760	146	151,614
2011	152,112	146	151,966
2012	152,464	146	152,318
2013	152,816	146	152,670
2014	153,168	146	153,022
2015	153,520	146	153,374
2016	154,134	146	153,988
2017	154,748	146	154,602
2018	155,362	146	155,216
2019	155,976	146	155,830
2020	156,590	146	156,444
2021	156,720	146	156,574
2022	156,850	146	156,704
Sample Calculation: $148,550 - 146 = 148,404$ Year 2005			
Source: Ohio Department of Development, Office of Strategic Research, Population Projection by Age & Sex: 2005-2030			
<p>The population figures for 2016 are calculated by subtracting or adding (depending on population decrease or increase) the average change of population projected from 2015 to 2020. For example, the population of Greene County is projected to be 156,444 in 2020 and 153,520 in 2015. $156,590 - 153,520 = 3,070$. 3,070 divided by 5 years = 614 population increase per year from 2015 to 2020. Therefore, the projected population for 2016 is $153,520 + 614 - 146$ (adjustment to population) = 153,988.</p>			

Table V - 2.

District Residential/Commercial Waste Generation (TPY)

Year	District Population	Per Capita Generation Rate	Total Residential/Commercial Generation (TPY)
2005	148,404	5.76	155,922
2006	149,046	5.77	156,949
2007	149,688	5.77	157,625
2008	150,330	5.78	158,576
2009	150,972	5.78	159,253
2010	151,614	5.79	160,207
2011	151,966	5.80	160,856
2012	152,318	5.80	161,229
2013	152,670	5.81	161,880
2014	153,022	5.81	162,253
2015	153,374	5.82	162,906
2016	153,988	5.82	163,558
2017	154,602	5.83	164,493
2018	155,216	5.84	165,429
2019	155,830	5.84	166,084
2020	156,444	5.85	167,024
2021	156,574	5.85	167,162
2022	156,704	5.86	167,587
Source: US EPA Report "Characterization of Municipal Solid Waste"			
for annual increases in the Per Capita Generation Rate.			
2006 calculation is $149,046 * 5.77 * 365 / 2000 = 156,949$			

Table V-3.

Projected Industrial Waste Generation

SIC Code	Year																	
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
20	9,802	9,733	9,665	9,598	9,530	9,464	9,397	9,332	9,266	9,201	9,137	9,073	9,010	8,947	8,884	8,822	8,760	8,699
22																		0
23	7	7	7	7	7	7	7	7	7	7	7	6	6	6	6	6	6	6
24	461	458	454	451	448	445	442	439	436	433	430	426	424	421	418	415	412	409
25	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3
26	1,187	1,179	1,171	1,163	1,155	1,146	1,138	1,131	1,123	1,115	1,107	1,099	1,091	1,084	1,076	1,069	1,061	1,054
27	3,263	3,240	3,217	3,195	3,172	3,150	3,128	3,106	3,084	3,063	3,041	3,020	2,999	2,978	2,957	2,936	2,916	2,895
28	240	238	236	235	233	231	230	228	227	225	223	222	220	219	217	216	214	213
29																		0
30	146	145	144	143	142	141	140	139	138	137	136	135	134	133	132	131	131	130
31																		0
32	14,752	14,648	14,546	14,444	14,343	14,243	14,143	14,044	13,946	13,848	13,751	13,655	13,559	13,464	13,370	13,276	13,184	13,091
33	723	718	713	708	703	698	693	688	683	679	674	669	665	660	655	651	646	642
34	5,934	5,892	5,851	5,810	5,769	5,729	5,689	5,649	5,609	5,570	5,531	5,492	5,454	5,416	5,378	5,340	5,303	5,266
35	337	335	332	330	328	326	323	321	319	316	314	312	310	308	306	303	301	299
36	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
37	326	324	321	319	317	315	312	310	308	306	304	302	300	297	295	293	291	289
38	202	201	199	198	197	195	194	193	191	190	189	187	186	185	183	182	181	180
39	75	74	74	73	73	72	72	71	71	70	70	69	69	68	68	67	67	66
Totals (TPY)	37,460	37,198	36,938	36,679	36,422	36,167	35,914	35,663	35,413	35,165	34,919	34,675	34,432	34,191	33,952	33,714	33,478	33,244
Assumptions: Annual industrial waste generation quantities by SIC codes were calculated by applying the 2005 generation rate to each SIC Code's projected annual employment throughout the planning period																		
The OBES projects a 0.7 percent annual decrease in employment through 2012. The District elected to maintain this annual decrease from 2013 to 2022.																		
Sample Calculation: SIC Code 20 9,802 tons in 2005 times .993 = 9,733 in 2006. Figures may not add due to rounding.																		

Table V - 4 Total Waste Generation for the District During the Planning Period (TPY)

Year	Residential/Commercial	Industrial	Exempt	Total Waste Generation	Generation Rate
2005	155,922	37,460	953	194,335	7.18
2006	156,749	37,198	953	194,900	7.17
2007	157,625	36,938	953	195,516	7.16
2008	158,576	36,679	953	196,208	7.15
2009	159,253	36,422	953	196,628	7.14
2010	160,207	36,167	953	197,327	7.13
2011	160,856	35,914	953	197,723	7.13
2012	161,229	35,663	953	197,845	7.12
2013	161,880	35,413	953	198,246	7.12
2014	162,253	35,165	953	198,371	7.10
2015	162,906	34,919	953	198,778	7.10
2016	163,558	34,675	953	199,186	7.09
2017	164,493	34,432	953	199,878	7.08
2018	165,429	34,191	953	200,573	7.08
2019	166,084	33,952	953	200,989	7.07
2020	167,024	33,714	953	201,691	7.06
2021	167,162	33,478	953	201,593	7.05
2022	167,587	33,244	953	201,784	7.06
Sample Calculation: 2005 - 194,335 tons times 2,000 divided by 148,404 divided by 365 =7.18					

Table V-5. Cont'd.

Residential/Commercial Waste Reduction Strategies

Strategy	Type of Material Reduced and/or Recycled	Tons of Source Reduction/Recycling						
		2016	2017	2018	2019	2020	2021	2022
Source Reduction								
None								
Subtotals								
Existing Recycling Programs								
P-1 Curbside Recycling - NS	1,2,3,4,5,6,7	10,685	10,685	10,685	10,685	10,685	10,685	10,685
P-2 Curbside Recycling - S	1,2,3,4,5,6,7	Incl. In P-1	Incl. In P-1	Incl. In P-1	Incl. In P-1	Incl. In P-1	Incl. In P-1	Incl. In P-1
P-3 Commercial-Private	2,5,6,7,12	9,912	9,968	10,025	10,065	10,122	10,130	10,156
P-3A WPAFB	1,2,3,4,5,6,7,8,9,10	2,929	2,929	2,929	2,929	2,929	2,929	2,929
P-4 The Recycling Center	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18	180	181	182	183	184	184	184
P-4A Drop-Off Recycling	Same as P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4
P-4B YW Composting	8,9,10	20,330	20,446	20,563	20,644	20,761	20,778	20,831
P-4C Special Wastes Events	12,13,15,16,18,20,21	6	6	6	6	6	6	6
P-4D Roadside Litter Collection	1,2,3,4,5,6,7,17,18	Incl. In P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4
P-4E Inter-Agency Network	2,3,4,5,6,7,8	Incl. In P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4
P-4F Scrap Tires	22	Incl. In P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4
P-5 R/C Education & Awareness		Incl. In P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4
P-5A Public Information		Incl. In P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4
P-5B Outreach Efforts		Incl. In P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4
P-5C Publications		Incl. In P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4
P-5D Waste Reduction Information		Incl. In P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4	Incl. In P-4
Grand Total		44,042	44,215	44,390	44,511	44,686	44,712	44,791

VI. Methods of Management: Facilities and Programs to be Used [ORC Section 3734.53(A)(7)-(12)]

A. District Methods for Management of Solid Waste

The Greene County Solid Waste Management District plans to use transfer, recycling, composting, and landfill disposal facilities to manage both the residential/commercial and industrial waste streams through 2022. The District will also investigate and consider new and alternative methods to manage the solid waste stream throughout the 15 year planning period.

1. Calculation of Capacity Needs

Table VI-1 displays the waste management methods used in the reference year, 2005. Also, Table VI-1 shows that 121,001 tons of waste was landfilled in the reference year and list the projections to manage waste, including recycling and composting, through the planning period. Table VI-2 and VI-3 present the wastes landfilled for the Residential/Commercial Sector and the Industrial Sector.

The Transfer needs were calculated based upon the volume of solid waste taken to transfer stations by waste haulers in the Reference Year. In 2005, approximately 16,718, or 13.82%, of the total District waste landfilled were first taken to transfer facilities. This percentage was applied to wastes generated for each year of the planning period to project transfer needs of the District.

B. Demonstration of Access to Capacity

The District has included in Table VI-4 a number of solid waste disposal facilities where District-generated waste may be taken for disposal. As presented, the District has access to sufficient capacity for each year of the planning period. The District cannot project the specific volume of waste that will be taken to any one facility given that the District does not direct, or contract for any of the wastes generated. Also included in Table VI-4 are annual projections for volumes going composting facilities.

The District recognizes the fact that Stony Hollow landfill is due to close within 5 years without an expansion. As demonstrated in Table VI -4, Waste Management method: Sanitary Landfill, waste that were

disposed in Stony Hollow is shown as being disposed in Rumpke-Hughes Road. This facility has adequate capacity to accept waste through the planning period.

When Stony Hollow closes, the District understands that additional tonnage may go to transfer stations prior to landfilling. However, it is not possible to assess if adequate capacity is available since the District cannot project with any degree of certainty how much capacity is needed. Also, Ohio EPA does not limit the amount of waste a transfer station can process on a daily or annual basis.

The District's scrap tire management approach relies primarily on tire retailers who accept used tires when new tires are purchased. The District anticipates that the majority of scrap tires generated will be managed without District intervention. The District will continue to monitor the progress of CEMEX's tire fuel project. If this project receives a permit from the Ohio EPA, it will add to the tire management capacity serving the District.

As demonstrated in Section 3, the District has sufficient access to facilities to process Greene County-generated recyclables and yard wastes throughout the 15-year planning period.

C. Schedule for Facilities and Programs: New, Expansion, Closures, Continuations

The District does not specifically plan to own and/or operate any solid waste management disposal facilities during the 15-year planning period. Moreover, the inventories of wastes generated and of available capacity at solid waste disposal facilities indicate that the District does not need additional solid waste management capacity during the planning period. Due to this, a timeline for the development, expansion and/or closure of solid waste facilities is not included.

D. Identification of Facilities

Table VI-6 identifies the solid waste disposal facilities the District intends to use throughout the planning period. However, the District does not intend to require solid waste that is generated by Greene County businesses, institutions, political subdivisions, and/or any solid waste hauler be disposed of at specific facilities. Any landfill or transfer station operating in the state of Ohio which accepts District waste is subject to the Generation Fee which must be remitted to the District for operations.

E. Authorization Statement to Designate

The Board of Greene County Commissioners (Board) acting as the Board of Directors of the District is hereby authorized to designate solid waste management facilities in accordance Section 343.014 of the Ohio Revised Code. At this time, the Board has not designated solid waste management facilities. The Board does not waive its authority to designate facilities at a future date during the 15-year planning period.

F. Waiver Process for Undesignated Facilities

Since the District currently does not designate facilities, a waiver process has not been developed. If the Board does exercise its authority to designate solid waste facilities, the Board will concurrently develop, if determined appropriate, a waiver process that complies with Section 343.01(I)(2) of the Ohio Revised Code.

G. Siting Strategy for Facilities

Previous portions of this Plan Update have demonstrated that the District does not need any new facilities during the planning period for management of solid waste projected to be generated within the District. Consequently, a siting strategy is not needed and has not been included in this Plan Update.

H. Contingencies for Capacity Assurance and District Program Implementation

1. District Disposal Capacity

Using the Ohio EPA Solid Waste Facility Report, the District will annually summarize the remaining capacity at the landfills and transfer stations used by the District during the preceding year. This assessment will then be provided to the Board for review and evaluation. The Board will determine if these landfills and transfer stations, in aggregate, will be able to provide sufficient disposal capacity and access to disposal capacity for District-generated waste. If in aggregate, the landfills and transfer stations are unable to provide the District with sufficient disposal capacity or access to disposal capacity and no other disposal alternatives are available through existing Plan's authority and options, the Board may consider this a Material Change in Circumstances and amend the Plan.

2. District Program Implementation

Implementation of the District's Plan requires that the District receive adequate annual funding to implement the programs, and for some programs, having access to having access to qualified service providers. If financial or operational conditions exist that prevent the District from implementing District programs, District staff will prepare a recommendation report which prioritizes which programs the District will provide based upon the following criteria:

- The program's impact on reducing the waste stream;
- Long-term impacts of the program;
- The program's association with the enforcement of solid waste management laws and regulations;
- The program's impact on Greene County's human health and environment; and;
- The availability of non-District entities to provide the program.

This report will be provided to the Board for their review and recommendations regarding modification or elimination of District programs. If, based upon this report, it is determined that elimination or modification of District programs has a substantial impact on the implementation of the District's Plan, the Board may consider this as a Material Change in Circumstances and amend the Plan.

Table VI-1.

Waste Management Methods Used and Processing Capacity Needed for Each Year of the Planning Period

Year	Tons of SW Generated	Tons Source Reduced	Net Tons to be Managed by SWMD	Management Method Used Tons/Year				
				Recycling	Transfer	Yard Waste Composting	Exempt	Landfilling TPY
2005	194,335	0	194,335	53,958	24,478	19,376	953	121,001
2006	194,900	0	194,900	53,619	24,550	19,509	953	121,772
2007	195,516	0	195,516	53,449	24,627	19,593	953	122,474
2008	196,208	0	196,208	53,297	24,714	19,711	953	123,200
2009	196,628	0	196,628	53,130	24,767	19,795	953	123,703
2010	197,327	0	197,327	52,980	24,855	19,914	953	124,433
2011	197,723	0	197,723	52,815	24,905	19,994	953	124,914
2012	197,845	0	197,845	52,632	24,921	20,041	953	125,172
2013	198,246	0	198,246	52,469	24,971	20,122	953	125,655
2014	198,371	0	198,371	52,290	24,987	20,168	953	125,913
2015	198,778	0	198,778	52,130	25,038	20,249	953	126,399
2016	199,186	0	199,186	51,972	25,089	20,330	953	126,884
2017	199,878	0	199,878	51,831	25,177	20,446	953	127,601
2018	200,573	0	200,573	51,693	25,264	20,563	953	128,317
2019	200,989	0	200,989	51,538	25,317	20,644	953	128,807
2020	201,691	0	201,691	51,402	25,405	20,761	953	129,528
2021	201,953	0	201,953	51,219	25,438	20,778	953	129,956
2022	201,784	0	201,784	51,054	25,417	20,831	953	129,899
Note 1: Landfilling TPY and TPD includes Exempt Waste for planning purposes.								
Note 2: Tons Source Reduced = Annual Residential/Commercial & Industrial Recycling Tons.								
Note 3: Transfer Tons calculated by multiplying Net Tons to be managed by .138164 each year.								

Table VI-2.

Summary of Residential/Commercial Waste Management Methods

Year	Tons Generated	Management Method in TPY			
		Source Reduction & Recycling	Yard Waste Composting	Landfilling Tons TPY	Landfilling Tons TPD
2005	155,922	23,429	19,376	113,117	310
2006	156,749	23,303	19,509	113,937	312
2007	157,625	23,345	19,593	114,687	314
2008	158,576	23,404	19,711	115,461	316
2009	159,253	23,446	19,795	116,012	318
2010	160,207	23,504	19,914	116,789	320
2011	160,856	23,545	19,994	117,317	321
2012	161,229	23,567	20,041	117,621	322
2013	161,880	23,607	20,122	118,151	324
2014	162,253	23,631	20,168	118,454	325
2015	162,906	23,671	20,249	118,986	326
2016	163,558	23,712	20,330	119,516	327
2017	164,493	23,769	20,446	120,278	330
2018	165,429	23,827	20,563	121,039	332
2019	166,084	23,867	20,644	121,573	333
2020	167,024	23,925	20,761	122,338	335
2021	167,162	23,934	20,778	122,450	335
2022	167,587	23,960	20,831	122,796	336
Source Reduction & Yard Waste Composting taken from Table V-5					
Sample Calculation: Tons Generated -(Recycling & Yard Waste) = Landfilling Tons					

Table VI-3.

Summary of Industrial Waste Management Methods

Year	Tons Generated	Management Method in TPY		
		Source Reduction & Recycling	Landfilling Tons TPY	Landfilling Tons TPD
2005	37,460	30,529	6,931	18.99
2006	37,198	30,316	6,882	18.85
2007	36,938	30,104	6,834	18.72
2008	36,679	29,893	6,786	18.59
2009	36,422	29,684	6,738	18.46
2010	36,167	29,476	6,691	18.33
2011	35,914	29,270	6,644	18.20
2012	35,663	29,065	6,598	18.08
2013	35,413	28,862	6,551	17.95
2014	35,165	28,659	6,506	17.82
2015	34,919	28,459	6,460	17.70
2016	34,675	28,260	6,415	17.58
2017	34,432	28,062	6,370	17.45
2018	34,191	27,866	6,325	17.33
2019	33,952	27,671	6,281	17.21
2020	33,714	27,477	6,237	17.09
2021	33,478	27,285	6,193	16.97
2022	33,244	27,094	6,150	16.85
Tons Generated taken from Table V-4				
Source Reduction and Recycling taken from Table V-6				
Sample Calculation: Tons Generated minus Recycling = Landfilling				

Table VI-4.

Waste Management Method: Sanitary Landfills

Facilities Used by the District	AMDWRL	Remaining Capacity			
		Years	Data Source	Airspace (cubic yards)	
				Gross	Net
Rumpke Hughes Road, Hamilton County Ohio	10,000	17	Ohio EPA	43,267,038	36,776,982
Rumpke, Brown County Ohio	2,500	3	Ohio EPA	906,000	770,100
Pine Grove, Fairfield County Ohio	5,000	57	Ohio EPA	19,433,503	16,518,478
Hancock County, Hancock County Ohio	500	42	Ohio EPA	8,159,090	6,935,227
Stony Hollow Landfill, Montgomery County Ohio	4,500	6	Ohio EPA	4,160,622	3,536,529
American Landfill, Stark County Ohio	15,000	2.4	Ohio EPA	5,400,000	3,787,944
Suburban South R & D Landfill, Perry Co. Ohio	5,000	16	Ohio EPA	14,571,929	12,386,140
Cherokee Run Landfill, Logan County Ohio	4,500	3	Ohio EPA	2,375,459	2,019,140
Beech Hollow Landfill, Jackson Co., OH	2,500	66	Ohio EPA	30,465,500	25,895,675
Totals	47,000	146	Ohio EPA	98,273,641	82,730,539

Note: Net Airspace = Gross Air Space times .85

Table VI-4. Cont'd

Waste Management Method: Sanitary Landfills

Facilities Used by the District	Processing Capacity (TPD)	Tons of Solid Waste Managed by Each Facility								
		2005	2006	2007	2008	2009	2010	2011	2012	2013
Rumpke-Hughes Rd.	10,000	8,172	8,205	8,249	8,292	8,322	8,366	8,394	124,490	124,915
Rumpke-Brown County	2,500	6	6	6	6	6	6	6	6	6
Pine Grove	5,000	2	2	2	2	2	2	2	2	2
Hancock County	500	13	13	13	13	13	13	13	13	13
Stony Hollow	4,500	112,801	113,263	113,862	114,460	114,873	115,476	115,870		
American Landfill	15,000	2	2	2	2	2	2	2	2	2
WMI Suburban	5,000	3	3	3	3	3	3	3	3	3
Cherokee Run	4,500	1	1	1	1	1	1	1	1	1
Totals	47,000	121,000	121,496	122,138	122,780	123,223	123,868	124,291	124,517	124,942
Facilities Used by the District	Processing Capacity (TPY)	Tons of Solid Waste Managed by Each Facility								
		2014	2015	2016	2017	2018	2019	2020	2021	2022
Rumpke-Hughes Rd.	10,000	125,141	125,569	125,997	126,630	127,264	127,695	128,333	128,749	128,655
Rumpke-Brown County	2,500	6	6	6	6	6	6	6	6	6
Pine Grove	5,000	2	2	2	2	2	2	2	2	2
Hancock County	500	13	13	13	13	13	13	13	13	13
Stony Hollow	4,500									
American Landfill	15,000	2	2	2	2	2	2	2	2	2
WMI Suburban	5,000	3	3	3	3	3	3	3	3	3
Cherokee Run	4,500	1	1	1	1	1	1	1	1	1
Totals	47,000	125,168	125,596	126,024	126,657	127,291	127,722	128,360	128,776	128,682

Assumptions: Stony Hollow accepts about 93.22% of District waste, Rumpke accepts 6.75% beginning in 2005 and continuing through 2011. Stony Hollow is currently scheduled to close and Rumpke has adequate capacity to accept the waste. Waste that was being sent to Stony is shown as being disposed at Rumpke. Since the other landfill disposal numbers are so small, they have been fixed through the planning period based on the reference year data.

Table VI-4. Cont'd

Waste Management Method: Yard Waste Composting

Facilities Used by the District	Tons of Solid Waste Managed by Each Facility								
	2005	2006	2007	2008	2009	2010	2011	2012	2013
District's Yard Waste Drop-off Program	13,864	13,959	14,019	14,103	14,163	14,248	14,306	14,339	14,397
Beam Springs	50	49	49	49	49	50	50	50	50
My Lawn	187	189	190	191	192	193	194	194	195
Phillips Co.	4,263	4,292	4,310	4,336	4,355	4,381	4,399	4,409	4,427
Village of Cedarville	13	14	14	14	14	14	14	14	14
A.J. Stapleton Co.	407	410	411	414	416	418	420	421	423
Bio Source	592	597	600	603	606	609	612	613	616
Totals	19,376	19,509	19,593	19,711	19,795	19,914	19,994	20,041	20,122
Facilities Used by the District	Tons of Solid Waste Managed by Each Facility								
	2014	2015	2016	2017	2018	2019	2020	2021	2022
District's Yard Waste Drop-off Program	14,430	14,488	14,546	14,629	14,713	14,771	14,854	14,867	14,905
Beam Springs	50	51	51	51	51	52	52	52	52
My Lawn	196	196	197	198	199	200	201	202	202
Phillips Co.	4,437	4,455	4,473	4,498	4,524	4,542	4,567	4,571	4,583
Village of Cedarville	14	14	14	14	14	14	15	15	15
A.J. Stapleton Co.	424	425	427	429	432	434	436	436	437
Bio Source	617	620	622	626	629	632	635	636	637
Totals	20,168	20,249	20,330	20,446	20,563	20,644	20,761	20,778	20,831

Table VI - 5

Implementation Schedules for Facilities, Strategies, Programs and Activities

Program Code	Name of Facility, Strategy, Program or Activity	Location	Description of Program/Facility	Approx. Date When the Following Will Take Place	
				Operations Begin	Operations Cease
P-1	Residential Curbside Recycling, Non-Subscription	Cities of Bellbrook, Fairborn, Xenia, and Villages of Yellow Springs, Jamestown and Cedarville	Residential collection provided by private haulers contracting with local governments	Ongoing	Unknown
P-2	Residential Curbside Recycling, Subscription	Greene County minus the communities listed for P-1	Residential collection provided by private haulers through arrangements with individual homeowners	Ongoing	Unknown
P-3	Commercial Recycling	Greene County	Businesses collect and transport materials to markets, or contract with a recycling transporter	Ongoing	2022
P-3A	Wright Patterson Air Force Base's Recycling Drop-off and Collection	City of Fairborn-Wright Patterson Air Force Base	Self-contained Drop-off and Collection Program that services Wright Patterson Air Force Base.	Ongoing	2022
P-4	Recycling Center	Greene County	This facility, located at 2145 Greene Way Blvd., Xenia, provides operations of District programs including Drop-off Recycling, Yard Waste Composting, Special Waste Events, Roadside Litter Collection, Inter-agency Recycling, and Scrap Tires. Additional details for each are listed in Program Codes P4-A, P4-B, P4-C, P4-D, P4-E, and P4-F.	Ongoing	2022
P-4A	Drop-Off Recycling	Greene County	The Center provides a drop-off site for recyclable materials included newspaper, mixed office papers, #1 and #2 plastic bottles, metal cans, corrugated cardboard, glass, lead-acid & NiCad batteries, plus cell phones	Ongoing	2022
P-4B	Yard Waste Drop-off Program	Greene County	The Center provides residents drop-off service for leaves, grass & brush. The leaves and grass are sent to various local business for composting. The brush is processed on-site and is available to residents. The central Complex is opened all year. Satellite sites are also available in Beavercreek, Sugarcreek & Fairborn from April through November.	Ongoing	2022
P4-C	Special Wastes Collection Events	Greene County	Monthly collection events are held at the Center. At the events materials accepted include household hazardous waste, old computers/electronics, and appliances/scrap metal.	Ongoing	2022

Table VI - 5

Implementation Schedules for Facilities, Strategies, Programs and Activities

P4-D	Roadside Litter Collection	Greene County	This program provides for the collection of litter and tires along County roadways. The program relies on inmate workers from the Adult Detention Center	Ongoing	2022
P4-E	Inter-Agency Network	Governmental Offices throughout the District	Recycling generated from governmental office. The materials collected include corrugated cardboard, office paper, newspaper, magazines, #1 and #2 plastic bottles, and metal cans. Materials are collected by District personnel and taken to the District's Recycling Center.	Ongoing	2022
P4-F	Scrap Tire Program	Greene County	Program collects and disposes of scrap tires through the Roadside Litter Collection Program those generated from county-owned vehicles.	Ongoing	2022
P5-A	Residential and Commercial Education & Awareness: Public Information	Greene County	Brochures are published and disseminated, offering source reduction, recycling, and purchasing information as well as how to use the District's services at the Recycling Center. Brochures and flyers are sent to the local jurisdictions, which provide the citizens with the program information. Brochures are posted on the County website, and press releases are issued announcing new programs or changes.	Ongoing	2022
P5-B	Residential and Commercial Sector Education & Awareness: Outreach Efforts	Greene County	District staff is involved in seminars on waste reduction, recycling, and yard waste management; routinely have exhibits at 2-3 community events; make presentations at various schools and community groups; and conduct group tours of the Center.	Ongoing	2022
P5-C	Residential and Commercial Sector Education & Awareness: Publications	Greene County	Includes waste reduction information for the residential and commercial sectors in <i>Pipelines</i> , the quarterly publication of the County	Ongoing	2022
P5-D	Residential and Commercial Sector Education & Awareness: Waste Reduction Information	Greene County	Provide source reduction tips, including re-use options; working with vendors on materials exchanges and purchasing alternatives.	Ongoing	2022
P6-A	Industrial Outreach Efforts	Greene County	District staff is involved in seminars on waste reduction, recycling, and yard waste management; routinely have exhibits at 2-3 community events.	Ongoing	2022

Table VI - 5

Implementation Schedules for Facilities, Strategies, Programs and Activities

P6-B	Industrial Publication	Greene County	Includes waste reduction information for the industrial sector in <i>Pipelines</i> , the quarterly publication of the County	Ongoing	2022
P6-C	Industrial Waste Reduction Information	Greene County	Provide source reduction tips, including re-use options and materials exchanges.	Ongoing	2022
new	Survey & Database Development	Greene County	Establish systematic survey process to measure the recycling for the residential sector.	2008	2022
new	Survey & Database Development	Greene County	Establish systematic survey process to measure the recycling for the commercial sector.	2010 or 2011	2022
new	Survey & Database Development	Greene County	Establish systematic survey process to measure the recycling for the industrial sector.	2010 or 2011	2022
new	Promote Recycling Center	Greene County	Increase promotional activities designed to maximize the investment in the Greene County Recycling Center Complex.	2009	2022
	Private Yard Waste Composting	Beam Springs, Inc. - Xenia	Private Mulching Operation	Ongoing	2022
	Private Yard Waste Composting	My Lawn, Inc. - Spring Valley	Private Composting Operation for Grass/Leaves/Brush	Ongoing	2022
	Private Yard Waste Composting	Phillips Co. - Beavercreek	Private Composting Operation for Grass/Leaves/Brush	Ongoing	2022
	Private Yard Waste Composting	Village of Cedarville	Private Composting Operation for Grass/Leaves/Brush	Ongoing	2022
	Private Yard Waste Composting	AJ Stapleton Co. - Centerville, OH	Private Composting Operation for Grass/Leaves/Brush	Ongoing	2022
	Private Yard Waste Composting	Bio Source - Xenia	Private Composting Operation for Grass/Leaves/Brush	Ongoing	2022

Table VI-6.

Facilities Identified

Facility Name	Location (SWMD, State)
Rumpke Hughes Road	Hamilton County, Ohio
Rumpke Brown County	Brown County, Ohio
Pine Grove	Fairfield County, Ohio
Hancock County	Hancock County, Ohio
Stony Hollow Landfill	Montgomery County, Ohio
American Landfill	Stark County, Ohio
WMI Suburban South Landfill	Perry County, Ohio
Cherokee Run Landfill	Logan County, Ohio
Beech Hollow Landfill	Jackson County, Ohio
WMI Transfer Station	Greene County, Ohio
Montgomery County North Transfer Facility	Montgomery County, Ohio
Montgomery County North Transfer Facility	Montgomery County, Ohio
WMI Material Recovery Facility	Montgomery County, Ohio
Rumpke Material Recovery Facility	Montgomery County, Ohio
Greene County Recycling Center	Greene County, Ohio

VII. Measurement of Progress Toward Waste Reduction Goals [ORC Section 3734.53(A)]

A. District Will Comply with Goal(s) Identified

The District must comply with either "1", "2", or "3" below:

1. **Goal #1** - Program standards for SWMDs: ensure the availability for reduction, recycling, and other waste reduction alternatives for residential/commercial solid waste by the Year 2000.
2. **Goal #2** - By the Year 2000, a) 25 percent waste reduction for the Residential/Commercial Sector, and b) 50 percent waste reduction for the Industrial Sector.
3. Both **Goal #1** and **Goal #2**.

The District has demonstrated that the Residential/Commercial Sector had a recycling rate exceeding 27.45%, and that the Industrial Sector had a recycling rate in excess of 81.5% during the Reference Year, 2005. The District is projecting that these sectors' waste reduction and recycling percentages will remain at relatively constant levels throughout the planning period. Therefore, the District elects to meet the program standards established by **Goal #2**.

While the District feels that there is sufficient access to recycling opportunities for both of these Sectors, compliance with **Goal #1** would be difficult and expensive to meet due in part to the calculations for compliance. Thus, the District cannot meet the conditions for **Goal #1**, and subsequently **Goal #3**.

B. Demonstration of Compliance with Goal #1

The District has elected not to satisfy the requirements of this goal. Therefore, Tables VII-1 and VII-2 have been omitted.

C. Calculating Goal #2, the Waste Reduction Rate (WRR)

Goal #2 of the *1995 State Plan* states that Ohio should "...reduce and/or recycle at least 50 percent of the total solid waste statewide by the Year 2000..." To implement this goal, the state established two objectives:

- Objective #1 - SWMDs must reduce or recycle 25% of the residential/commercial waste generated by the Year 2000; and

- Objective #2 - SWMDs must reduce or recycle 50% of the industrial waste generated by the Year 2000.

The following set of calculations present the amount of material that has been recycled for the Residential/Commercial Sector, the Industrial Sector, and then for the combined/total waste stream for the District. The District elected **not** to include Exempt Waste in these calculations.

1. Residential/Commercial Sector

The following formula is used to calculate the tons of waste reduction (TWR) for this sector.

$$1(a). \quad TWR = R + (C - NC) + (I - A) + RA$$

where:

- TWR** = the Tons of Waste Reduction for Year 2005
- R** = tons of waste source reduced and Recycled in Year 2005
- C** = tons of waste Composted in Year 2005
- NC** = tons of Non-Compostables delivered for composting, and separated for landfilling in Year 2005
- I** = tons of waste Incinerated in Year 2005
- A** = tons of incinerator Ash plus bypass waste in Year 2005
- RA** = tons of Recycled incinerator Ash in Year 2005

$$23,429 + (19,376 - 0) + (0 - 0) + 0 = \mathbf{42,805 \text{ TWR}}$$

$$1(b). \quad EGDWR = TWR + DL$$

where:

- EGDWR** = Estimated Generation based upon Disposal plus Waste Reduction in Year 2005
- DL** = tons of waste Disposed in sanitary Landfills in Year 2005

$$42,805 + 113,117 = \mathbf{155,922 \text{ EGDWR}}$$

$$1(c). \quad WRR = \frac{TWR}{EGDWR} \times 100$$

where:

WRR = the Waste Reduction Rate for Year 2005

$$\frac{42,805}{155,922} \times 100 = \mathbf{27.45\% \text{ WRR}}$$

1(d). $PCWR = \frac{TWR \times 2000 \text{ lbs.}}{P \times 365 \text{ days}}$

where:

PCWR = the Per Capita Waste Reduction rate in pounds per person per day in Year 2005

P = the Population of the District in Year 2005

$$\frac{42,805 \times 2000}{148,404 \times 365} = \frac{85,610,000}{54,167,460} = \mathbf{1.58 \text{ PCWR}}$$

Table VII-3 presents the annual projections for the waste reduction rate for the Residential/Commercial Sector over the 15 year planning period. Each of the above categories is explained in more detail at the end of this section.

2. Industrial Sector

The following presents the appropriate calculations for the Industrial Sector to determine this sector's Waste Reduction Rate for 2005. The four calculations have the same formula as for the Residential/Commercial Sector.

2(a). $TWR = R + (C - NC) + RA$

$$30,529 + (0 - 0) + 0 = \mathbf{30,529 \text{ TWR}}$$

2(b). $EGDWR = TWR + DL$

$$30,529 + 6,931 = \mathbf{37,460 \text{ EGDWR}}$$

2(c). $WRR = \frac{TWR}{EGDWR} \times 100$

$$\frac{30,529}{37,460} \times 100 = \mathbf{81.5\% \text{ WRR}}$$

$$2(d). \text{ PCWR} = \frac{\text{TWR} \times 2000}{\text{P} \times 365}$$

$$\frac{30,529 \times 2000}{148,404 \times 365} = \frac{61,058,000}{54,167,460} = 1.13 \text{ PCWR}$$

Table VII-4 presents the waste reduction rate for the Industrial Sector throughout the planning period.

3. Total District Waste

The remaining calculations display the District's waste reduction rate after combining the Residential/Commercial Sector with the Industrial Sector. Exempt waste is included in this calculation.

$$3(a). \text{ TWR} = \text{R} + (\text{C} - \text{NC}) + \text{RA}$$

$$53,958 + (19,376 - 0) + 0 = 73,334 \text{ TWR}$$

$$3(b). \text{ EGDWR} = \text{TWR} + \text{DL}$$

$$73,334 + 121,001 = 194,335 \text{ EGDWR}$$

$$3(c). \text{ WRR} = \frac{\text{TWR}}{\text{EGDWR}} \times 100$$

$$\frac{73,334}{194,335} \times 100 = 37.74\% \text{ WRR}$$

$$3(d). \text{ PCWR} = \frac{\text{TWR} \times 2000}{\text{P} \times 365}$$

$$\frac{73,334 \times 2000}{148,404 \times 365} = \frac{146,668,000}{54,167,460} = 2.71 \text{ PCWR}$$

Each of these categories is further explained in the sections below.

1. Tons of Source Reduction and Recycling – R

The tons of waste source reduced and recycled, as shown in **Section V** for the Reference Year and projected amounts should be used in **R** in equation #1. For purposes of calculating this amount for industrial waste, **R** must not include train boxcars, ferrous metals from motor vehicle salvage operations conducted by licensed motor vehicle salvage dealers, or metals from demolition activities. In addition, waste tires, lead-acid batteries, used motor oil collected for recycling from “do-it-yourselfers”, and household hazardous wastes that are recycled can all be counted towards the waste reduction goal.

2. Tons of Waste Composted – C

The tons of waste composted should be found in the **Inventory Section** of the Plan, and **Section V**.

3. Tons of Non-compostable Waste – NC

The tons of non-compostable waste recovered from de-bagging and screening activities should comprise **NC**.

4. Tons of Waste Incinerated – I

The tons of solid waste received at all incinerators used by the District—both publicly available and captive incinerators—should be used to determine **I**, as displayed in **Tables VI-1, VI-2** or **VI-3**.

5. Tons of Incinerator Ash Produced – A

The tons of incinerator ash produced from facilities burning solid waste should be summed to estimate **A**. Any bypass waste received at incinerators should be added to the value for ash produced. Ash produced from such facilities such as coal-burning power plants should not be included in this estimate.

6. Tons of Incinerator Ash Recycled – RA

The tons of incinerator ash recycled from the District should be summed to determine **RA**, only if this amount has not already been included in **R**.

7. Tons of Waste Disposed in Landfills – DL

The tons of district waste disposed in solid waste landfills used by the District should be summed to estimate **DL**. The total amount of district waste disposed in landfills should exclude any exempt waste such as construction and demolition materials. The values of **DL** can be found in **Tables VI-1, VI-2 and VI-3**.

4. **Annualized Projections**

The following 3 tables present the annualized projected waste reduction for the Residential/Commercial Sector, the Industrial Sector, and then for the Total District Solid Waste. In all instances, the **Waste Reduction Rate (WRR)** and the **Per Capita Waste Reduction (PCWR)** rate expressed in pounds per person per day remain fairly consistent over the 15 year planning period. This is due to the way the District calculated the recycling and source reduction percentages for the Reference Year, 2005, and then held that percentage constant over the 15 years. Any change from one year to the next would be as a result of the way that population and waste projections were derived.

Table VII-3

Annual Rate of Waste Reduction: Residential/Commercial Waste

Year	R	C	NC	I	A	RA	DL	TWR	P	WRR	PCWR
2005	23,429	19,376	0	0	0	0	113,117	42,805	148,404	27.45	1.58
2006	23,303	19,509	0	0	0	0	113,937	42,812	149,046	27.31	1.57
2007	23,345	19,593	0	0	0	0	114,687	42,938	149,688	27.24	1.57
2008	23,404	19,711	0	0	0	0	115,461	43,115	150,330	27.19	1.57
2009	23,446	19,795	0	0	0	0	116,012	43,241	150,972	27.15	1.57
2010	23,504	19,914	0	0	0	0	116,789	43,418	151,614	27.10	1.57
2011	23,545	19,994	0	0	0	0	117,317	43,539	151,966	27.07	1.57
2012	23,567	20,041	0	0	0	0	117,621	43,608	152,318	27.05	1.57
2013	23,607	20,122	0	0	0	0	118,151	43,729	152,670	27.01	1.57
2014	23,631	20,168	0	0	0	0	118,454	43,799	153,022	26.99	1.57
2015	23,671	20,249	0	0	0	0	118,986	43,920	153,374	26.96	1.57
2016	23,712	20,330	0	0	0	0	119,516	44,042	153,988	26.93	1.57
2017	23,769	20,446	0	0	0	0	120,278	44,215	154,602	26.88	1.57
2018	23,827	20,563	0	0	0	0	121,039	44,390	155,216	26.83	1.57
2019	23,867	20,644	0	0	0	0	121,573	44,511	155,830	26.80	1.57
2020	23,925	20,761	0	0	0	0	122,338	44,686	156,444	26.75	1.57
2021	23,934	20,778	0	0	0	0	122,450	44,712	156,574	26.75	1.56
2022	23,960	20,831	0	0	0	0	122,796	44,791	156,704	26.73	1.57
Description: R = recycling C = composting NC = non-compostable waste I = incinerated waste A = ash											
RA = ash recycled DL = waste disposed in landfills TWR = tons of waste reduction P = population											
WRR = waste reduction rate as a % PCWR = waste reduction per capita in lbs./person/day											
Calculation: $WRR = \frac{TWR}{TWR + DL} \times 100$											

Table VII-4.

Annual Rate of Waste Reduction: Industrial Waste

Year	R	C	NC	I	A	RA	DL	TWR	P	WRR	PCWR
2005	30,529	0	0	0	0	0	6,931	30,529	148,404	81.50	1.13
2006	30,316	0	0	0	0	0	6,882	30,316	149,046	81.50	1.11
2007	30,104	0	0	0	0	0	6,834	30,104	149,688	81.50	1.10
2008	29,893	0	0	0	0	0	6,786	29,893	150,330	81.50	1.09
2009	29,684	0	0	0	0	0	6,738	29,684	150,972	81.50	1.08
2010	29,476	0	0	0	0	0	6,691	29,476	151,614	81.50	1.07
2011	29,270	0	0	0	0	0	6,644	29,270	151,966	81.50	1.06
2012	29,065	0	0	0	0	0	6,598	29,065	152,318	81.50	1.05
2013	28,862	0	0	0	0	0	6,551	28,862	152,670	81.50	1.04
2014	28,659	0	0	0	0	0	6,506	28,659	153,022	81.50	1.03
2015	28,459	0	0	0	0	0	6,460	28,459	153,374	81.50	1.02
2016	28,260	0	0	0	0	0	6,415	28,260	153,988	81.50	1.01
2017	28,062	0	0	0	0	0	6,370	28,062	154,602	81.50	0.99
2018	27,866	0	0	0	0	0	6,325	27,866	155,216	81.50	0.98
2019	27,671	0	0	0	0	0	6,281	27,671	155,830	81.50	0.97
2020	27,477	0	0	0	0	0	6,237	27,477	156,444	81.50	0.96
2021	27,285	0	0	0	0	0	6,193	27,285	156,574	81.50	0.95
2022	27,094	0	0	0	0	0	6,150	27,094	156,704	81.50	0.95
Description: R = recycling C = composting NC = non-compostable waste I = incinerated waste A = ash											
RA = ash recycled DL = waste disposed in landfills TWR = tons of waste reduction P = population											
WRR = waste reduction rate as a % PCWR = waste reduction per capita in lbs./person/day											
Calculation: $WRR = \frac{TWR}{TWR + DL} \times 100$											

Table VII-5.

Annual Rate of Waste Reduction: Total District Waste

Year	R	C	NC	I	A	RA	DL	TWR	P	WRR	PCWR
2005	53,958	19,376	0	0	0	0	121,001	73,334	148,404	37.74	2.71
2006	53,619	19,509	0	0	0	0	120,819	73,128	149,046	37.71	2.69
2007	53,449	19,593	0	0	0	0	121,521	73,042	149,688	37.54	2.67
2008	53,297	19,711	0	0	0	0	122,247	73,008	150,330	37.39	2.66
2009	53,130	19,795	0	0	0	0	122,750	72,925	150,972	37.27	2.65
2010	52,980	19,914	0	0	0	0	123,480	72,894	151,614	37.12	2.63
2011	52,815	19,994	0	0	0	0	123,961	72,809	151,966	37.00	2.63
2012	52,632	20,041	0	0	0	0	124,219	72,673	152,318	36.91	2.61
2013	52,469	20,122	0	0	0	0	124,702	72,591	152,670	36.79	2.61
2014	52,290	20,168	0	0	0	0	124,960	72,458	153,022	36.70	2.59
2015	52,130	20,249	0	0	0	0	125,446	72,379	153,374	36.59	2.59
2016	51,972	20,330	0	0	0	0	125,931	72,302	153,988	36.47	2.57
2017	51,831	20,446	0	0	0	0	126,648	72,277	154,602	36.33	2.56
2018	51,693	20,563	0	0	0	0	127,364	72,256	155,216	36.20	2.55
2019	51,538	20,644	0	0	0	0	127,854	72,182	155,830	36.08	2.54
2020	51,402	20,761	0	0	0	0	128,575	72,163	156,444	35.95	2.53
2021	51,219	20,778	0	0	0	0	128,643	71,997	156,574	35.88	2.52
2022	51,054	20,831	0	0	0	0	128,946	71,885	156,704	35.79	2.51
Description: R = recycling C = composting NC = non-compostable waste I = incinerated waste A = ash											
RA = ash recycled DL = waste disposed in landfills TWR = tons of waste reduction P = population											
WRR = waste reduction rate as a % PCWR = waste reduction per capita in lbs./person/day											
Calculation: $WRR = \frac{TWR}{TWR + DL} \times 100$											
Assumption: WRR and PCWR decrease due to reductions in the Industrial Sector.											

VIII. Cost and Financing of Plan Implementation (ORC Section 3734.53(A)(9),(12) and (B))

Introduction

Section 8 addresses District revenues and expenditures. All financial projections begin in 2008 and are based on a calendar year.

A. Funding Mechanisms and Amount of Money Generated

1. District Disposal Fees (ORC Section 3734.57(B))

The District does not have any disposal facilities within its borders that could warrant the collection of disposal fees. As such, Table VIII-1 has not been completed.

2. Generation Fee (ORC Section 3734.573)

The District's generation fee as listed in the approved plan is currently \$10.00 per ton and is slated to change to \$10.50 per ton in 2016. As shown in Table VIII-2, the revenues produced by this generation fee appear to be sufficient to maintain the programs required to meet State Goals and implement the new programs described in the Plan. This is based on the projections of generation, recycling and disposal quantities that are used in this Plan.

3. Summary of District Revenues

In Table VIII-3, the funding mechanisms that the District plans to use and the total amount of annual revenue generated by each is provided. As shown in Table VIII-3, the District anticipates revenues only from the generation fee.

B. District Loan for the Recycling Center

In 2003, Greene County issued \$2,360,000 in General Obligation bonds to finance the construction of the District's Centralized Solid Waste Operations Complex. As shown in Table VIII-4, the annual debt service payment from District funds is approximately \$171,000 in 2008, declining to approximately \$162,000 in 2022.

C. Funds Allocated from ORC 3734.57 (B), ORC 3734.572 and ORC 3734.573

All activities and strategies implemented by the District are based from and revolve around the Recycling Center. This facility includes two

buildings located on about nine acres. All District staff, vehicles, and equipment are housed at this facility. One of the buildings is an administrative office and the second building is where the recyclables are processed and the materials from the special collections are stored. Also, as described in Section V, this facility supports the operations of drop-off recycling services, yard waste composting, litter collection, inter-agency recycling, scrap tire disposal, plus special collections for materials like household hazardous waste, scrap metal, appliances, and electronics recycling. Since all of the District's work is focused on the Recycling Center, the majority of expenditures reflect these operations.

The District's funding is established according to Greene County accounting systems. Expenditures are classified under codes titled line items. Listed below are line item title descriptions of the expenditures and how they apply to the plan update. For the quarterly report, these expenditures will be listed under the specific categories.

- Professional Services: expenditures for consulting to conduct recycling surveys of the commercial and industrial sector as described for the new strategies plus legal services to review District policy or provide advice.
- Plan Update: cost for consultant services to work on future updates to the solid waste plan.
- Salary and Wages: Includes District director, office support, recycling facility staff and the operations supervisor. This cost includes base or per hour salary, PERS, Medicare, Health Insurance, Dental, Life Insurance, Unemployment Compensation, and Life Insurance. Within these allocated funds, the District will manage current strategies and provide support for the new strategy for surveying the residential sector and possibly the commercial and industrial sectors.
- Materials and Supplies: expenditures for supplies such as office, janitorial, vehicle and equipment, building and facility, safety, uniforms and fuel including gas and diesel.
- Purchased Utilities: Utility cost for electric and water.
- Repairs and Services – outside: includes the cost for contractor's services and disposal of household hazardous waste, scrap tire disposal, and electronics recycling.
- Repairs and Services – Inside: payment for county-wide overhead service plus vehicle and equipment maintenance to maintain recycling

facilities operations for the roll-off trucks, vehicles, equipment, and tub grinder.

- Medical Fee – required drug testing for new employees or CDL drivers.
- Insurance – costs to provide insurance to cover the Recycling Center including the buildings, grounds, equipment, and vehicles.
- Rental and Facilities – rent of facilities at local community events.
- Telephone and Communications – landline telephone service for Recycling Center buildings plus cell phone service for all Recycling Center staff.
- Travel & Training – cost for staff to travel in personal vehicles and attend required training.
- General Advertising and Printing – costs to promote District programs including the design and printing of educational brochures and other activities described in Section V for residential and commercial education and awareness. This line item also includes funds for the new strategy titled Recycling Center and Services Promotion.
- Other Expenditures – unknown and unexpected expenditures.
- Dues and Subscriptions – membership dues to Organization of Solid Waste Districts of Ohio, Association of Ohio Recyclers and the like.
- Equipment and Vehicle Replacement Fund – In 2008 the District must purchase a new roll-off truck to maintain operations for the Recycling Center. This cost has been listed in the 2008 budget. The District has also established an equipment replacement schedule. This schedule includes roll-off trucks, tub grinder, pick-up trucks, bobcat, and loader. The total anticipated cost for these items has been totaled and divided by the 15 years of the planning period. This average was used as the base expense for 2009 and then escalated at 2.1%.
- Computer Software – purchase new or upgrades to operating systems and programs.
- Debt Service – The annual payment to retire the debt for the Centralized Solid Waste Recycling Center Facility.

Costs for the above listed line items are shown on Tables VIII-5 and VIII-8. Salaries and Wages were inflated at a rate of 3%, Equipment and Vehicle

Replacement fund was inflated as described above, and all other line items were inflated at 2.1%.

Electronics, Household Hazardous Waste, Special Collection Events, Yard Waste and Residential/Commercial Drop-off – projected costs associated with these programs have been incorporated into the expenses associated with operation and maintenance of the District's Recycling Center which include Salaries and Wages, Repairs and Services, Equipment & Vehicle Replacement Fund, etc. However, Table VIII-5 contains a section titled program expenses that includes the expenses for these programs as reported to Ohio EPA in the 2007 quarterly fee reports. This information was included to offer the actual and projected expenses associated with offering these programs on an individual basis. As reported to Ohio EPA, these line item expenses include administrative, operational and equipment costs.

Table VIII-6 indicates how District revenues will be allocated in accordance with ORC 3734.57, ORC 3734.572 and ORC 3734.573. It should be noted that for each year, the previous year's cumulative balance is used as revenue.

Optional Future Solid Waste Management Strategies and Programs

Several programs were identified in Section V of the Plan Update that the District may pursue during this planning period. These programs include providing technical assistance to communities to secure solid waste services and increase recycling, encouraging food waste composting, encouraging and supporting Cemex in its efforts to use scrap tires as an alternate fuel, providing information about vermicomposting, providing technical assistance to increase recycling to the business community and expanding drop-off recycling or yard waste. For all programs mentioned, except for expanding drop-off recycling or yard waste, there are no expenses associated with these activities individually because the expectation is that they will be performed by District staff under administrative expenses. With regards to the expanding drop-off recycling or yard waste program, this program would only be implemented if there is a need and if there are available funds under Repairs and Services and/or Equipment and Vehicle Replacement Fund. Therefore, there are no expenses associated with the implementation of these programs in Table VIII-5.

D. Contingent Funding or Financing

The District does not anticipate the types of uncertainties described in the State Format 3.0 for which a District must provide a source of contingent funds or financing, for example:

District fees collected from a grandfathered landfill which has received a draft permit denial;

State or Federal legislative action which is anticipated and depended upon by the District; or,

District fees (or tipping fees for a District-owned facility) collected for a facility that has not yet received a permit.

Consequently, the District has neither specified such contingent financial mechanisms nor prepared Table VIII-7.

Table VIII-2.

Generation Fee Schedule and Revenues

Year	Generation Fee	Amount of District Waste to be Disposed (in tons)	Total Generation Fee Revenue
2005	\$10.00	120,048	\$1,200,480.00
2006	\$10.00	120,543	\$1,205,430.00
2007	\$10.00	121,185	\$1,211,850.00
2008	\$10.00	121,294	\$1,212,940.00
2009	\$10.00	122,270	\$1,222,700.00
2010	\$10.00	122,916	\$1,229,160.00
2011	\$10.00	123,339	\$1,233,390.00
2012	\$10.00	123,564	\$1,235,640.00
2013	\$10.00	123,989	\$1,239,890.00
2014	\$10.00	124,215	\$1,242,150.00
2015	\$10.00	124,643	\$1,246,430.00
2016	\$10.50	125,071	\$1,313,245.50
2017	\$10.50	125,704	\$1,319,892.00
2018	\$10.50	126,338	\$1,326,549.00
2019	\$10.50	126,769	\$1,331,074.50
2020	\$10.50	127,407	\$1,337,773.50
2021	\$10.50	127,823	\$1,342,141.50
2022	\$10.50	127,993	\$1,343,926.50
Note 1: Exempt waste not included in amount of waste disposed.			
Note 2: calculation \$10.00 x 120,048 tons = \$1,200,480.00			

Table VIII - 3.

Summary of Revenue Generated and Mechanisms Used

Year	Type of Revenue Mechanisms & Amount Generated			Total Revenue Generated
	Generation Fee	Recycling Revenue	ODNR Grant	
2005	\$1,200,480.00	\$0.00	\$0.00	\$1,200,480.00
2006	\$1,205,430.00	\$0.00	\$0.00	\$1,205,430.00
2007	\$1,211,850.00	\$0.00	\$0.00	\$1,211,850.00
2008	\$1,212,940.00	\$0.00	\$0.00	\$1,212,940.00
2009	\$1,222,700.00	\$0.00	\$0.00	\$1,222,700.00
2010	\$1,229,160.00	\$0.00	\$0.00	\$1,229,160.00
2011	\$1,233,390.00	\$0.00	\$0.00	\$1,233,390.00
2012	\$1,235,640.00	\$0.00	\$0.00	\$1,235,640.00
2013	\$1,239,890.00	\$0.00	\$0.00	\$1,239,890.00
2014	\$1,242,150.00	\$0.00	\$0.00	\$1,242,150.00
2015	\$1,246,430.00	\$0.00	\$0.00	\$1,246,430.00
2016	\$1,313,245.50	\$0.00	\$0.00	\$1,313,245.50
2017	\$1,319,892.00	\$0.00	\$0.00	\$1,319,892.00
2018	\$1,326,549.00	\$0.00	\$0.00	\$1,326,549.00
2019	\$1,331,074.50	\$0.00	\$0.00	\$1,331,074.50
2020	\$1,337,773.50	\$0.00	\$0.00	\$1,337,773.50
2021	\$1,342,141.50	\$0.00	\$0.00	\$1,342,141.50
2022	\$1,343,926.50	\$0.00	\$0.00	\$1,343,926.50
Note 1: The revenues displayed do not include Carryover Balances or Interest.				
Note 2: No Recycling Revenues are projected due to volatile markets and a conservative budget.				
Note 3: ODNR Grant has become competitive so funds from this source are not guaranteed				

Table VIII - 4.

Loans Secured by the District

Year	Loan "A" Obtained by the District		Interest Rate	Length of Loan	Annual Debt Service
	Lending Institution	Loan Amount			
2003	County G.O. Bond	\$2,360,000.00		25 Years - Beginning in 2003	\$36,399.17
2004			3.25%		\$174,197.50
2005			3.25%		\$172,085.00
2006			3.25%		\$169,972.50
2007			3.25%		\$172,860.00
2008			3.50%		\$170,585.00
2009			3.75%		\$168,135.00
2010			3.75%		\$165,510.00
2011			4.00%		\$167,885.00
2012			4.00%		\$169,885.00
2013			4.20%		\$166,685.00
2014			4.50%		\$163,325.00
2015			4.50%		\$164,725.00
2016			4.50%		\$165,900.00
2017			4.50%		\$161,850.00
2018			4.50%		\$162,800.00
2019			5.25%		\$163,525.00
2020			5.25%		\$163,275.00
2021			5.25%		\$157,762.50
2022			5.25%		\$162,250.00

Table VIII-5.

Summary of District Revenues and Expenditures

Expenditure Classification	2008	2009	2010	2011	2012	2013
Professional Services			\$7,000	\$7,000		
Plan Update				\$25,000		
Greene County Recycling Center						
Salaries and Wages	\$614,000	\$632,420	\$651,393	\$670,934	\$691,062	\$711,794
Materials & Supplies	\$55,900	\$57,074	\$58,272	\$59,496	\$60,746	\$62,021
Purchased Utilities	\$40,000	\$40,840	\$41,698	\$42,573	\$43,467	\$44,380
Repairs & Services-Outside	\$103,000	\$105,163	\$107,371	\$109,626	\$111,928	\$114,279
Repairs & Services-Inside	\$23,000	\$23,483	\$23,976	\$24,480	\$24,994	\$25,519
Medical Fees	\$505	\$516	\$526	\$537	\$549	\$560
Insurance	\$10,000	\$10,210	\$10,424	\$10,643	\$10,867	\$11,095
Rental and Facilities	\$450	\$459	\$469	\$479	\$489	\$499
Telephone & Communications	\$9,200	\$9,393	\$9,590	\$9,792	\$9,997	\$10,207
Travel & Training	\$2,000	\$2,042	\$2,085	\$2,129	\$2,173	\$2,219
Dues & Subscriptions	\$1,200	\$1,225	\$1,251	\$1,277	\$1,304	\$1,331
Equipment & Vehicles Replacement Fund	\$145,000	\$65,000	\$66,365	\$67,759	\$69,182	\$70,634
Computer Software	\$505	\$516	\$526	\$537	\$549	\$560
General Advertising & Printing	\$7,500	\$8,500	\$8,679	\$8,861	\$9,047	\$9,237
Other Expense	\$500	\$511	\$521	\$532	\$543	\$555
Operating Expenses Subtotal	\$1,012,760	\$957,351	\$990,148	\$1,041,656	\$1,036,897	\$1,064,892
Transfers (G.O. Bond Debt Service)	\$170,585	\$168,135	\$165,510	\$167,885	\$169,885	\$166,685
Annual Debt Service Subtotal	\$170,585	\$168,135	\$165,510	\$167,885	\$169,885	\$166,685
Total Expenditures	\$1,183,345	\$1,125,486	\$1,155,658	\$1,209,541	\$1,206,782	\$1,231,577

Note 1. The District used a 3% inflation rate for the Salaries & Wages (historic average), and 2.1% for other expenses that increase.

Note 2. Professional Services - includes funds to support the new strategy for surveying and database development.

Note 3. Salaries and Wages - includes funds to support the new strategy for surveying and database development plus optional future strategies and programs.

Note 4. General Advertising & Printing - includes funds for education and awareness listed in programs P-5 and P-6.

Note 5. General Advertising & Printing - includes funds to support the new strategy to promote the Recycling Center.

Note 6. Repairs & Services-Outside - includes funds to manage scrap tires.

Note 7. Included in all line items are funds to support the Inter-Agency Network and Roadside litter collection plus expanding yard waste and drop-off recycling.

Program Expenditures

Electronics ¹	\$15,209.94	\$15,529.35	\$15,855.47	\$16,188.43	\$16,528.39	\$16,875.48
Household Hazardous Waste ²	\$23,447.67	\$23,940.07	\$24,442.81	\$24,956.11	\$25,480.19	\$26,015.27
Special Wastes Collection Events ³						
Yard Waste ⁴	\$321,366.64	\$328,115.34	\$335,005.76	\$342,040.88	\$349,223.74	\$356,557.44
Residential/Commercial Drop-off ⁵	\$248,466.23	\$253,684.02	\$259,011.39	\$264,450.62	\$270,004.09	\$275,674.17

Footnotes 1 through 5 - represent figures reported to Ohio EPA in 2007 quarterly fee reports w/ inflationary factor of 2.1%; these expenses are not included in the Op

Table VIII-6.

Revenues and Allocations

Year	Generation Fee, Loans and Interest	1	2	Cumulative Balance
Beginning Balance				\$880,320.00
2008	\$1,212,940		\$1,183,345	\$909,915
2009	\$1,222,700		\$1,125,486	\$1,007,129
2010	\$1,229,160		\$1,155,658	\$1,080,631
2011	\$1,233,390		\$1,209,541	\$1,104,480
2012	\$1,235,640		\$1,206,782	\$1,133,338
2013	\$1,239,890		\$1,231,577	\$1,141,651
2014	\$1,242,150		\$1,256,986	\$1,126,815
2015	\$1,246,430		\$1,287,951	\$1,085,294
2016	\$1,313,245		\$1,328,510	\$1,070,029
2017	\$1,319,892		\$1,380,686	\$1,009,235
2018	\$1,326,549		\$1,379,728	\$956,056
2019	\$1,331,074		\$1,413,435	\$873,695
2020	\$1,337,773		\$1,447,082	\$764,386
2021	\$1,342,141		\$1,487,408	\$619,119
2022	\$1,343,926		\$1,552,702	\$410,343
1 = Plan Updates incl. In 2		2 = Annual Plan Implementation		

Table VIII-8.

Summary of District Revenues and Expenditures

Expenditure Classification	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Revenues	\$1,212,940	\$1,222,700	\$1,229,160	\$1,233,390	\$1,235,640	\$1,239,890	\$1,242,150	\$1,246,430	\$1,313,245	\$1,319,892
Expenditures	\$1,183,345	\$1,125,486	\$1,155,658	\$1,209,541	\$1,206,782	\$1,231,577	\$1,256,986	\$1,287,951	\$1,328,510	\$1,380,686
Professional Services			\$7,000	\$7,000					\$9,000	\$9,000
Plan Update				\$25,000						\$25,000
Salaries and Wages	\$614,000	\$632,420	\$651,393	\$670,934	\$691,062	\$711,794	\$733,148	\$755,143	\$777,797	\$801,131
Materials & Supplies	\$55,900	\$57,074	\$58,272	\$59,496	\$60,746	\$62,021	\$63,324	\$64,653	\$66,011	\$67,397
Purchased Utilities	\$40,000	\$40,840	\$41,698	\$42,573	\$43,467	\$44,380	\$45,312	\$46,264	\$47,235	\$48,227
Repairs & Services-Outside	\$103,000	\$105,163	\$107,371	\$109,626	\$111,928	\$114,279	\$116,679	\$119,129	\$121,631	\$124,185
Repairs & Services-Inside	\$23,000	\$23,483	\$23,976	\$24,480	\$24,994	\$25,519	\$26,054	\$26,602	\$27,160	\$27,731
Medical Fees	\$505	\$516	\$526	\$537	\$549	\$560	\$572	\$584	\$596	\$609
Insurance	\$10,000	\$10,210	\$10,424	\$10,643	\$10,867	\$11,095	\$11,328	\$11,566	\$11,809	\$12,057
Rental and Facilities	\$450	\$459	\$469	\$479	\$489	\$499	\$510	\$520	\$531	\$543
Telephone & Communications	\$9,200	\$9,393	\$9,590	\$9,792	\$9,997	\$10,207	\$10,422	\$10,641	\$10,864	\$11,092
Travel & Training	\$2,000	\$2,042	\$2,085	\$2,129	\$2,173	\$2,219	\$2,266	\$2,313	\$2,362	\$2,411
General Advertising & Printing	\$7,500	\$8,500	\$8,679	\$8,861	\$9,047	\$9,237	\$9,431	\$9,629	\$9,831	\$10,037
Other Expense	\$500	\$511	\$521	\$532	\$543	\$555	\$566	\$578	\$590	\$603
Dues & Subscriptions	\$1,200	\$1,225	\$1,251	\$1,277	\$1,304	\$1,331	\$1,359	\$1,388	\$1,417	\$1,447
Equipment & Vehicles Replacement Fund	\$145,000	\$65,000	\$66,365	\$67,759	\$69,182	\$70,634	\$72,118	\$73,632	\$75,178	\$76,757
Computer Software	\$505	\$516	\$526	\$537	\$549	\$560	\$572	\$584	\$596	\$609
Operating Expenses Subtotal	\$1,012,760	\$957,351	\$990,148	\$1,041,656	\$1,036,897	\$1,064,892	\$1,093,661	\$1,123,226	\$1,162,610	\$1,218,836
Transfers (G.O. Bond Debt Service)	\$170,585	\$168,135	\$165,510	\$167,885	\$169,885	\$166,685	\$163,325	\$164,725	\$165,900	\$161,850
Annual Debt Service Subtotal	\$170,585	\$168,135	\$165,510	\$167,885	\$169,885	\$166,685	\$163,325	\$164,725	\$165,900	\$161,850
Total Expenditures	\$1,183,345	\$1,125,486	\$1,155,658	\$1,209,541	\$1,206,782	\$1,231,577	\$1,256,986	\$1,287,951	\$1,328,510	\$1,380,686
Cumulative Balance	\$909,915	\$1,007,129	\$1,080,631	\$1,104,480	\$1,133,337	\$1,141,650	\$1,126,815	\$1,085,294	\$1,070,029	\$1,009,235

Note 1. The District used a 3% inflation rate for the Salaries & Wages (historic average), and 2.1% for other expenses that increase.

Table VIII-8.

Summary of District Revenues and Expenditures

2018	2019	2020	2021	2022
\$1,326,549	\$1,331,075	\$1,337,773	\$1,342,141	\$1,343,926
\$1,379,728	\$1,413,435	\$1,447,082	\$1,487,408	\$1,552,702
			\$11,000	\$11,000
				\$25,000
\$825,165	\$849,920	\$875,417	\$901,680	\$928,730
\$68,813	\$70,258	\$71,733	\$73,240	\$74,778
\$49,240	\$50,274	\$51,330	\$52,408	\$53,508
\$126,793	\$129,455	\$132,174	\$134,950	\$137,784
\$28,313	\$28,908	\$29,515	\$30,134	\$30,767
\$622	\$635	\$648	\$662	\$676
\$12,310	\$12,568	\$12,832	\$13,102	\$13,377
\$554	\$566	\$577	\$590	\$602
\$11,325	\$11,563	\$11,806	\$12,054	\$12,307
\$2,462	\$2,514	\$2,566	\$2,620	\$2,675
\$10,248	\$10,463	\$10,683	\$10,908	\$11,137
\$615	\$628	\$642	\$655	\$669
\$1,477	\$1,508	\$1,540	\$1,572	\$1,605
\$78,369	\$80,015	\$81,695	\$83,411	\$85,162
\$622	\$635	\$648	\$662	\$676
\$1,216,928	\$1,249,910	\$1,283,807	\$1,329,646	\$1,390,452
\$162,800	\$163,525	\$163,275	\$157,762	\$162,250
\$162,800	\$163,525	\$163,275	\$157,762	\$162,250
\$1,379,728	\$1,413,435	\$1,447,082	\$1,487,408	\$1,552,702
\$956,056	\$873,696	\$764,387	\$619,120	\$410,344

IX. District Rules (ORC Section 3734.53)

A. Existing Rules

The District has not currently adopted rules as authorized in ORC Section 3734.53

B. Proposed Rules

The District does not anticipate adopting any new rules. However, all existing and future rulemaking authorities are granted to the Board in this plan, having expressed the intent of the planning process that future rulemaking be minimized in favor of cooperative and partnership-oriented approaches.

The Board reserves in this Plan the specific authority to adopt, publish and enforce all of the rule-making powers authorized by Ohio Revised Code §343.01, Divisions (G)(1), (G)(2), (G)(3) and (G)(4) with regards to any of the following:

- | | |
|-------------------|---|
| §343.01
(G)(1) | “Prohibiting or limiting the receipt of solid wastes generated outside of the district...at facilities covered by the plan...” |
| §343.01
(G)(2) | “Governing the maintenance, protection, and use of solid waste collection or other solid waste facilities located within its district. The rules adopted under division (G)(2) of this section shall not establish design standards and shall be consistent with the solid waste provisions of Chapter 3734. of the Revised Code and the rules adopted under those provisions. The rules adopted under division (G)(2) of this section may prohibit any person, municipal corporation, township, or other political subdivision from constructing, enlarging, or modifying any solid waste facility until general plans and specifications for the proposed improvement have been submitted to and approved by the Board of County Commissioners...as complying with solid waste management plan or amended plan of the District. The construction of such a facility...” |

§343.01
(G)(3) “Governing the development and implementation of a program for the inspection of solid wastes generated outside the boundaries of this state that are disposed of at facilities included in the district’s solid waste management plan or amended plan. A board of county commissioners...”

§343.01
(G)(4) “Exempting the owner or operator of any existing or proposed solid waste facility provided for in the plan or amended plan from compliance with any amendment to a township zoning resolution...or a county rural zoning resolution...that rezoned or redistricted a parcel or parcels upon which the facility is to be constructed and that became effective within two years prior to the filing of an application for a permit...”

This plan empowers the Board to make any lawful use of rulemaking authorities that exist, or come to exist during implementation.

It is the desire of the Policy Committee that the Board refrains from using rulemaking authorities unless reasonable attempts have been made to affect a desired outcome through voluntary methods and/or mediation.

Since there are no specific plans to make rules or to amend rules during implementation, it is not possible to either include the text of any future rules or to explain the relationship of these proposed rules to the amended plan implementation.