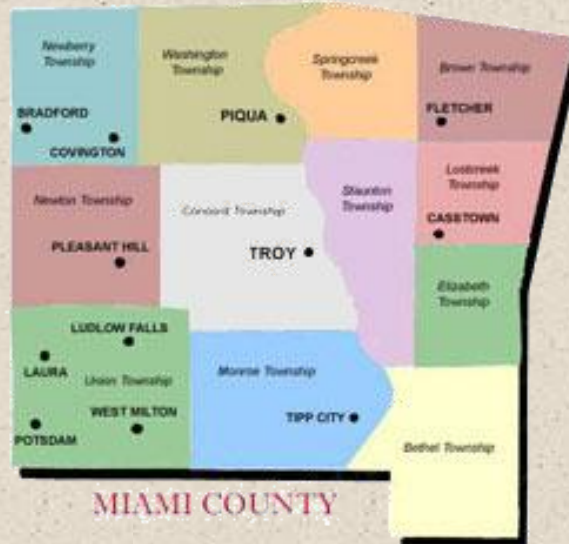


# SOLID WASTE MANAGEMENT PLAN UPDATE

## 2016 – 2030 DRAFT PLAN



*Prepared for:*



## Miami County Solid Waste Management District

*Prepared by:*



March 3, 2015

# MIAMI COUNTY SOLID WASTE MANAGEMENT DISTRICT

## 2016 – 2030 DRAFT PLAN UPDATE

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Appendix C	Resolutions and Certification Statements
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Appendix H	Miami County Debris Management Plan

## **I. Introduction**

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

#### **1. Under current approved (or ordered to be implemented) plan:**

Date of Ohio EPA approval  
or order to implement: June 30, 2009

Counties within district: Miami

Years in planning period: 15

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

Counties within District: Miami

Years in planning period: 15

Year 1 of the planning period: 2016

### **B. Reason for Plan Submittal**

Mandatory five-year plan update.

### **C. Process to Determine Material Change in Circumstances and Amend the Plan**

Ohio law [ORC Section 3734.56(D)] requires district plans to be updated when the District Board of Directors determine that circumstances are materially changed from those addressed in the approved plan. If a plan update is required due to a material change in circumstances, the plan update must address those portions of the plan that need to be modified due to the change.

A plan amendment involving fees or designation that does not require modification of any other part of the plan requires ratification, but not Ohio Environmental Protection Agency (Ohio EPA) approval. However, if any other portion of the plan is modified, the entire plan must be updated. Moreover, the updated plan must be ratified, submitted to Ohio EPA, and obtain Ohio EPA's approval prior to becoming effective.

#### **1. Circumstances which may result in a material change.**

In determining whether a material change has occurred, the Board of Commissioners will consider the following:

- a. An assessment of changes in waste generation;
- b. Capacity for disposal, transfer, composting, and management of restricted waste streams;
- c. Strategies for waste reduction and/or recycling;
- d. Substantial changes in the availability of waste reduction and recycling opportunities available to District residents;
- e. The availability of revenues for plan implementation;
- f. Procedures to be followed for plan implementation;
- g. Timetable for implementation of programs and/or activities;
- h. Facility designations and the flow of waste (the addition or removal of a facility from the designated list need not be a material change); and
- i. Any other factor that the Board considers relevant.

**2. Monitoring Procedures**

The Determination Criteria will be evaluated on the basis of the District Policy Committee's annual review of the approved plan, and/or information obtained through the District Staff's monitoring program. The staff monitoring program includes the following:

- a. Monthly and annual report data from the Miami County Transfer Facility<sup>1</sup>;
- b. Quarterly analysis of District revenues from transfer facility fees and other solid waste management activities;
- c. Analysis of information acquired by District Staff for preparation of the District's Annual Report;
- d. Information acquired by District Staff through follow-up investigations of citizen complaints which indicate the existence of deviations from or noncompliance with the District plan; and

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<sup>1</sup> The Miami County Transfer Facility is the only facility designated by the District for receiving municipal solid waste generated in the Miami County Solid Waste District.

- e. Analysis of information voluntarily provided to the District Staff by state or local officials and employees, or owners and operators of solid waste collection, disposal, transfer, or recycling operations, which indicate the existence of deviations from and/or noncompliance with the District's plan.

The Policy Committee or the District's staff will immediately notify the Board of Commissioners of any reliable information that is likely to establish that a significant or substantial change from the circumstances addressed in the District's approved plan has occurred.

3. Timetable for Making the "Material Change" Determination

Within ten days from receipt of notification from the Policy Committee or the District Staff that there may be a material change of circumstances, the Board of Commissioners will request the District Staff to prepare a report which discusses the effects that the changed circumstances identified in the notice to the Board of Commissioners may have on the criteria listed in paragraph 1, above. The District Staff will prepare the report and submit it to the Board of Commissioners within thirty days of the Board's request. Within ten days after the receipt of the District Staff's report, the Board will determine whether additional information is necessary for the Board to determine whether a material change has occurred. If the Board determines that additional information is required, the District Staff will revise its report to include such additional information and submit its final report within twenty days from the Board's request for additional information.

Within sixty days after the Board's receipt of the District Staff's final report, the Board will make a determination of whether the changed circumstances are material pursuant to the criteria listed in paragraph 1, above. During that time, the Board may obtain such information from sources other than the District Staff as the Board deems necessary and proper to making its determination of whether a material change has occurred.

4. Notification Procedure After Making Determination

Upon the Board's determination that a material change has occurred, the Board shall notify the District Policy Committee, in writing, within ten days of the Board's determination. The Board's notice shall request the District Policy Committee to prepare a draft amended solid waste plan, pursuant to ORC 3734.56 (D), that addresses those portions of the District's existing plan that the

Board has determined may be affected directly or indirectly by the material change.

#### **D. District Formation and Certification Statement**

All public notices in local newspapers publicizing hearings and comments on the *Plan Update* are included in Appendix B.

A certification statement signed by members of the Board asserting that the contents of the *Plan Update* are true and accurate is included in Appendix C. The certification statement was signed by a majority of the Board members for both the draft amended *Plan Update* and the ratified draft amended *Plan Update*.

Appendix C also includes resolutions by the Board adopting the *Plan Update* prior to ratification and certifying that the *Plan Update* has been properly ratified. A list of all political jurisdictions in the District which voted on the *Plan Update* ratification, their populations, and the percentage of the population represented by the political jurisdictions which ratified the *Plan Update* is included in Appendix C.

#### **E. District Policy Committee Members**

<b>Policy Committee Member</b>	<b>Title</b>	<b>Representing</b>
Richard Cultice	Chairman of the Policy Committee	Board of County Commissioners
Thomas Funderburg	Assistant Director of Public Service and Safety, Director of Human Resources	City of Troy
Mike Deweese	Fiscal Clerk - Staunton Township	Township Representative
Jeff Koehl	Representative for Commissioner	Miami County Public Health
Dave Heffner	N/A	Industrial Representative
Arthur Haddad	N/A	Public Representative
Deb Oexmann	N/A	Public Representative

#### **F. District Board of Directors**

<b>Board Member</b>	<b>Title</b>
Richard Cultice	President of the Commission
John O'Brien	Commissioner
John F. Evans	Commissioner



**G. District Address and Phone Number**

Ms. Cindy Bach  
District Coordinator  
Miami County Solid Waste Management District  
2200 North County Road 25-A  
Troy, Ohio 45373

Phone: (937) 440-3488  
Fax: (937) 335-4208  
Email: [cbach@miamicountysed.com](mailto:cbach@miamicountysed.com)

**H. Technical Advisory Council and Other Subcommittees**

The District does not currently have any Advisory Committees involved in the *Plan Update* process.

## II. Executive Summary

The Miami County Solid Waste Management District (District) is required by Section 3734.54 of the Ohio Revised Code (ORC) to periodically update its solid waste management plan (*Plan Update*). This *Plan Update* will cover a fifteen year planning period beginning in 2016 and ending in 2030. This *Plan Update* includes a description of District programs and projections for solid waste generation, recycling and disposal for fifteen years. This *Plan Update* identifies the District's strategies for managing the District's facilities and programs and provides an assessment on achieving statewide recycling and waste reduction goals. This *Plan Update* follows Ohio EPA's format version 3.0. The format requires specific narrative information and data tables. There are nine major sections to the Plan Format.

- Section I – includes basic information about the District and an important section on determining when material changes would require an amendment to the *Plan Update*.
- Section II – is an Executive Summary and includes brief narrative descriptions of each section in the *Plan Update*.
- Section III – includes an inventory of facilities, activities, and haulers used by the District in the reference year (2012).
- Section IV – includes the reference year statistics for the *Plan Update* including population data, waste generation and waste reduction estimates for the residential/commercial sector and the industrial sector.
- Section V – includes projections of population, waste generation and waste reduction for each year of the planning period.
- Section VI – includes the District's management of facilities and programs to be used by the District throughout the planning period.
- Section VII – presents how the District meets the state waste reduction and recycling goals.
- Section VIII – includes a presentation of the financial resources of the District necessary to implement this Plan.
- Section IX – District rules proposed, approved and authorized for adoption are presented by the District.

This Executive Summary provides an overview of each section of the *Plan Update*.

**A. Section I - Introduction**

On March 17, 1989, the Board of Commissioners of Miami County formed the Miami County Solid Waste Management District (Appendix A). The District includes all incorporated and unincorporated territory in Miami County.

The Board of County Commissioners of Miami County governs the District in their capacity as the Board of Commissioners of the Miami County Solid Waste Management District (hereinafter referred to as the "Board").

The Board of Directors governs the District (hereinafter referred to as the "Board") and is responsible for implementing the Solid Waste Management Plan developed by the Policy Committee. The following table lists the current Board:

**Board of Directors of the Miami County Solid Waste  
Management District**

<b>Board Member</b>	<b>Title</b>
Richard Cultice	President of the Commission
John O'Brien	Commissioner
John F. Evans	Commissioner

The following Policy Committee members are listed in accordance with the political jurisdictions and constituencies they represent:

**Policy Committee Members of the Miami County Solid Waste  
Management District**

<b>Policy Committee Member</b>	<b>Title</b>	<b>Representing</b>
Richard Cultice	Chairman of the Policy Committee	Board of County Commissioners
Thomas Funderburg	Assistant Director of Public Service and Safety, Director of Human Resources	City of Troy
Mike Deweese	Fiscal Clerk - Staunton Township	Township Representative
Jeff Koehl	Representative for Commissioner	Miami County Public Health
Dave Heffner	N/A	Industrial Representative
Arthur Haddad	N/A	Public Representative
Doug Deweese	N/A	Public Representative

## Technical Advisory Council and Other Subcommittees

The District does not currently have any Advisory Committees involved in the *Plan Update* process.

## Process to Determine Material Change in Circumstances and Amend the Plan

Section I of the *Plan Update* outlines the process which will be used by the District to determine when a material change in circumstance has occurred. If a material change in circumstances occurs, a plan amendment is required by Ohio law (ORC Section 3734.56 (D)). The District plan must be updated "...when the board of county commissioners...or board of directors...determines that circumstances materially changed from those addressed in the approved initial or amended plan of the district..."

A material change in circumstances is defined by Ohio EPA as changes in any of the following which would be judged to significantly interfere with District achievement of *Plan Update* goals in the context of statutory requirements:

- Facility designations, flow control of waste
- Waste generation
- Capacity availability
- Strategies for waste reduction and/or recycling
- Availability of revenue for plan implementation
- Procedures to be followed for plan implementation
- Timetable for implementation of programs and/or activities

In accordance with ORC 3734.56(D), the *Plan Update* must be revised if the Board has determined that "circumstances materially changed from those addressed in the approved initial or amended plan of the district." A material change in circumstances shall be defined as a change that adversely affects the ability of the Board to: (1) assure waste disposal capacity during the planning period; (2) maintain compliance with applicable waste reduction or access goals; or (3) adequately finance implementation of the *Plan Update*. This process is described in detail in Section I of this *Plan Update*.

## B. Section III - Inventories

Section III provides an inventory of facilities, programs and activities during the reference year (2012) of the *Plan Update*.

Inventories include the following:

- Landfills
- Transfer Facilities
- Incinerators and Waste-to-Energy Facilities
- Recycling Programs
- Collection Programs
- Composting Facilities and Programs
- Open Dumps and Waste Tire Dumps
- Ash, Slag and Foundry Sand Disposal Sites
- Solid Waste Haulers

**C. Section IV - Reference Year Population, Waste Generation and Waste Reduction**

**1. Reference Year Population**

The District's adjusted 2012 reference year population of 102,828 was calculated using the Ohio Development Services Agency Office of Research document *2012 Population Estimates by County, City, Village & Township* published in May, 2013. The population of Miami County was adjusted to include a portion of the population of the Village of Bradford in Darke County because more than 50 percent of the population resided inside Miami County. Miami County's population was also adjusted to exclude the portions of populations living within Huber Heights and Union City because more than 50 percent of these cities' populations resided inside Montgomery County.

**2. Waste Generation**

Residential and commercial waste generation was 108,769 tons, which included 70,189 tons of materials landfilled (see Table III-1 and Table III-3) and 38,580 tons of materials recycled or composted (see Table IV-5). Based on District population, the residential/commercial sector had a per capita generation rate of 5.80 pounds per person per day (PPD).

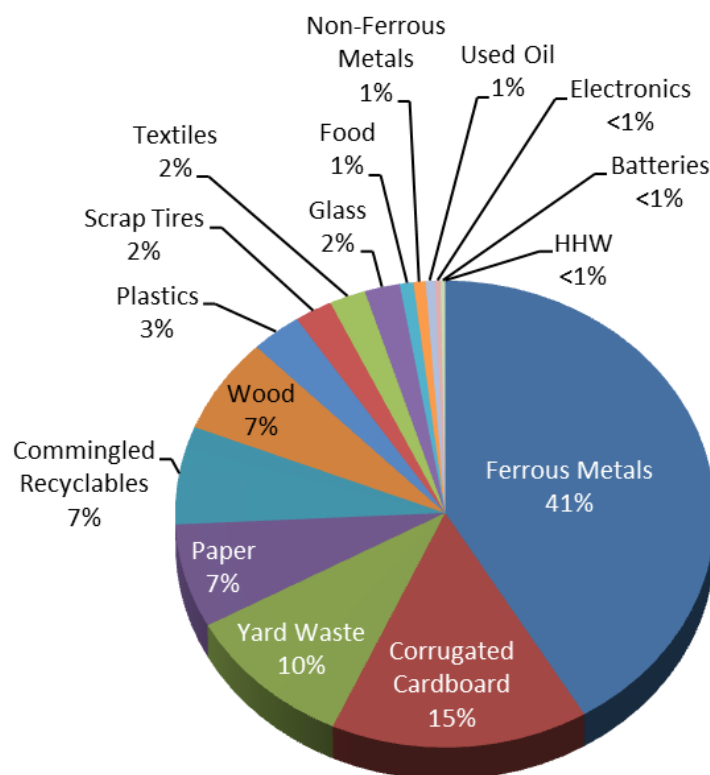
Industrial waste generation was 99,996 tons. This includes 15,036 tons of materials landfilled (see Table III-1 and Table III-3) and 84,960 tons of materials recycled or composted (see Table IV-6). Based on the District population, the industrial sector had a per capita generation rate of 5.33 PPD (see Table IV-8).

### 3. Reference Year Waste Reduction

Residential/commercial waste reduction that occurred in the District during the reference year is summarized in Table IV-5. The residential/commercial waste reduction included residential recycling activities such as curbside and drop-off collection, special collections for household hazardous waste, scrap tires, electronics, automobile batteries and used oil, commercial recycling completed by commercial entities operating within the District, and composting.

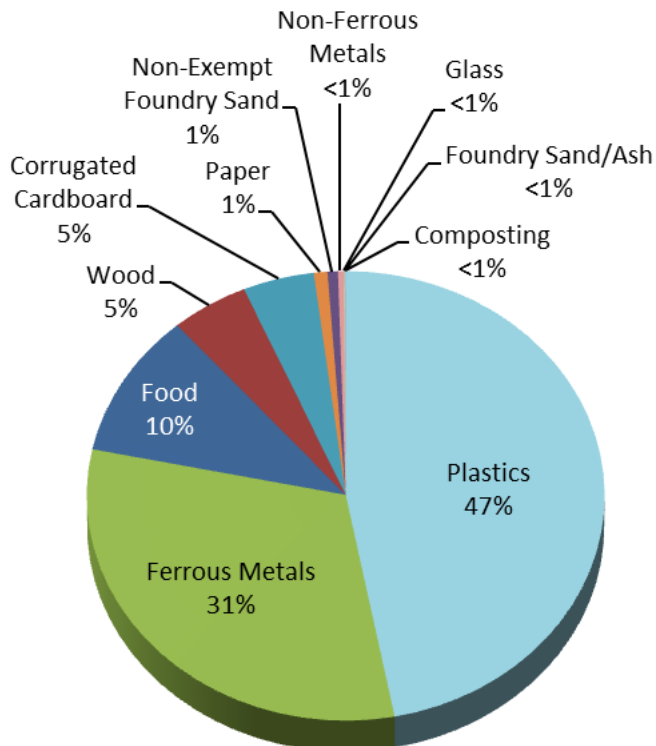
In 2012, the residential/commercial sector recycled and composted a total of 38,580 tons. The following figure presents the residential and commercial waste reduction totals as a percentage for 2012:

**2012 Residential/Commercial Waste Reduction**



Industrial waste reduction activities that occurred during the reference year are summarized in Table IV-6. In 2012, the industrial sector recycled and composted a total of 84,960 tons. The following figure presents the industrial waste reduction totals as a percentage for 2012:

### 2012 Industrial Waste Reduction



Section IV also provides specific details for the existing waste reduction/recycling activities for the residential/commercial and industrial sectors.

#### D. Section V - Planning Period Projections and Strategies

Section V includes a summary of projections of population, waste generation and recycling for the planning period (2016 – 2030). New programs and changes to existing programs are presented in this section.

##### 1. Population Projections

The District anticipates that population will remain fairly steady throughout the planning period. Initially, population is expected to decrease 0.47 percent from 2012 to 2020, then increase 0.84 percent from 2020 to 2030. The District is projected to start the planning period in 2016 with a population of 102,442 and end in 2030 with a total population of 103,203. This is a population increase of 0.74 percent for the planning period.

Population projections were calculated using the Ohio Development Services Agency's (ODSA) population projections by County in five-year intervals from 2010 to 2040. The populations in Table V-1

were interpolated for intermediate years using a straight-line average.

## **2. Waste Generation Projections**

### ***Residential/Commercial Sector***

The total residential/commercial waste generation estimate for 2012 is 108,769 tons (see Table V-2). Residential/commercial waste generation is projected to decrease throughout the planning period consistent with the District's average rate of change in residential/commercial per capita generation from 2009 to 2013. Beginning in 2016, the first year of the planning period, residential/commercial waste is projected to be 104,651 tons. This is expected to increase to 101,370 tons in 2030, a 3.1 percent increase from the 2012 reference year.

### ***Industrial Sector***

Industrial waste generation is projected for SIC codes 20, and 22-39. Table V-3 presents the industrial waste generation projections from the reference year through the end of the planning period. Actual reported industrial waste generation was used for 2013. The actual reported totals reflected only tonnage that was managed at in-state facilities. The 2013 tonnage was increased by 79 tons, which was the total waste managed at out-of-state facilities in 2012. The District anticipates tonnage managed at out-of-state facilities in 2013 to be the same as the total reported in 2012. Tonnage for 2014 was projected using the average total waste generation from 2011 to 2013.

Industrial sector generation is projected to change at the same rate as employment projections from 2015 to 2020. Employment projections are from the Ohio Department of Job and Family Services' (ODJFS) publication *2020 Job Outlook for the Dayton Metropolitan Statistical Area, including Greene, Miami, Montgomery and Preble Counties*. ODJFS projects that from 2010 to 2020, industrial sector employment in the Dayton Metropolitan Statistical Area (MSA) will decrease 6.7 percent, or an average of -0.67 percent annually until 2020. The projected decrease is partially linked to the economic recession.

The District projects a conservative 0.25 percent annual increase in manufacturing employment from 2021 to 2030 to reflect slight economic recovery in the manufacturing industry, but also a changing local economy that will increasingly rely less on



manufacturing in the future. Industrial generation is projected to be increase from 99,996 ton in 2012 to 107,183 tons in 2030.

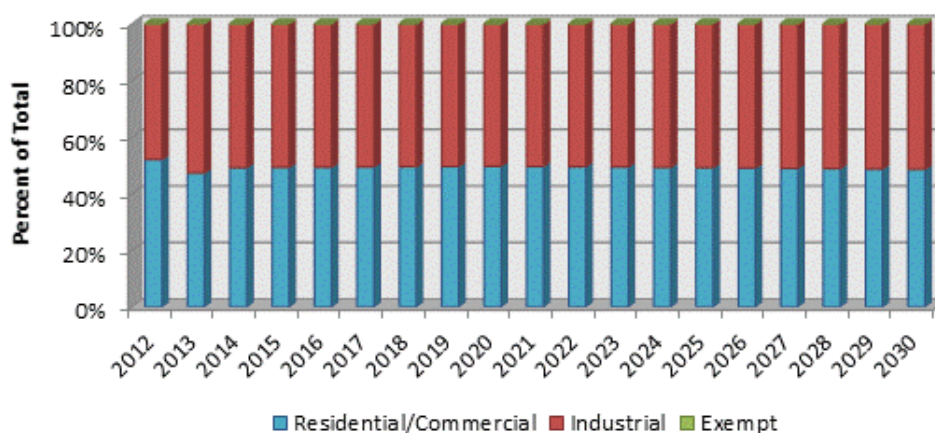
### **Total Waste Generation**

The total waste generation estimate for the 2012 reference year is 208,854 tons (see Table V-4). Detailed estimates are as follows:

- Residential/Commercial Waste 108,769 tons
- Industrial Waste 99,996 tons
- Exempt Waste 89 tons
- Generation rate (pounds per person per day) 11.13

The following figure depicts the waste generation per sector as a percentage of the total waste generation.

**District Total Waste Generation (2012 – 2030)**



### **3. Waste Reduction and Recycling Strategies through the Planning Period**

The District must continue to develop recycling and waste reduction strategies to meet the goals established in the *2009 State Plan*.

#### **Residential/Commercial Waste Reduction/Recycling and Education Strategies**

The District projects that the residential/commercial waste reduction strategies will increase from 38,580 tons in 2012 to 41,051 tons in 2030, or approximately 6 percent from the reference year to the end of the planning period.

This section addresses challenges identified with existing programs in Section IV and includes several new and/or revised programs. Specific changes to existing programs and details of the new programs listed above are provided in Section V.

### ***Industrial/Commercial Waste Reduction/Recycling and Education Strategies***

Industrial recycling is projected to change at the same rate as industrial sector employment. After impacts from changes to industrial sector employment is applied, total tonnage is increased 0.2 percent annually. This is to reflect the trend that more industries and businesses are recycling more due to economic necessity, as well as becoming more environmentally sustainable to improve public perception. Industrial sector recycling is projected to increase from 84,960 tons in 2012 to 94,132 ton in 2030, or 10.8 percent.

This *Plan Update* continues the existing programs listed in Section IV. Specific changes to existing programs and details of the new programs are provided in Section V.

## **E. Section VI - Methods of Management: Facilities and Programs to be Used**

Section VI presents the District's methods for managing solid waste. It includes management methods, a siting strategy, and a demonstration of capacity for the planning period 2016 – 2030.

### **1. District Methods for Management of Solid Waste**

The net tons managed by the District in 2012 were 208,854 tons. Net tons to be managed by the District are expected to increase to 212,107 tons at the beginning of the planning period and increase to 208,619 tons by the end of the planning period. The District anticipates that recycling, composting, incineration, and landfilling (mainly via first being managed at a transfer station) will be the only methods used to manage the District's waste.

### **2. Demonstration of Access to Capacity**

The Miami County Transfer Station manages more than 99 percent of the solid waste transferred, and approximately 97 percent of the overall waste disposed by the District. The District's 85,293 tons of waste (both directly hauled and transferred) was managed at eight out-of-district landfills and two out-of-state landfills.

## **Regional Capacity Analysis**

The District's assessment of regional landfill capacity demonstrates there is sufficient permitted capacity available to manage the District's solid waste until December 31, 2030. The ten landfills used by the District in 2012 had the permitted capacity to manage 212.8 million cubic yards of solid waste. Over the fifteen year planning period (2016 – 2030), the District will dispose of approximately 1,144,349 tons or 3,433,048 cubic yards of solid waste. Applying an average 2:1 compaction ratio for landfilled solid waste, the District will need approximately 1,716,524 cubic yards of airspace capacity over the fifteen year planning period. Using these calculations, Republic's Cherokee Run Landfill could manage the District's entire landfill needs for the planning period.

### **3. Schedule for Facilities and Programs: New, Expansions, Closures, Continuations**

Table VI-5, "Implementation Schedule for Facilities, Strategies, Programs and Activities: Dates and Descriptions" presents the District's programs and initiatives related to collection, market development, grants, education and awareness, other activities, and facilities that will be active during the planning period. These programs are discussed in detail in Sections IV and V.

### **4. Identification and Designation of Facilities**

As required in Section 3734.53(A)(13)(a) of the Ohio Revised Code, the District is identifying all Ohio licensed and permitted solid waste landfill, transfer and resource recovery facilities and all licensed and permitted out-of-state landfill, transfer and resource recovery facilities. The District is also identifying recycling and composting programs and facilities that are identified in Section III Inventories.

The District has designated and will continue to designate the Miami County Solid Waste & Recycling Facility located at 2200 North County Road 25A in Troy, Ohio as the only facility to receive solid waste generated in the District.

## **Contracting**

The District may contract (during the planning period and beyond) for the transport and delivery of solid waste to any identified solid waste disposal, transfer, or resource recovery facility for the appropriate disposal, resource recovery or recycling of solid waste.

## 5. Siting Strategy for Facilities

The District's Siting Strategy includes the following:

Submission and Review of Plans and Specifications and Application of Siting Strategy to Proposed Solid Waste Facilities, Maximum Feasible Utilization and Exemption of Existing in-District Solid Waste Facilities.

## 6. Contingencies for Capacity Assurance and District Program Implementation

The District will immediately take the following steps if the contract with the Republic Services – Cherokee Run Landfill or any other facility or service provider that the District may use during the planning period is terminated for any reason.

1. Prepare bid documents and invite competitive bids from qualified firms for solid waste disposal or other necessary services.
2. Accept the best, responsive bid and enter into a contract.

The District reserves the right to reject any and all bids for any reason, or for no reason at all, and to re-bid the solid waste transfer, hauling, or disposal services under consideration.

## F. Section VII - Measurement of Progress Toward Waste Reduction Goals

The Ohio EPA 1995 *State Plan* establishes seven goals solid waste management districts (SWMD) are required to achieve in their solid waste management plans. SWMDs are encouraged to meet both Goal #1 and Goal #2, but are only required to demonstrate compliance with one goal or the other. The following table defines Goals #1 and #2:

Goal #	Description
#1	Ensure the availability of reduction, recycling and minimization alternatives for municipal solid waste by ensuring 90% of residents have access to curbside and drop-off programs. The District must also demonstrate that there are adequate opportunities for industrial businesses to recycle.
#2	Reduce and/or recycle at least 25% of the total waste generated by the residential/commercial sector and 50% of the total waste generated by the industrial sector.

## Compliance with Goal #2

The District is committed to complying with Goal #2, which requires solid waste districts to:

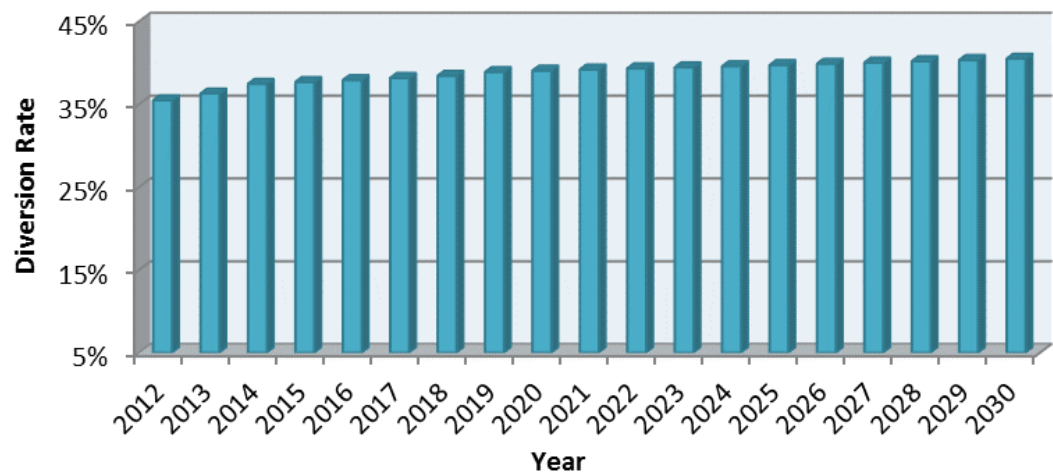
- Reduce or recycle at least 25% of the residential/commercial waste generated; and
- Reduce or recycle at least 50% of the industrial waste generated.

## Targets for Reduction and Recycling

### a. Residential and Commercial Sectors

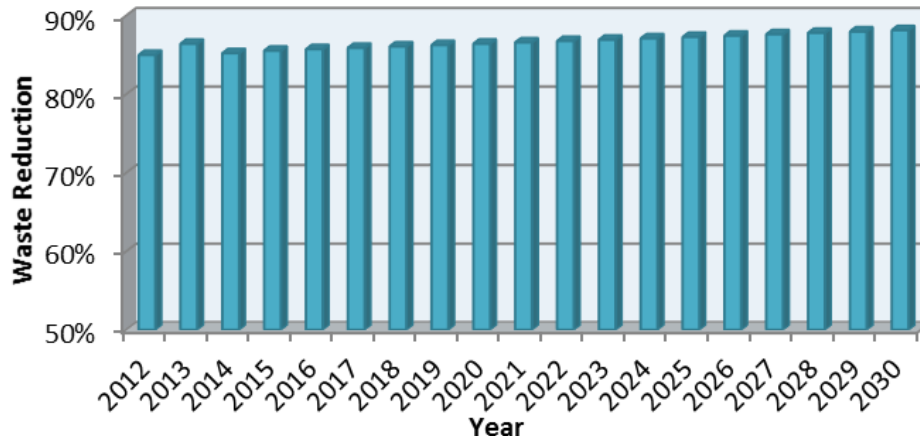
In 2012, 35 percent of the District's residential/commercial waste stream was reduced, or diverted from landfills (Table VII-3). The 35 percent waste reduction equates to a per capita waste reduction rate of 2.06 pounds per person per day (PPD). Diversion is expected to increase throughout the planning period. The following figure presents the waste reduction percentage for 2012 through 2030.

**Residential/Commercial Waste Reduction Projections**

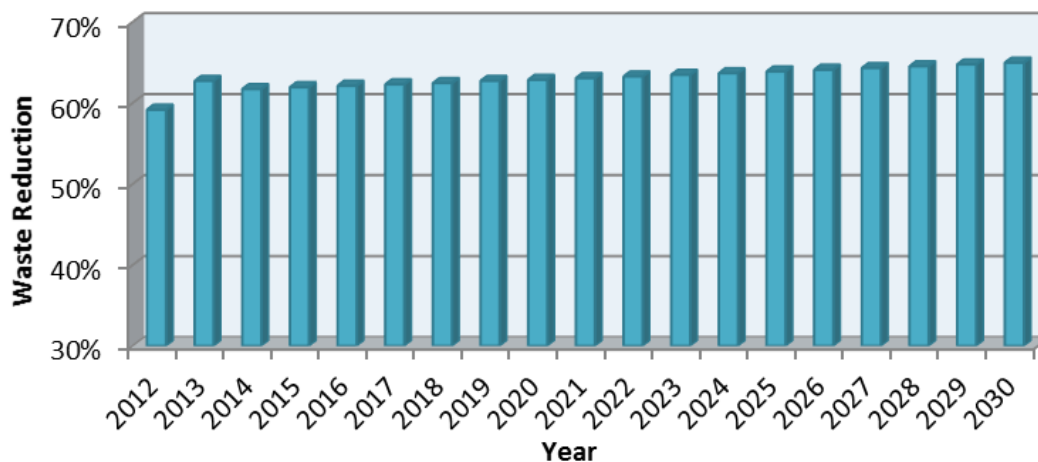


### b. Industrial Sector

Table VII-4 presents the annual waste reduction rate for industrial waste. The District's industrial sector had a waste reduction rate of 85 percent in the reference year. Diversion is expected to increase throughout the planning period. The following figure presents the waste reduction percentage for 2012 through 2030.

**Industrial Waste Reduction Projections****c. District Total**

Overall waste reduction in the District equaled 59 percent in 2012 (Table VII-5). This equates to 6.58 PPD. The District is projected to begin the planning period with a waste reduction rate of 62 percent or 7.05 PPD. Overall waste reduction is anticipated to increase to 65 percent or 7.20 PPD by the end of the planning period. This is a 4.6 percent increase in per capita waste reduction from 2016 – 2030. The following figure depicts all sectors waste reduction rate throughout the planning period.

**2012 – 2030 Overall District Waste Reduction Percentage**

**G. Section VIII - Cost of Financing Plan Implementation****1. Funding Mechanisms****a. District Disposal Fees**

The District does not currently assess a tiered disposal fee. The District is not proposing to adopt or impose a tiered disposal fee with the ratification of the *Plan Update* or at any juncture during the current planning period.

**b. Generation Fee**

The District does not currently assess a generation fee. The District is not proposing to adopt or impose a generation fee with the ratification of the *Plan Update* or at any juncture during the current planning period.

**c. Summary of District Revenues**

The Miami County Transfer Station is the only designated facility for all municipal solid waste generated in the District. The Miami County Transfer Station charges a tipping fee, which covers its operational costs as well as all District programming.

In addition to tipping fee revenue, recycling revenue, waiver fee revenue, and miscellaneous revenue also fund District programming and Transfer Station operations. Miscellaneous revenues mainly includes fees collected by the transfer station from municipalities and other sources and reimbursements from Ohio EPA.

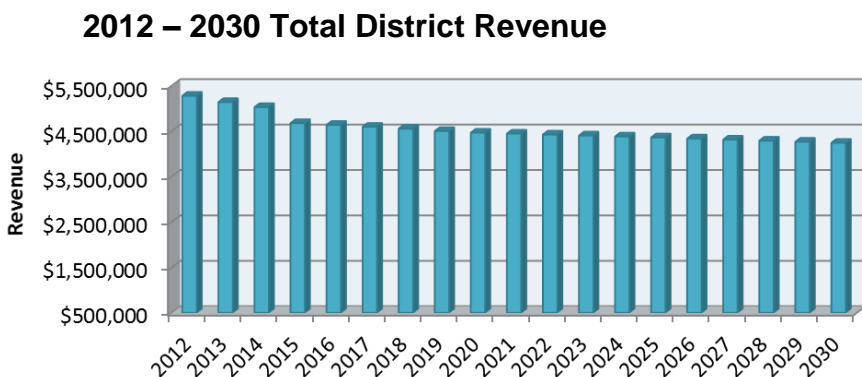
The transfer facility charge on incoming waste was \$57.05 per ton plus an Ohio EPA Fee of \$4.75 per ton, or a total of \$61.80 per ton from the reference year to 2014. The Board of Directors passed a resolution to reduce the tipping fee to \$53.05 per ton plus the \$4.75 per ton fee for Ohio EPA, or a total of \$57.80 per ton effective January 1, 2015. The District relies on the tipping fee approved pursuant to the procedures required by Chapter 343 of the Ohio Revised Code as a rate and charge. The revenue generated from this rate and charge provides the funds necessary to manage and dispose of the waste that is delivered to the transfer facility and implement the Solid Waste Management Plan. Table VIII-3 presents the projected revenue generated

by the tipping fee at the Miami County Transfer Station, recycling revenues and miscellaneous revenues. Table VI-4C presents the amount of in-district waste that is anticipated to be managed at the transfer facility during each year of the planning period.

The District Board of Directors reserves its right to determine the most appropriate fee schedule and fee collection mechanism to fund the operation of the transfer station and implementation of the Plan consistent with the statutory authority of Chapter 3734 and 343 of the Ohio Revised Code; and specifically, section 343.08, without amending the Plan.

Total revenues are projected to be \$4,637,200 in 2016 and \$4,242,630 in 2030.

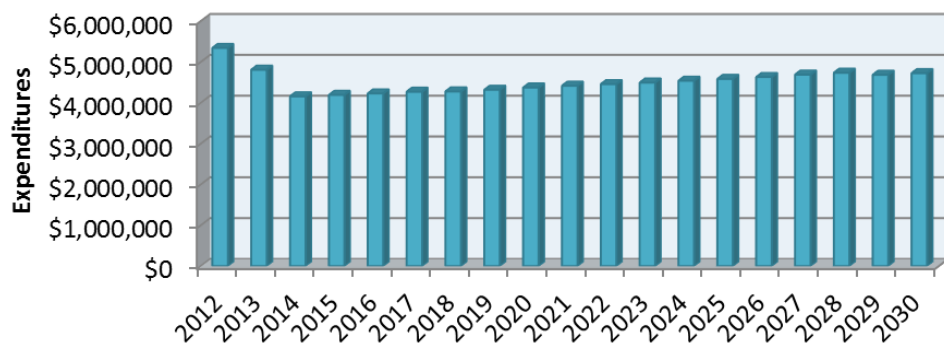
The following figure presents the District's actual and projected total revenue from 2012 to 2030.



## 2. Cost of Plan Implementation

The following figure summarizes the District's actual and projected expenses throughout the planning period. Administrative costs, programming costs, transfer station operating costs, and debt retirement for District loans are included in the projected expenditures.



**2012 – 2030 Projected Expenditures**

**3. Funds Allocated from ORC 3734.57(B), ORC 3734.572 and ORC 37334.573**

The District's budget falls into two categories: preparation and monitoring of plan implementation, and implementation of the approved plan. More than 99 percent of the District's expenses fall under plan implementation.

**4. Contingent Funding**

The District and Board do not consider funding to be an issue of concern during this planning period. However, the Board would consider increasing the Miami County Transfer Station tipping fee or other funding options, if the District's revenues and/or expenses were creating budgetary shortfalls.

The District does not have a disposal or generation fee. If there were an unforeseen catastrophic event, the District would reevaluate the need for a generation fee. The District does not anticipate there will be any need to change funding mechanisms during the planning period.

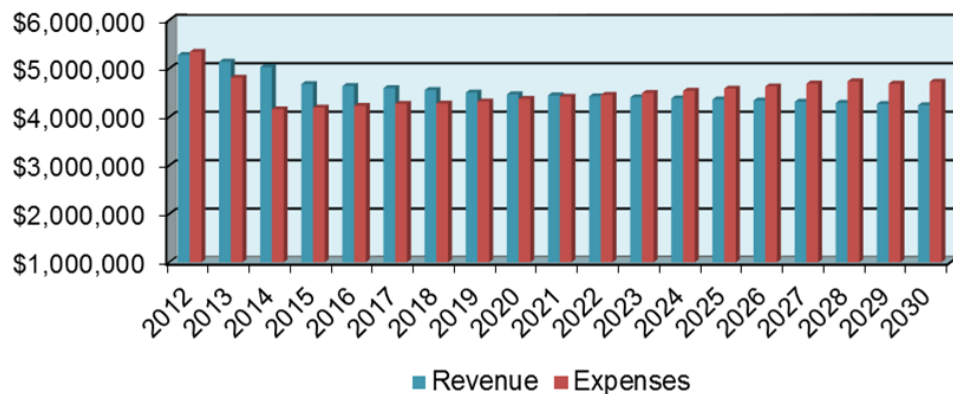
Before this contingency would be implemented, the District would re-evaluate the estimated expenditures in Table VIII-5 to determine the minimum annual budget to sustain the District core operations.

**5. Summary of Costs and Revenues**

A summary of District revenues and expenditures for each year of the planning period is included in Table VIII-8. Total expenditures for the first year of the planning period are projected to be \$4,228,547 and will increase over the planning period to \$4,725,868 by 2030. The following figure presents the District's

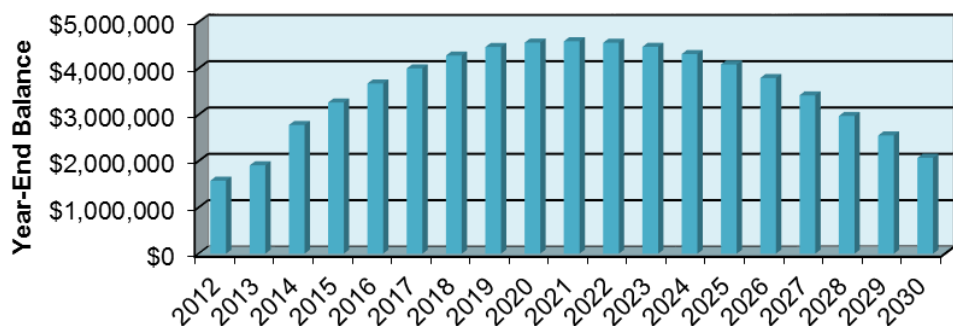
actual and projected revenues and expenses throughout the planning period.

**District Revenue and Expenses (2012 – 2030)**



The District is projected to begin the planning period with a carryover balance of \$3,261,910. The year-end balance is expected to peak in 2021 at \$4,581,791, then decrease annually to have an ending carryover balance of approximately \$2,068,311 in 2030. The following figure presents the actual and projected year-end balance from 2012 to 2030:

**2012 – 2030 Year End Balance**



## H. Section IX - District Rules

### 1. Existing Rules

The District has existing rules that are summarized in this section. The District reserves the right to create make, publish and enforce rules in accordance and pursuant to Divisions (F) (1), (2) and (3) of Section 343.01 of the Revised Code and Divisions (C) (1), (2), (3), and (4) of Section 3734.53 of the Revised Code, to the extent any such rules are determined by the Board from time to time to be necessary or desirable to implement any provision or to accomplish

any objective of this Solid Waste Management Plan or any amended Plan.

**2. Proposed Rules**

No new rule changes are included with this *Plan Update*. The District intends to keep its options open with the development of additional rules. The District reserves the right under Section 343.01 of the ORC and Division (C) (1), (2), (3) and (4) of Section 3734.53 to adopt from time to time new revised rules.

**Table ES-1  
General Information**

<b>District Name:</b> Miami County Solid Waste Management District		
<b>District ID #:</b> (for OEPA use only)	<b>Reference Year:</b> 2012	<b>Planning Period:</b> 2016-2030
<b>Plan Status (underline one):</b>		
D	RD	<u>DR</u> Approved (date)    /    /    OI (date)    /
<b>Abbreviations:</b> D = draft, RD = ratified draft, DR = draft revised, OI = ordered to be implemented, DA = draft amended		

**Table ES-2  
District Coordinator/Office**

<b>Name:</b> Cindy Bach, District Coordinator, Miami County Solid Waste Management District		
<b>Address:</b> 2200 North County Road 25A		
<b>City:</b> Troy	<b>State:</b> OH	<b>Zip:</b> 45373
<b>Phone:</b> (937) 440-3488	<b>Fax:</b> (937) 335-4208	

**Table ES-3**  
**Plan Data Summary**

<b>Plan Data</b>		<b>Reference Year 2012</b>	<b>Year Five 2020</b>	<b>Year Ten 2025</b>	<b>Year Fifteen 2030</b>
<b>Population</b>		<b>102,828</b>	<b>102,345</b>	<b>102,886</b>	<b>103,203</b>
<b>Generation</b>	Res/Comm	108,769	103,385	102,485	101,370
	Industrial	99,996	104,540	105,854	107,183
	Exempt	89	66	66	66
<b>Total Generation (tons)</b>		<b>208,854</b>	<b>207,992</b>	<b>208,405</b>	<b>208,619</b>
<b>Waste Reduction</b>	Industrial Source Reduction	N/A	N/A	N/A	N/A
	Industrial Recycling	84,960	89,994	92,040	94,132
	Res/Comm Source Reduction	N/A	N/A	N/A	N/A
	Res/Comm Recycling	34,634	34,468	34,803	35,137
	YW Composting	3,946	5,915	5,915	5,915
	Incineration	27	446	446	446
	Ash Disposed	6	96	96	96
<b>Total Waste Reduction (tons)</b>		<b>123,561</b>	<b>130,725</b>	<b>132,626</b>	<b>135,532</b>
<b>Disposal</b>	In-District Landfills	0	0	0	0
	Out-of-District Landfills	85,235	77,125	75,162	73,087
	Out-of-State Landfills	58	141	137	133
<b>Total Landfill (tons)</b>		<b>85,293</b>	<b>77,266</b>	<b>75,299</b>	<b>73,220</b>
<b>Waste Reduction Rate</b>		<b>59%</b>	<b>63%</b>	<b>64%</b>	<b>65%</b>

**Table ES-4  
Existing Disposal Facilities**

<b>Name</b>	<b>County</b>	<b>District Tons</b>	<b>Total Tons</b>	<b>Years Left</b>
Celina Sanitary Landfill	Mercer	25	51,944	7.40
Cherokee Run Landfill	Logan	13	1,106,099	70.50
County Environmental of Wyandot	Wyandot	1,149	209,603	100*
American Landfill	Stark	6	982,595	68.80
Rumpke Waste Hughes Rd. Landfill	Hamilton	935	1,773,194	61.00
Stony Hollow Landfill	Montgomery	415	239,864	4.00
Pine Grove Regional Facility	Fairfield	101	226,791	66.50
Rumpke Brown County Landfill	Brown	82,591	510,770	68.80
Southside Landfill	Marion (IN)	16	765,135	29.30
WM Outer Loop Recycling & Disposal Facility	Jefferson (KY)	42	1,660,529	50.20
<b>Totals/Average</b>		<b>85,293</b>	<b>7,526,523</b>	<b>47.39</b>

**Note:** Years Remaining Based on Landfill Receipts in 2012

### **III. Inventories**

#### **[ORC Section 3734-53(A)(1)-(4)]**

This section of the *Plan Update* provides a review of the solid waste management system during the 2012 reference year. The reference year is the baseline year used for data collection for solid waste programs, facilities and activities in the *Plan Update*. Projections developed in later sections in this *Plan Update* are based on the reference year inventories.

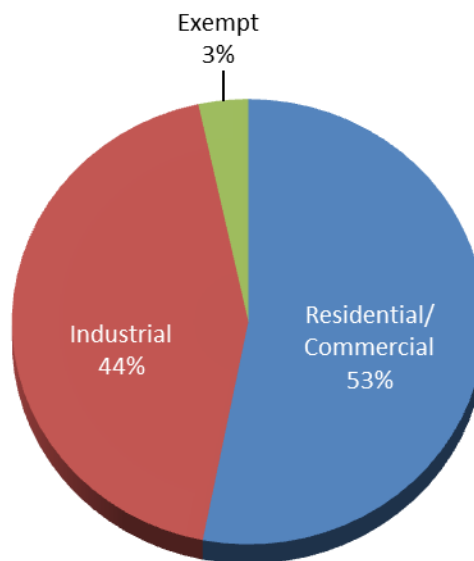
This section of the *Plan Update* describes how solid waste was collected, reduced, recycled, disposed, and ultimately managed in Miami County in 2012.

#### **A. The Reference Year**

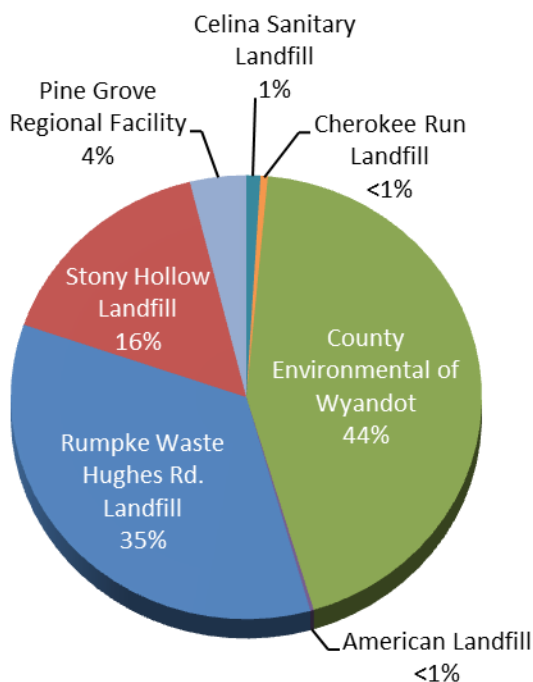
In accordance with ORC 3734.56(A), the District began preparation of the revised plan March 30, 2013, fifteen months prior to the required submittal date for the draft plan on June 30, 2014. The District will use calendar year 2012 as a reference year for all subsequent projections in the plan.

#### **B. Existing Solid Waste Landfills**

Table III-1, "Landfills Used by the District" presents a list of all in-district, out-of-district, or out-of-state landfills that received directly hauled solid waste from the District. There are currently no operating MSW landfills located in Miami County. Seven out-of-district landfills received directly hauled solid waste generated in the District. No out-of-state landfills were used to direct haul solid waste. Approximately 2,617 tons of solid waste generated by District residents, commercial businesses and industries was directly hauled to landfills for disposal in 2012. The majority (53%) of the directly hauled waste was generated by the residential/commercial sector and 44% was generated by the industrial sector. Only 3% of the directly hauled solid waste was exempt waste, which can include earth or materials from construction, mining, or demolition operations, nontoxic fly ash and bottom ash, and slag. The following figure presents the percent of direct hauled solid waste generated by each sector in 2012:

**2012 Percentage of Directly Hauled Solid Waste Generated by Sector**

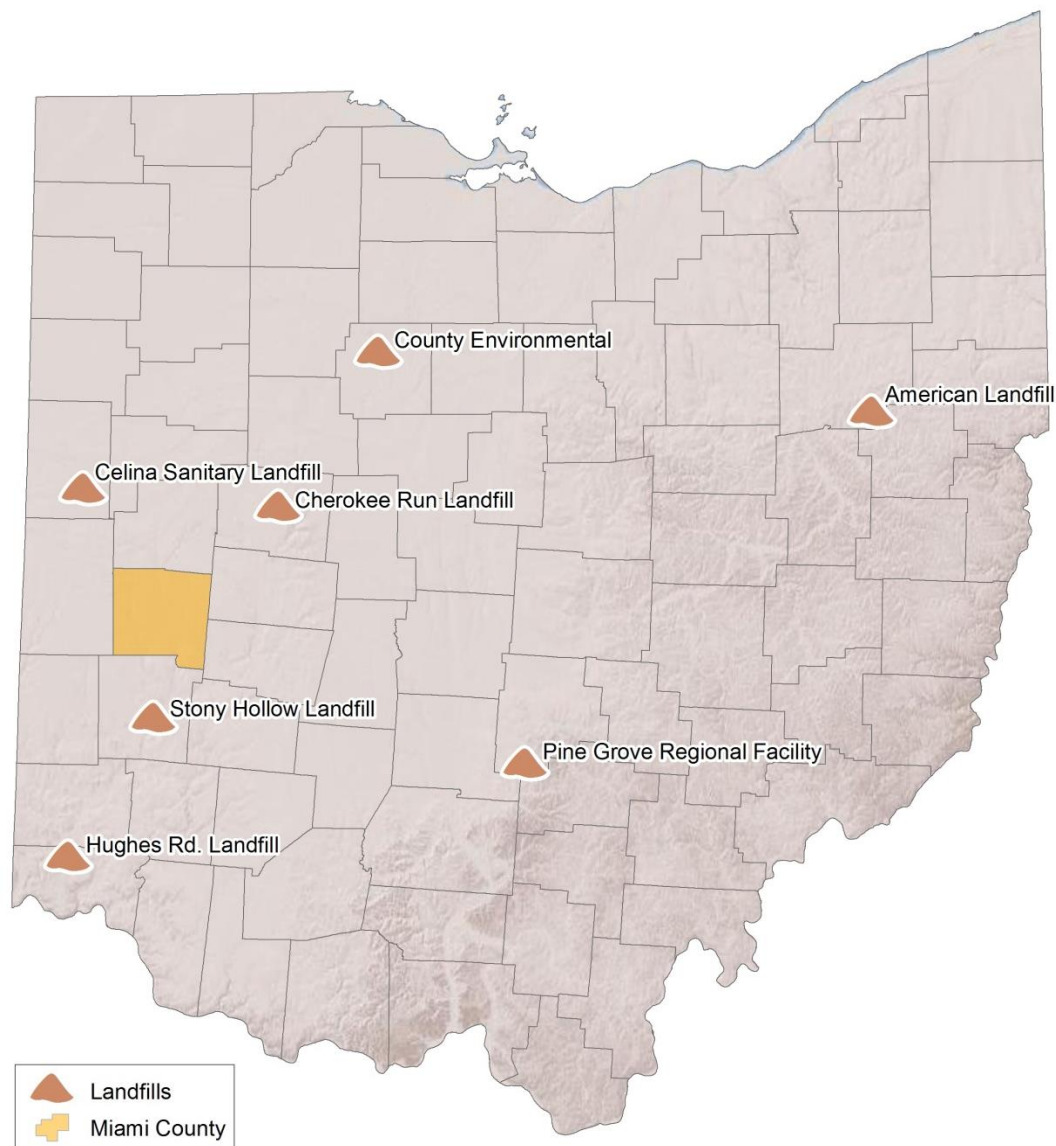
County Environmental of Wyandot received the largest portion of directly hauled solid waste (44%), followed by Rumpke Waste Hughes Road Landfill (35%), and Stony Hollow Landfill (16%). The remaining 7% was managed at four other Ohio facilities. The following figure presents the percentage of total tons directly disposed at each landfill.

**2012 Percentage of Total Tons Directly Disposed by Landfill**



The following map presents the locations of landfills that accepted directly hauled solid waste generated in Miami County.

### 2012 Landfills that Accepted Directly-Hauled Solid Waste



Solid waste that was directly hauled to a landfill for disposal was not the District's primary method of waste disposal. Only 3 percent of the waste generated in Miami County was managed by being directly hauled to a landfill. A negligible (<1%) amount of waste was also managed at waste-to-energy facilities. The majority (97%) of waste was processed at transfer facilities. The following figure presents the methods used to manage solid waste by percentage of tons received.

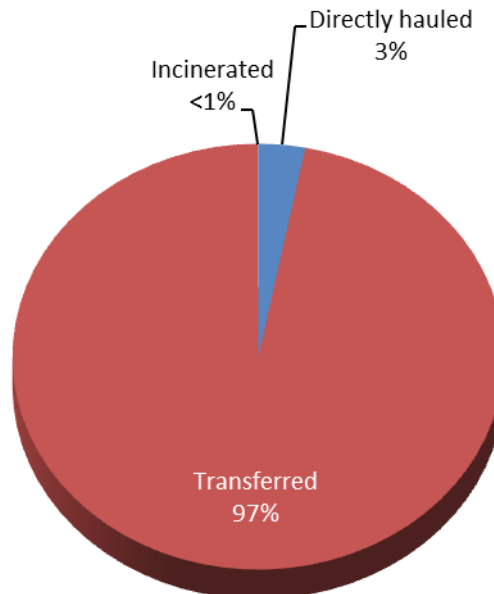
**2012 Solid Waste Management Methods by Percentage of Total Tons****C. Existing Incinerators and Resource Recovery Facilities**

Table III-2, “Solid Waste Incinerators and Waste-to-Energy Facilities Used by the District,” presents a list of all publicly available solid waste incinerators and waste-to-energy facilities used by the District. No publicly available incinerators or resource recovery facilities currently exist within the District. One waste-to-energy facility located in Indiana was used to manage less than 1 percent of the District’s waste.

**D. Existing Transfer Facilities**

Table III-3, “Solid Waste Transfer Facilities Used by the District,” presents a listing of all transfer facilities used by the District in 2012. Approximately 82,670 tons of Miami County generated waste and recyclables were received at the transfer station. The District’s in-district transfer station managed more than 99% of the transferred waste. The remaining portion was managed by three out-of-district facilities and three out-of-state facilities. The three out-of-state facilities were not traditional transfer stations; they were treatment facilities for special wastes. The following map presents the locations of transfer stations used by the District.

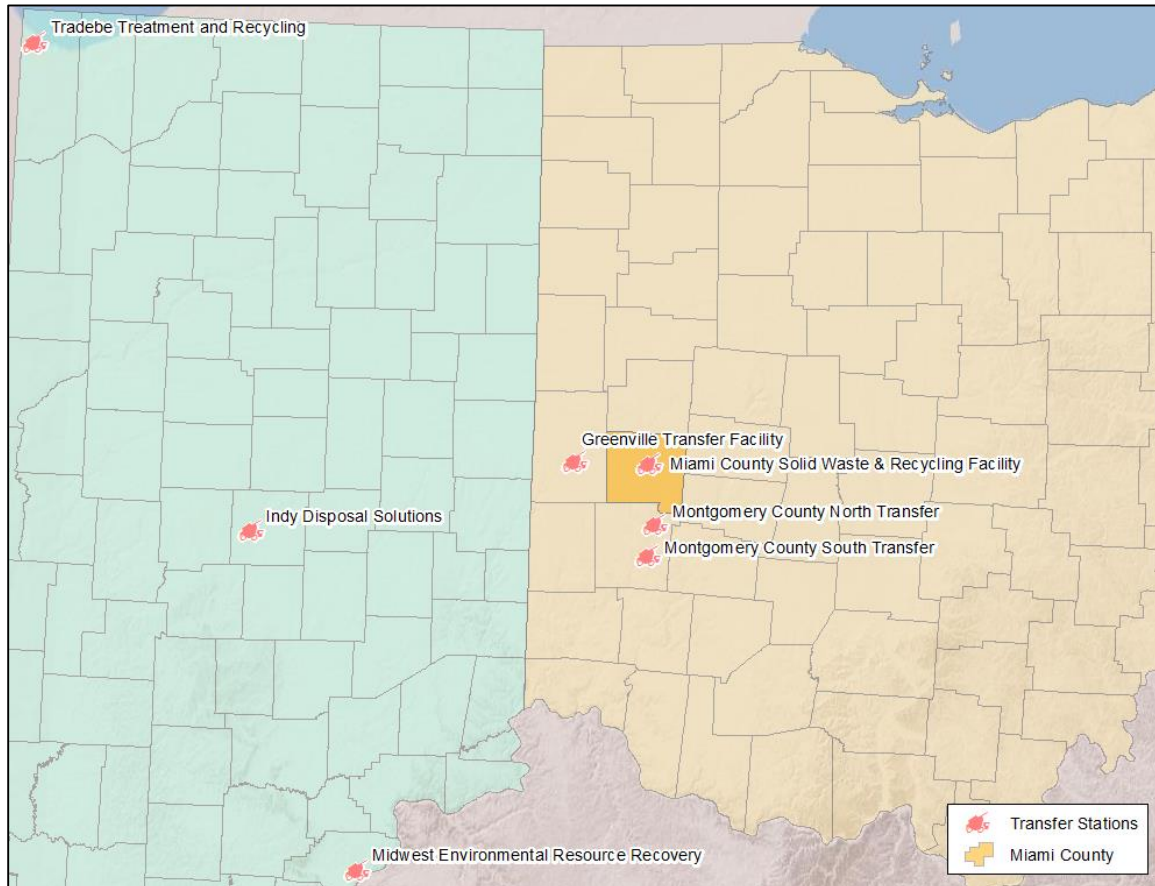
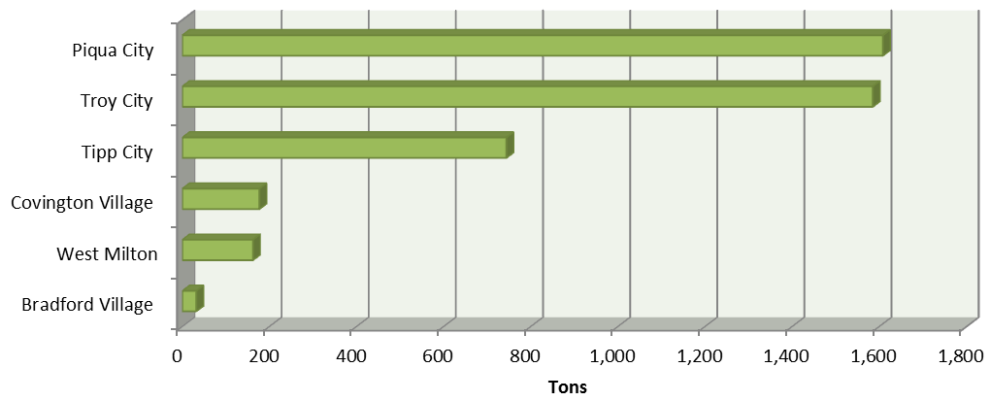
**2012 Transfer Stations Used by the District****E. Existing Recycling and Household Hazardous Waste Collection Activities**

Table III-4, “Residential Curbside Recycling Activities Used by the District,” presents a listing of residential curbside recycling activities operating in Miami County. Information in this table is based on results of surveys, facility records, and direct inquiry.

The District had seven communities that operated a non-subscription curbside recycling and eight communities that had subscription curbside recycling programs. Each of the programs collected at a minimum aluminum cans, steel cans, glass, newspapers, mixed papers, cardboard, paperboard, and plastic. Seven of the eight political subdivisions with non-subscription curbside programs reported recycling a total of 4,308 tons.

The following graph depicts the communities that reported curbside recycling totals in 2012:

**2012 Curbside Recycling Totals by Reporting Community**

The following map presents the communities that had subscription and non-subscription curbside recycling programs in 2012:

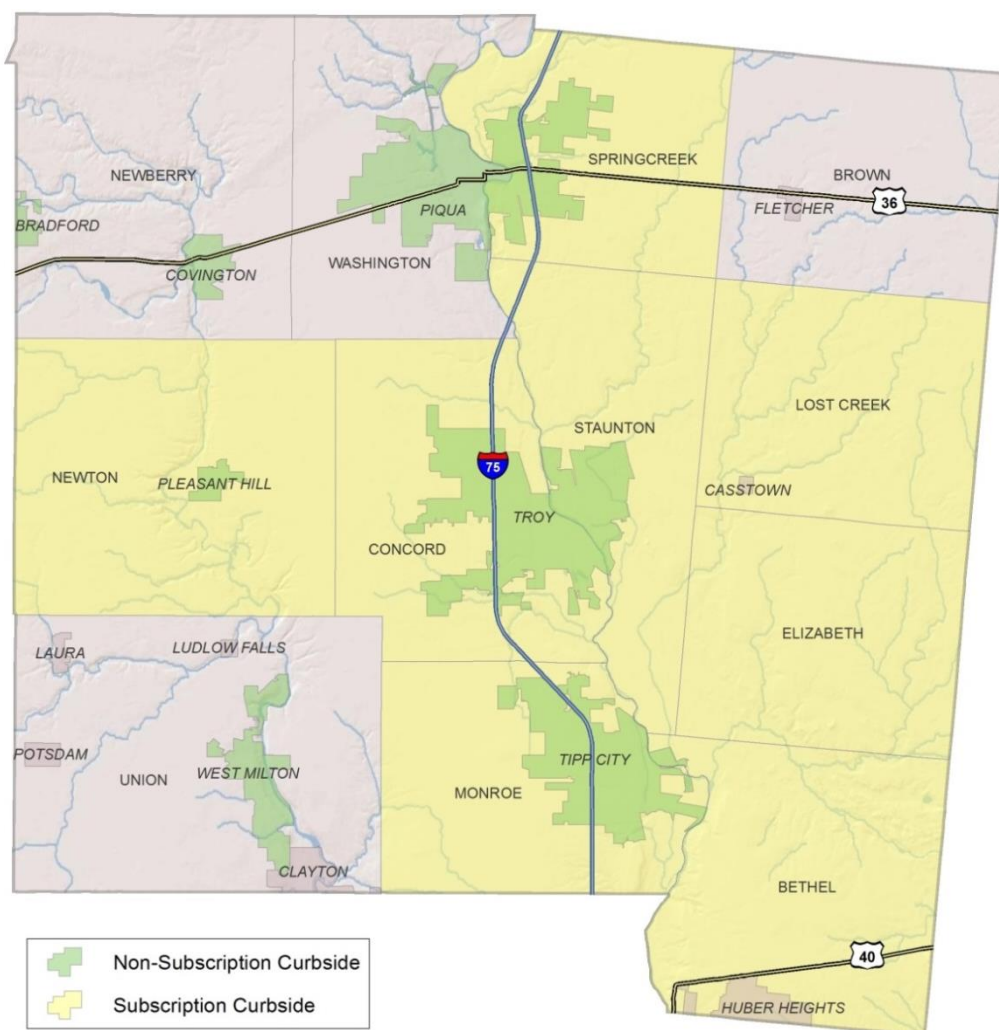
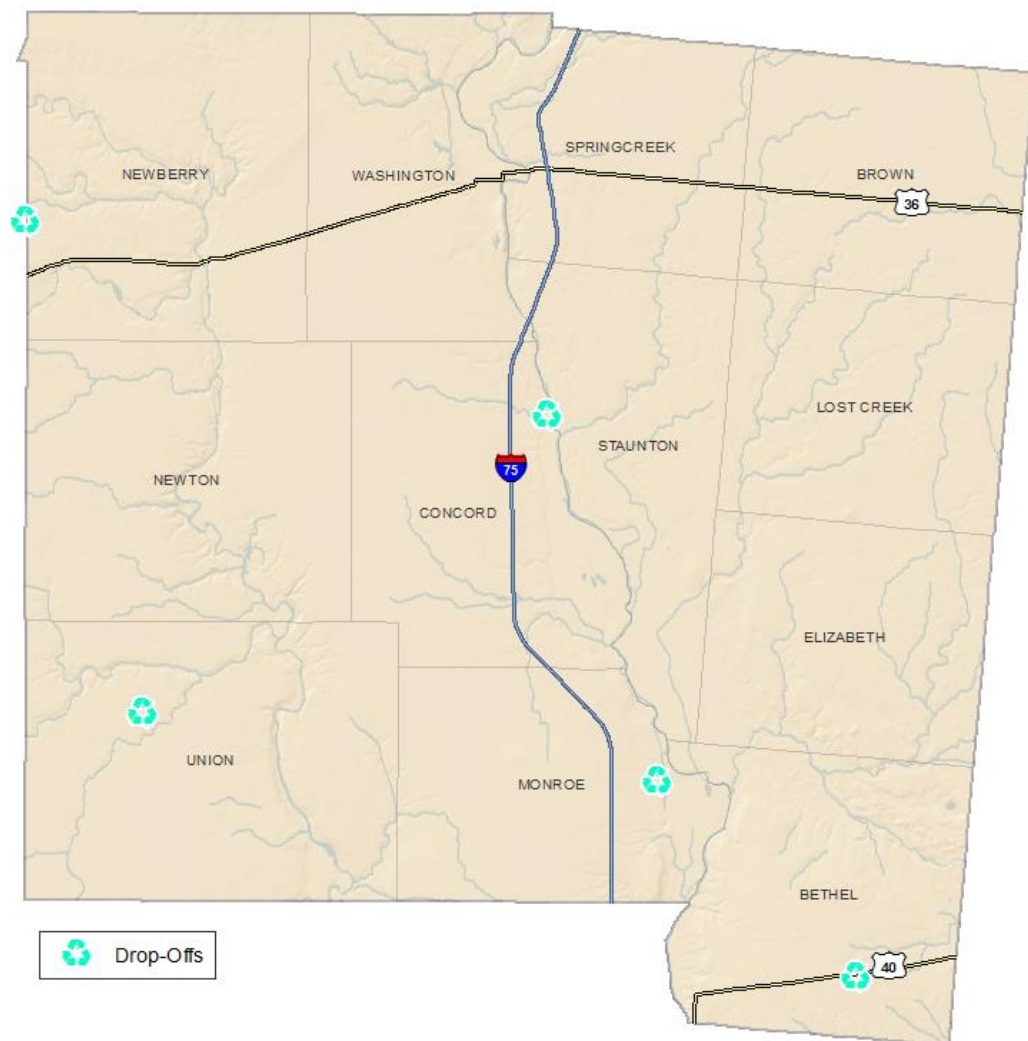
**2012 Curbside Recycling Programs**

Table III-5, “Drop-offs, Buybacks, Hauler Collection, Other Recycling Activities and HHW Collection Used by the District,” contains a list facilities and activities used by the District. Information in this table is based on results of surveys, facility records and direct inquiry.

Five full service recycling drop-off facilities operated in the District during 2012, which accepted aluminum cans, steel cans, glass, #1-2 plastics, cardboard, and paper. In June of 2012, the drop-off located in the Village of Bradford (shown on the following map in Newberry Township) was discontinued when the village began a curbside recycling program. The following figure presents the locations of the drop-off recycling facilities:

### 2012 Drop-Off Recycling Facilities



Six private sector haulers collected recycling from Miami County residents, businesses, and industries. In addition, there were nine brokers or processors of recycled materials that were used to divert waste generated



in the District. Seven big box chain stores also operated internal recycling programs, meaning recyclables were not processed by local MRFs or brokers, but by the store chains themselves.

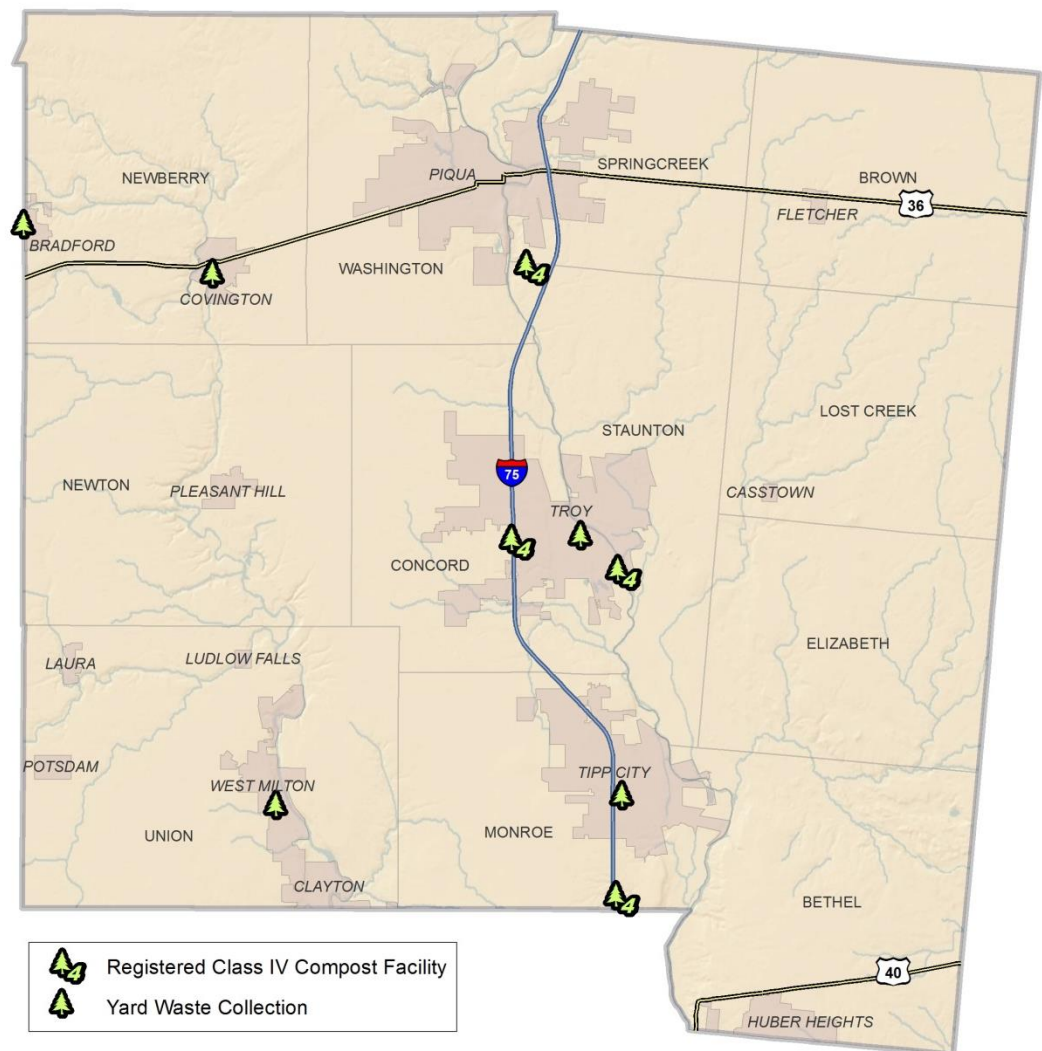
The District collected recyclables and other special materials at the Miami County Transfer Station and at satellite events. Special materials accepted included tires, electronics, household hazardous waste, and papers for shredding. Other businesses and organizations also collected special materials such as tires and reusables. Six major tire recyclers and two non-profits that collect reusable items were also used by the District.

#### **F. Existing Composting/Yard Waste Management Facilities**

Composting facilities located within the District are identified in Table III-6, "Composting/Yard Waste Management Activities used by the District." There were a total of four registered class IV compost facilities and five unregistered activities. A total of 3,371 tons of yard waste was reported by the four registered facilities; political subdivisions operating yard waste collection programs reported collecting an additional 185 tons of yard waste. Commercial and industrial businesses reported composting and land applying 401 tons of yard waste. An additional 318 tons of organics was reported by food waste haulers.

The following map presents the locations of registered composting facilities and collection activities throughout the District:

## 2012 Registered Yard Waste Facilities and Collection Activities



### G. Facilities Used by the District Which are Located Outside Ohio

All four of the out-of-state facilities used to manage District waste were located in the state of Indiana (see Table III-7). The facilities included one waste-to-energy facility located in Indianapolis and three special waste treatment centers located in Charlestown, Indianapolis, and East Chicago. Materials managed at the treatment centers were not reported, but the facilities specialize in managing sludge, biosolids, septage, food by-products, and non-hazardous chemical manufacturing by-products.

### H. Existing Open Dumps and Waste Tire Dumps

Table III-8, "Open Dumps and Waste Tire Dumps Located in the District," indicates that there were a total of three waste tire dumps that were being

tracked by the District health department. The following map presents the locations of the known scrap tire dumps.

### 2012 Waste Tire Dumps





The three identified waste tire dumps in the District can be seen from Google's satellite imagery. The following figure shows the open dumps at Shannon's Auto Parts (top left), SR Scott Trucking (top right), and Poling's Auto Parts (bottom).

**2012 Scrap Tire Dump Satellite Imagery**



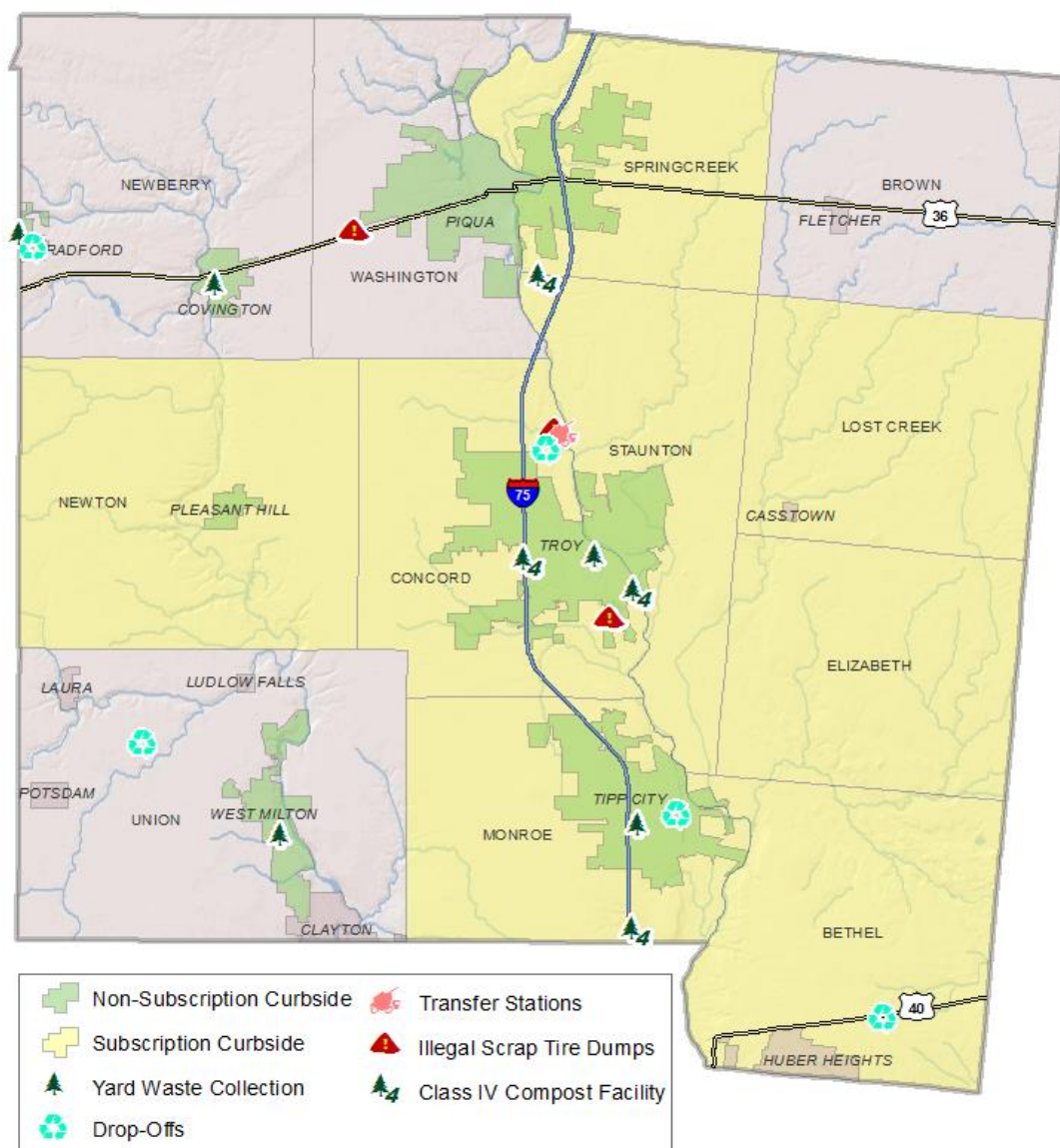
## I. Ash, Foundry Sand, and Slag Disposal Sites

Table III-9, “Ash, Foundry Sand, and Slag Disposal Sites Used by the District,” summarizes the ash and slag sites that were located in the District in 2012. There were no known foundry sand/slag disposal sites.

## J. Map of Facilities and Sites

A full size map of the District’s facilities is included in Appendix E. The following figure is a small version of Appendix E, which is included in this section for ease of reference.

**District Facilities in 2012**



**K. Existing Collection Systems – Haulers**

Table III-10, “Solid Waste Haulers Operating in the District,” contains the public and private sector waste haulers surveyed by the District.

All haulers identified during this inventory were found to use trucking/motor freight. No haulers were identified as using rail, river barge, or any other method of transport.

There were thirteen private sector haulers and four public sector haulers listed in Table III-10. Additionally, there were eleven companies that provide special hauling services, such as Goodwill, which hauls reusables. Approximately 69,947 tons was reported by haulers. Some haulers did not provide tonnage information.

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

Facility Name	Type of Landfill	Location		Waste Received from the SWMD (TPY)			
		County	State	Residential/ Commercial	Industrial	Exempt	Total
In-District Facilities							
None.							0
Out-of-District Facilities							
Celina Sanitary Landfill	PO, PA	Mercer	Ohio	0	0	25	25
Cherokee Run Landfill	PO, PA	Logan	Ohio	6	4	3	13
County Environmental of Wyandot	PO, PA	Wyandot	Ohio	1,149	0	0	1,149
American Landfill	PO, PA	Stark	Ohio	0	6	0	6
Rumpke Waste Hughes Rd. Landfill	PO, PA	Hamilton	Ohio	217	691	0	908
Stony Hollow Landfill	PO, PA	Montgomery	Ohio	17	337	61	415
Pine Grove Regional Facility	PO, PA	Fairfield	Ohio	0	101	0	101
Out-of-State Facilities							
None.							0
Total				1,390	1,139	89	2,617
Total Tons Managed at Incinerators/Waste-to-Energy Facilities (Table III-2)				0	27	0	27
Total Tons Managed at Transfer Stations (Table III-2)				68,799	13,871	0	82,670
Total Solid Waste Managed at Landfills, Incinerators/Waste-to-Energy Facilities, and Transfer Stations				70,189	15,036	89	85,314

PO = privately owned; PA = publicly available

**Source(s) of information:** 2012 Facility Annual Operating Reports



**Table III-2**  
**Solid Waste Incinerators and Waste-to-Energy Facilities Used by the District**

Facility Name	Type of Facility	Location		Waste Received from the SWMD (TPY)			Bypass Waste Received	Total Ash Produced
		County	State	Residential/ Commercial	Industrial	Exempt		
In-District Facilities								
None.							0	0
Out-of-District Facilities								
None.							0	0
Out-of-State Facilities								
Covanta Indianapolis, Inc.	W2E	Marion	Indiana	0	27	0	N/A	6
Total				0	27	0	0	6

W2E = waste-to-energy; N/A = not applicable

**Source(s) of information:** 2012 IDEM Facility Operating Reports

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

Facility Name	Type of Facility	Location		Waste Received from the SWMD (TPY)			Recyclables Processed (TPY)	Total
		County	State	Residential/ Commercial	Industrial	Exempt		
In-District Facilities								
Miami County Solid Waste & Recycling Facility	GO, PA	Miami	Ohio	68,676	13,819	0	811	83,306
Out-of-District Facilities								
Montgomery County South Transfer	GO, PA	Montgomery	Ohio	23	0	0	0	23
Montgomery County North Transfer	GO, PA	Montgomery	Ohio	96	0	0	0	96
Greenville Transfer Facility	PO, PA	Darke	Ohio	3	0	0	0	3
Out-of-State Facilities								
Midwest Environmental Resource Recovery*	PO, PA	Clark	Indiana	0	42	0	0	42
Tradebe Treatment and Recycling*	PO, PA	Lake	Indiana	0	2	0	0	2
Indy Disposal Solutions*	PO, PA	Marion	Indiana	0	8	0	0	8
Total				68,799	13,871	0	811	83,481

**Source(s) of information:** 2012 Facility Annual Operating Reports

\*Facility is not a transfer station; it is a treatment facility for special wastes.

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

Political Subdivision	Type of Curbside	# of Households Served	Frequency of Collection	Average # of Households Participating	Service Area		Types of Materials Accepted						Recyclables Processed from the SWMD
					County	Townships/ Cities	AL	Bi	GI	PI	MxP	OCC	
Non-Subscription Curbside Recycling Programs													
Bradford Village	NS	394	Weekly	DNR	Miami	Bradford Village	X	X	X	X	X	X	32
Covington Village	NS	1,037	Weekly	DNR	Miami	Covington Village	X	X	X	X	X	X	177
Piqua City	NS	8,318	Weekly	DNR	Miami	Piqua City	X	X	X	X	X	X	1,608
Pleasant Hill Village	NS	458	Weekly	DNR	Miami	Pleasant Hill Village	X	X	X	X	X	X	DNR
Tipp City	NS	3,861	Weekly	DNR	Miami	Tipp City	X	X	X	X	X	X	744
Troy City	NS	10,353	Weekly	DNR	Miami	Troy City	X	X	X	X	X	X	1,585
West Milton	NS	834	Weekly	DNR	Miami	West Milton	X	X	X	X	X	X	162
Subscription Curbside Recycling Programs													
Bethel Township	S	N/A	Weekly	DNR	Miami	Bethel Township	X	X	X	X	X	X	DNR
Concord Township	S	N/A	Weekly	DNR	Miami	Concord Township	X	X	X	X	X	X	DNR
Elizabeth Township	S	N/A	Weekly	DNR	Miami	Elizabeth Township	X	X	X	X	X	X	DNR
Lostcreek Township	S	N/A	Weekly	DNR	Miami	Lostcreek Township	X	X	X	X	X	X	DNR
Monroe Township	S	N/A	Weekly	DNR	Miami	Monroe Township	X	X	X	X	X	X	DNR
Newton Township	S	N/A	Weekly	DNR	Miami	Newton Township	X	X	X	X	X	X	DNR
Spring Creek Township	S	N/A	Weekly	DNR	Miami	Spring Creek Township	X	X	X	X	X	X	DNR
Staunton Township	S	N/A	Weekly	DNR	Miami	Staunton Township	X	X	X	X	X	X	DNR
Total							4,308						

AL = aluminum, Bi = bi-metal cans, GI = glass, PI = plastics, MxP = mixed paper, OCC = old corrugated cardboard

S = subscription, NS = non-subscription, DNR = did not report, NA = not available

**Source(s) of information:** 2012 ADR Attachment A

**Table III-5**  
**Drop-offs, Buybacks, Hauler Collection, Other Recycling Activities and HHW Collection Used by the District**

Facility/Activity Name Address/Phone	Type of Facility or Activity	Types of Materials Accepted										Service Area		Hours Available to Public	Recyclables Processed from SWMD (TPY)	% of Material from Sector							
		Al	Bi	Cb	Gl	O	OM	ON	OP	PP	PI	T	W				G	OIL	W	LAB	County	Townships/ Cities	Population Served
Drop-Off Recycling Programs, FS, Urban																							
Bethel Township 8735 S. 2nd Street Tipp City, OH 45371	PA, DO	X	X	X	X													Miami	Bethel Twp.	6,482	24/7	DNR	100% R
Bradford Village 1115 N. Miami Ave. Bradford, OH 45308	PA, DO	X	X	X	X													Miami	Bradford Village	1,442	24/7	DNR	100% R
Troy 22200 N County Road 25A Troy, OH 46373 (937) 440-5653	PA, DO	X	X	X	X													Miami	Troy	33,541	Mon.-Fri.: 6:30 AM-6PM Sat.: 7AM- 2:30PM	1,585	100% R/C
Monroe Township (ended 11/12) 4 E. Main St. Tipp City, OH 45371	PA, DO	X	X	X	X													Miami	Monroe Twp.	7,849	24/7	DNR	100% R
Union Township 9497 Markley Road Laura, OH 45337	PA, DO	X	X	X	X													Miami	Union Twp.	13,212	24/7	85	100% R
Commercial Box Stores																							
Wal-Mart	MRF		X	X						X	X	X	X	X				Miami	Various	DNR	N/A	847	100% C
Lowe's	MRF		X	X													X	Miami	Various	DNR	N/A	234	100% C
Home Depot	MRF		X	X													X	Miami	Various	DNR	N/A	104	100% C
Meijer	MRF			X														Miami	Various	DNR	N/A	401	100% C
Dollar General	MRF		X								X	X	X					Miami	Various	DNR	N/A	177	100% C
Big Lots	MRF		X															Miami	Various	DNR	N/A	18	100% C
Kohl's	MRF		X															Miami	Various	DNR	N/A	118	100% C



**Table III-5 (cont'd)**  
**Drop-offs, Buybacks, Hauler Collection, Other Recycling Activities and HHW Collection Used by the District**

Facility/Activity Name Address/Phone	Type of Facility or Activity	Types of Materials Accepted												Service Area		Hours Available to Public	Recyclables Processed from SWMD (TPY)	% of Material from Sector			
		Al	Bi	Cb	Gl	O	OM	ONP	OP	PB	PI	T	WGOIL	W	LAB				Townships/ Cities	Population Served	
Haulers																					
WM Dayton MRF 1700 North Broad Street Fairborn, OH 45324 800-343-6047	WH, MRF	X	X		X	X	X	X	X	X	X					Various	Multiple	137,206	N/A	1,216	100% R
						X														1,091	100% C
																				390	100% I
																				252	100% I
Rumpke Recycling 1300 E. Monument Ave. Dayton, Ohio 45402	WH, MRF, BB	X	X	X	X	X	X	X	X	X	X					Various	Multiple	137,206	Mon.-Fri.: 8AM- 4PM Sat.: 8AM-	3,308	100% R
															1,604					100% C	
Urban Elsass & Son 600 E. Statler Rd. Piqua, OH 45356 937-773-3337	WH, SY	X	X					X								Various	Multiple	137,206	N/A	DNR	100% I
Republic Services of Dayton 1577 W River Rd. Dayton, OH 45418 (937) 268-8595	BR, WH			X												Various	Multiple	137,206	Mon.-Fri.: 9AM- 5PM	324	100% R/C
Brokers/Processors																					
AbiBow Recycling LLC	BR, PR									X	X	X				Various	Multiple	137,206	24/7	291	100% R/C
Angie Shred 300 Peters Ave. Troy, OH 45373 (937) 332-0300	BR, PR									X	X					Various	Multiple	137,206	Varies	32	100% R/C
Can-Du Recycling	BR, PR	X	X					X		X		X				Various	Multiple	137,206	Varies	97	100% R/C
Miami County Shrine Club 1823 Park Ave. Piqua, OH 45356	Other	X														Various	Multiple	137,206	Varies	10	100% R/C
Newark Recycled Fibers 2601 E. River Rd. Moraine, OH 45439	BR, PR			X					X	X	X					Various	Multiple	137,206	N/A	DNR	100% I
Franklin Iron & Metal 1939 E. First St. Dayton, OH 45403	BR, PR, SY	X	X					X								Various	Multiple	137,206	Mon.-Fri.: 8AM- 5PM Sat.: 8AM- 4PM	DNR	DNR

**Table III-5 (cont'd)**  
**Drop-offs, Buybacks, Hauler Collection, Other Recycling Activities and HHW Collection Used by the District**

Facility/Activity Name Address/Phone	Type of Facility or Activity	Types of Materials Accepted										Service Area		Hours Available to Public	Recyclables Processed from SWMD (TPY)	% of Material from Sector							
												County	Townships/ Cities				Population Served						
		Al	Bi	Cb	Gl	O	OM	ON	OP	PB	PI							T	W	G	OIL	W	LAB
Brokers/Processors																							
1 Shot Services 6377 Hahn Rd. Bradford, OH 45308	BR, PR	X	X														Various	Multiple	137,206	DNR	DNR		
		M/W: 8AM-6PM Tu/Th: 8AM-8PM Fri.: 8AM-5PM Sat.: 8AM-																					
Polings Auto Parts 22226 N County Road 25A Troy, OH 45373 (937) 335-7855	SY, Other	X	X														Various	Multiple	137,206	47	100% R/C		
		Mon.-Fri.: 8:30AM-5:30PM																					
G A Wintzer & Son 12279 Co. Rd. 25A/Dixie Hwy. Wapakoneta, Ohio 45895	PR																Various	Multiple	137,206	3,052	100% R/C		
		X																					
Individual Survey Responses																							
Retail/Wholesale/Institutions	Other	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Miami	Multiple	DNR	27,848	100% C	
Automotive/Service Stations	Other																X	Miami	Multiple	DNR	465	100% C	
Industrial Sector Businesses	Other	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Miami	Multiple	DNR	93,355	100% I	
District Facilities																							
Miami County Transfer Station		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Miami	District-Wide	137,206	811	100% R/C	
		Mon.-Fri.: 6AM-6PM Sat.: 7AM-2:30PM																					
Special Collections																							
Salvation Army (multiple-locations) Goodwill Industries 1511 Kuntz Rd, Dayton, OH 45404 (937) 461-4800	PA, DO, Other		X							X							Various	Multiple	137,206	N/A	100% R/C		
		Mon.-Sat.: 9AM-8PM																					
Electronics Collection Events	Other																Miami	District-Wide	137,206	996	100% R/C		
		Mon.-Sat.: 9AM-8PM Sun.: 10AM-8PM																					
HHW Collection District Shred Fest	Other																Miami	District-Wide	137,206	10	100% R		
		Annually																					
Special Event Recycling	Other	X	X	X	X					X	X	X	X	X	X	X	Miami	District-Wide	137,206	3	100% R		
		Annually																					
																	Miami	District-Wide	137,206	2	100% R		
																	Miami	District-Wide	137,206	5	100% R		

**Table III-5 (cont'd)**  
**Drop-offs, Buybacks, Hauler Collection, Other Recycling Activities and HHW Collection Used by the District**

Facility/Activity Name Address/Phone	Type of Facility or Activity	Types of Materials Accepted										Service Area		Hours Available to Public	Recyclables Processed from SWMD (TPY)	% of Material from Sector			
		Al	Bi	Cb	Gl	O	OM	NP	PP	PI	T	WGO	LAB				County	Townships/ Cities	Population Served
Tire Collections																			
Enviro Tire Recycling	BR														Miami	Multiple	DNR	17	100% R/C
Kelbey Tire Recycling	BR														Miami	Multiple	DNR	132	100% R/C
Liberty Tire Service of Ohio	BR														Miami	Multiple	DNR	432	100% R/C
R&R Tire Disposal	BR														Miami	Multiple	DNR	10	100% R/C
R Willig Tire Distributors	BR														Miami	Multiple	DNR	37	100% R/C
Miami County Transfer Station	TF												X		Miami	District-Wide	137,206	65	100% R/C
Rumpke Transportation Co.	BR														Miami	Multiple	DNR	253	100% R/C
Totals																		139,723	

**Note:** The full-time drop-off listed in Bradford village only operated until June of 2012 when it was discontinued.

Al = aluminum, Bi = bi-metal cans/steel, Cb = cardboard, Gl = glass, O = other, OIL = used motor oil, OM = other metals, ONP = newspaper, OP = other paper, PI = plastics, T = tires, WG = white goods, W = wood, LAB = lead-acid batteries

S = subscription, NS = non-subscription, DO = drop-off, NA = not available, DNR = did not report, PA = publicly available, R = residential, C = commercial, I = industrial

SY = scrap yard, BR = broker, PR = processor, BB = buy back center, MRF = material recovery facility, WH = waste hauler, TF = transfer station

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

Facility Name or Activity	Facility Type	Location (County)	Waste Received from the SWMD		Processing Capacity			Compost Produced (TPY)
			Type	Amount (Tons)	Daily (TPD)	Annual (TPY)	Non Compostables Landfilled (TPY)	
Registered Compost Facilities								
Dye Mill Road Facility 1200 Dye Mill Rd. Troy, OH 45373	C4	Miami	YW	1,950	DNR	DNR	DNR	DNR
City of Piqua Composting Facility 6030 N Piqua-Troy Rd. Piqua, OH 45356	C4	Miami	YW	655	DNR	DNR	DNR	DNR
BR Mulch Inc. 620 Ginghamburg Rd. Tipp City, OH 45371	C4	Miami	YW	506	DNR	DNR	DNR	DNR
Chaney's Nursery 1610 McKaig Rd. Troy, OH 45373	C4	Miami	YW	260	DNR	DNR	DNR	DNR
Activities								
Bradford Village Yard Waste Collection	N/A	Miami	YW	DNR	DNR	DNR	DNR	DNR
Covington Village Yard Waste Collection	N/A	Miami	YW	125	DNR	DNR	DNR	DNR
Tipp City Yard Waste Collection	N/A	Miami	YW	59	DNR	DNR	DNR	DNR
Troy Yard Waste Collection	N/A	Miami	YW	DNR	DNR	DNR	DNR	DNR
West Milton Yard Waste Collection	N/A	Miami	YW	DNR	DNR	DNR	DNR	DNR
Commercial Businesses Reporting Land Application of Composted Yard Waste	N/A	Miami	YW	391	DNR	DNR	DNR	DNR
Industrial Businesses Reporting Land Application of Composted Yard Waste	N/A	Miami	YW	10	DNR	DNR	DNR	DNR
Food Waste Haulers	N/A	Miami	FW	318	N/A	N/A	N/A	N/A
Totals				4,274				

C4 = registered class IV compost facility; YW = yard waste; FW = food waste; N/A = not applicable; DNR = did not report

**Source(s) of information:** Ohio EPA 2012 Annual Compost Facility Planning Report and 2012 ADR Attachment A

**Table III-7**  
**Facilities Used by the District Which are Located Outside Ohio: Additional Data**

Facility Name	Facility Mailing Address/Phone	Facility Owner Address/Phone	Facility Operator Address/Phone	Daily Waste Receipt Limit	Number of Operating Days per Year
Midwest Environmental Resource Recovery	Facility 203-2 Highway 62 Charlestown, IN 47111 (812)-256-4432	Midwest Environmental Services 420 1/2 South Francis St. Brownstown, IN 47220 (812) 358-5160	Midwest Environmental Services 3118 Spring Grove Ave. Cincinnati, OH 45225 (513) 681-9990	N/A	257
Covanta Indianapolis, Inc.	2320 S. Harding Street Indianapolis, IN 46221 (317) 634-7367	Covanta Indianapolis, Inc. 2320 S. Harding Street Indianapolis, IN 46221 (317) 634-7367	Covanta Indianapolis, Inc. 2320 S. Harding Street Indianapolis, IN 46221 (317) 532-6712	2,175 Tons	365
Indy Disposal Solutions	4115 W. Vermont St. Indianapolis, IN 46222 (765) 438-3152	Merrell Bros., Inc. 8811 West 500 North Kokomo, IN 46901	Merrell Bros., Inc. 8811 West 500 North Kokomo, IN 46901	N/A	312
Tradebe Treatment and Recycling	4343 Kennedy Avenue East Chicago, IN 46312 (219) 397-3951	TRADEBE 4344 Kennedy Avenue East Chicago, IN 46312 (219) 397-3951	Pollution Control 4344 Kennedy Avenue East Chicago, IN 46312 (219) 397-3952	Unknown	360

**Source(s) of information:** 2012 IDEM Quarterly Facility Operating Reports

**Table III-8**  
**Open Dumps and Waste Tire Dumps Located in the District**

Site Location (describe briefly)	Land Owner	Description of Materials Dumped	Approximate Size of Site (in acres)	Time Period Site has Existed	2012 Update/Status
Shannons Auto Parts 5055 W. US Route 36 Piqua, OH 45356	Howard William (937) 615-0144	Scrap tires	3.34	2012	Active
S R Scott Trucking 185 Dye Mill Rd. Troy, OH 45373	Stanley R. Scott 937-335-5888	Scrap tires	1.61	2012	Active
Poling's Auto Parts 2226 N County Road 25A Troy, OH 45373	Bill Didier Sr.	Scrap tires	9.20	2012	Active

**Source(s) of information:** Health Department records, County Auditor parcel data

**Table III-9**  
**Ash, Foundry Sand, and Slag Disposal Sites Used by the District**

Site Location	Land Owner Mailing Address/Phone	Description of Materials Dumped	Approximate Size of Site (in acres)	Time Period Site has Existed
None.				

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

Name of Hauling Company	Contact, Mailing Address, Phone Number	Collection Routes	Materials Collected	2012 Tons Collected from the District	Facilities Used by Hauler
<b>Private</b>					
Allied Waste	Don Baer 1577 W. River Rd. Dayton, OH 45418 800-228-1336	Subscription service routes	R/C SW Industrial recycling	5,101	Miami County Transfer Station
Rumpke	Kyle Aughe 1300 E. Monument Ave. Dayton, OH 45402	Pleasant Hill and Village of Bradford by contract	Residential SW and recycling Industrial recycling Roll-off services	23,355	Miami County Transfer Station
Waste Management	John Minear 1700 N. Broad St. Fairborn, OH 45324 937-663-5506 800-228-1336	Tipp City	Residential SW	6,521	Miami County Transfer Station
		West Milton	Residential SW	1,466	
		Union Township	Residential SW	1,211	
		Other Miami County routes via subscription service	R/C SW Industrial recycling Roll-off services	14,901	
Urban Elsass & Son	Pete Thompson 600 E. Statler Rd. Piqua, OH 45356 937-773-3337	Miami County	Industrial Recycling	DNR	Miami County Transfer Station
CAN-Do Recycling	Ben Bevington 300 Peters Ave. Troy, OH 45373	Miami County	R/C recycling	DNR	Miami County Transfer Station
Lee's Hauling	1206 South St. Piqua, OH 45356	Miami County	DNR	55	Miami County Transfer Station
Winston Roberts	655 W. Loy Rd. Piqua, OH 45356 937-778-006	Miami County	DNR	834	Miami County Transfer Station
Terry Iddings	710 W. Market St. Troy, OH 45373 937-339-4706	Miami County	Residential SW	194	Miami County Transfer Station
Jimmy Roberts	406 E. Peterson Rd. Troy, OH 45373 937-773-3237	Miami County	Residential SW	830	Miami County Transfer Station
Curt Roberts	2473 Old Springfield Rd. Vandalia, OH 45377 937-898-2178	Miami County	DNR	917	Miami County Transfer Station
Professional Roll-Off	22808 Brousker Rd. Cridersville, OH 45806 419-657-6891	Miami County	DNR	DNR	Miami County Transfer Station
Hemmelgarn Services	624 N. Knoop-Johnston Rd. Sidney, OH 45365 937-498-1553	Miami County	DNR	244	Miami County Transfer Station
Waste Collection of Christiansburg	P.O. Box 296 Christiansburg, OH 45389	Miami County	DNR	94	Miami County Transfer Station



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

Name of Hauling Company	Contact, Mailing Address, Phone Number	Collection Routes	Materials Collected	2012 Tons Collected from the District	Facilities Used by Hauler
<b>Public</b>					
City of Piqua	Amy Welker 201 W Water St. Piqua OH 45356 937-778-2060	City of Piqua	Residential SW Industrial recycling	7,551	Miami County Transfer Station
City of Troy	Tom Funderburg 100 S. Main St. Troy, OH 45373	City of Troy	Residential SW, recycling, and YW	5,736	Miami County Transfer Station
Union Township	Tony Hughes 9497 Markley Rd. Laura, OH 45337	Union Township	Residential SW	DNR	Miami County Transfer Station
Village of Covington	Michael Busse 1 S. High Street Covington, OH 45318 937-473-2102	Village of Covington	Residential SW and recycling	935	Miami County Transfer Station
<b>Businesses Providing Special Hauling Services</b>					
Goodwill - Piqua	Operations Mgr. 1584 Covington Ave. Piqua, OH 45356	City of Piqua	Reusables, electronics	DNR	DNR
Goodwill - Troy	Operations Mgr. 1660 W. Main St. Troy, OH 45373	City of Troy	Reusables, electronics	DNR	DNR
Miami County Shrine Club	Roger Hirsch 1823 Park Ave. Piqua, OH 45356	Miami County	Reusables	DNR	DNR
Newark Recycled Fibers	Operations Mgr. 2601 E. River Rd. Moraine, OH 45439	Miami County	Fibers	DNR	DNR
Polings Auto Parts	William Didier 2226 N. Co. Rd. 25A Troy, OH 54373	Miami County	Automobiles, ferrous and non-ferrous metals	DNR	DNR
Salvation Army	Manager 707 S. Crawford Troy, OH 45373	City of Troy	Reusables	DNR	DNR
Salvation Army	Manager PO Box 615 Piqua, OH 45373	City of Piqua	Reusables	DNR	DNR
Franklin Iron & Metal	Operations Mgr. 1939 E. First St. Dayton, OH 45403	Miami County	Ferrous and non- ferrous metals	DNR	DNR
Angie Shred	Teri Bevington 300 Peters Ave. Troy, OH 45373	Miami County	Fibers	DNR	DNR
1 Shot Services	Manager 6377 Hahn Rd. Bradford, OH 45308	Miami County	Ferrous and non- ferrous metals	DNR	DNR
G A Wintzer & Sons	Manager 12279 Dixie 25A Wapakoneta, OH 45895	Miami County	Oils and food scraps	DNR	DNR
<b>Total</b>				<b>69,947</b>	

DNR= did not report, R/C = residential/commercial, SW = solid waste

Source(s) of information: District hauler surveys

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

This section of the *Plan Update* presents information regarding the District's population, waste generation, and waste reduction estimates for the reference year.

##### **A. Reference Year Population and Residential/Commercial Waste Generation**

Table IV-1, "Reference Year Population and Residential/Commercial Generation," presents an estimate of the District's population and projected residential/commercial waste generation for 2012. The population estimate of 103,060 for Miami County was taken from the Ohio Development Services Agency (ODSA) Office of Research document, *2012 Population Estimates by County, City, Village & Township*, May 2013.

##### **Population Adjustments**

The following adjustments were made for political subdivisions located partially within the District and partially within surrounding solid waste districts. In accordance with Ohio law, the entire population of political subdivisions located in more than one solid waste district was credited to the district containing the largest portion of the jurisdiction's population.

- The Village of Bradford had more than 50% of the population living inside Miami County and less than 50% living inside Darke County. The population of the Village of Bradford in Darke County (757) was added to the District's population total.
- The Cities of Huber Heights and Union City had less than 50% of the population living inside Miami County and more than 50% living inside Montgomery County. The populations of the cities of Huber Heights (965) and Union City (24) were subtracted from the District's population total.

The total adjusted population for the District in 2012 was 102,828.

The District projected the 2012 residential/commercial waste generation using historical data, which is summarized in the following table:

Year	Waste + Recycling	Population	Per Capita Generation Rate
2009	106,231	101,526	5.75
2010	99,748	102,506	5.33
2011	99,795	102,506	5.33
<b>2009 – 2011 Average Per Capita Generation Rate:</b>			<b>5.47</b>

The average residential/commercial per capita generation rate from 2009 to 2011 was 5.47 pounds per person per day. Table IV-1, “Reference Year Population and Residential/Commercial Generation” shows the formula for projecting the residential/commercial waste generation using average per capita generation rates.

This method estimated the District’s residential/commercial waste generation was 102,683 tons. This estimate is slightly lower than the residential/commercial waste generation of 108,769 tons recorded by landfills, waste-to-energy facilities, and transfer stations (70,189 tons) plus reported recycling and source reduction activities for 2012 (38,580 tons). For further discussion on reconciling the waste generation values see Section IV.H of this *Plan Update*.

## B. Industrial Waste Generation

The District conducted a comprehensive survey to support this *Plan Update*. Copies of the residential/commercial and industrial survey forms are included in Appendix F, and a summary of industrial survey results is included in Appendix G. Table IV-2 presents the results of the District’s calendar year 2012 Industrial Survey. The District used information from industries responding to the survey as well as Appendix JJ of the Ohio EPA Plan format to estimate total industrial waste generated.

Approximately 395 industries in SIC codes 20 and 22 through 39 were located in the District. Approximately 23 percent (89) of the industries responded to the survey, reporting 71,631 tons of generated waste. More than 63 percent (8,840) of the employees were represented by the survey results.

The following table presents the types of industries that reported the largest per capita solid waste generation rates:

SIC Code	Description	Solid Waste Generation Rate (Tons/Employee)	Total Tons Reported on Survey
32	Stone, Clay, Glass, and Concrete Products	40.4	8,611
24	Lumber and Wood, Except Furniture	25.3	4,738

SIC Code	Description	Solid Waste Generation Rate (Tons/Employee)	Total Tons Reported on Survey
36	Electronic And Other Electrical Equipment And Components, Except Computer Equipment	14.5	18,976
20	Food And Kindred Products	13.8	12,724
28	Chemicals And Allied Products	10.4	2,470

Four of the five types of industries (SIC codes 36, 20, 32 and 24) that reported the highest per capita solid waste generation rates were also in the top five types of industries with the highest overall tons reported. Industries with a SIC code of 34 (Fabricated Metal Products, Except Machinery and Transportation Equipment) did not report notably high per capita solid waste generation rates, but this type of industry was among the top five types of industries in the District according to total tons reported, which was 7,597 tons.

The District calculated the generation rate and tons of waste generated per employee, for each SIC code from the survey respondents. Tons generated by industries that did not respond to the survey were estimated using the SIC codes of industries, total employees per industry, and average SIC code-dependent generation rates from Appendix JJ of the Ohio EPA Plan format. Using this method, the District estimated that the remaining 306 industries generated an additional 56,679 tons, elevating the total industrial sector waste generation to 128,310 tons.

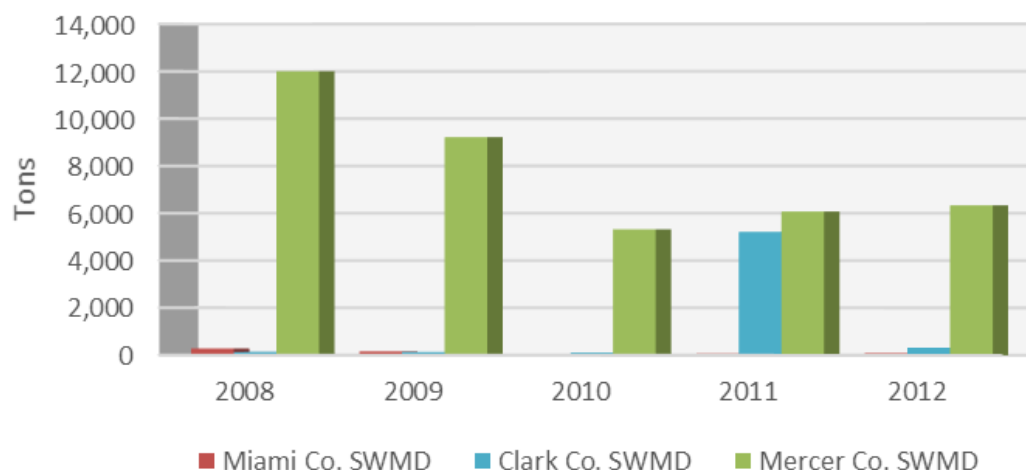
### C. Exempt Waste

Table IV-3, "Exempt Waste Generated in the District and Disposed in Publicly Available Landfills", shows the District's estimate of exempt waste generated in 2012. Exempt waste is material such as construction and demolition debris which is not defined as a solid waste. Exempt wastes may be managed in landfills that have different and often less stringent environmental control requirements. Table IV-3 shows the total exempt waste generated by the District was 89 tons, or 0.005 pounds per person per day. This includes the exempt waste reported by the landfills, waste-to-energy facilities, and transfer stations receiving the District's waste in Tables III-1 – III-3.

The exempt waste was lower than Ohio EPA anticipated and inquired about the circumstances contributing to the "unusually" low total. A review of the District's historic exempt waste disposal over the five year period from 2008 to 2012 revealed a range of tonnage from 54 tons (2010) to 278 tons (2008). The District compared these totals with an adjacent solid waste management district that had a similar population. The Clark County Solid

Waste Management District has a 2012 population of 137,206 residents, compared to Miami County's 102,828 residents. Clark County's exempt waste disposal during the same time period typically ranged from 111 tons (2010) to 319 tons (2012). In 2011, the District reported 5,209 tons of exempt waste. The District considered that Clark County's exempt waste totals may also be considered especially low, since they were comparable to Miami County's. To illustrate the disparity in exempt waste totals reported by solid waste districts, Mercer County's exempt waste totals were also examined. Mercer County has a population of 41,439 residents, which is significantly less than the population of Miami County. Mercer County's exempt waste disposal from 2008 to 2012 ranged from 5,316 tons (2010) to 12,002 tons (2008). The following figure presents the tons of exempt waste reported by Miami, Clark, and Mercer County Solid Waste Management Districts from 2008 to 2012.

**Historical Exempt Waste Disposal**



There are multiple factors that contribute to the low quantity of exempt waste reported by the District. The majority of the exempt waste, or construction and demolition debris (which is considered exempt) is delivered to the District's transfer station in loads mixed with municipal solid waste. The materials are identified by commercial haulers to scale operators as general waste instead of exempt. Additionally, exempt waste generated by the residential sector from home "DIY" projects is also delivered to the transfer station as a load mixed with other household waste and characterized as general residential waste.

#### **D. Total Waste Generation**

Table IV-4, "Reference Year Total Waste Generation for the District," presents the projected total waste generated based on historic District trends, survey responses, and industrial projections. Using this calculation method, an estimated 231,082 tons of waste was generated. The per capita daily total generation rate is 12.31 pounds. This included 102,683 tons of

residential/commercial sector waste (Table IV-1), 128,310 tons of industrial sector waste generation (Table IV-2) and 89 tons of exempt waste (Table IV-3). The total waste generation listed in Table IV-4 was 22,228 tons greater than the total generation presented in Table IV-8, which was calculated by using actual data reported by landfills, waste-to-energy facilities, transfer stations, and recycling facilities. For further discussion on reconciling the waste generation values see Section IV.H.

#### **E. Reference Year Waste Reduction**

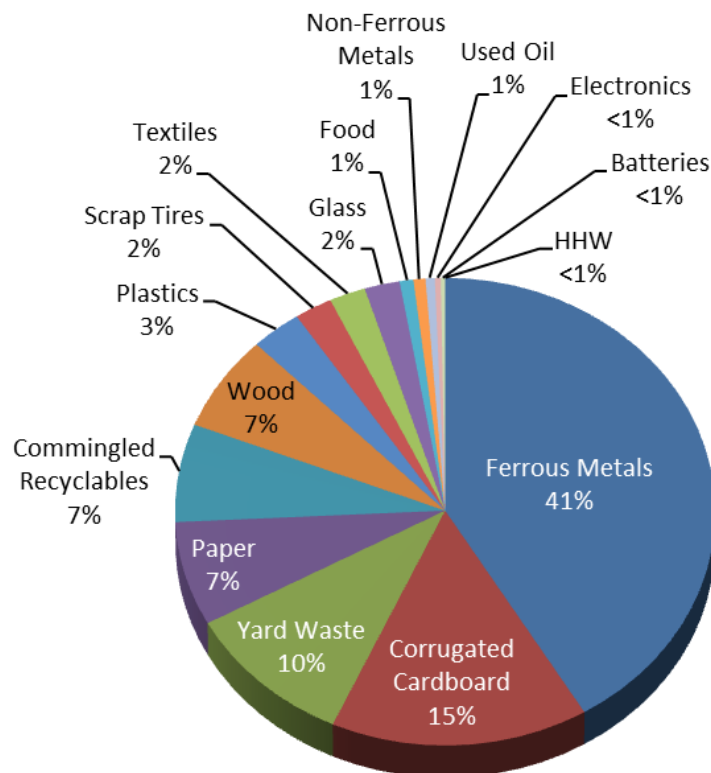
The District surveyed recyclers, political subdivisions, businesses, and haulers to obtain recycling and composting data. The waste reduction reported in Tables IV-5 and IV-6 was obtained from these surveys as reported in the 2012 Annual District Report. The District was careful to eliminate double counting as follows:

- Community recycling data was used based on survey results. The District compared recycling survey results submitted by communities with surveys submitted by recycling processors, brokers and haulers. The District ensured that there was no double counting by subtracting the recycled tons reported by the communities from the tons reported by the recycling processor, broker or hauler for that same community.
- A survey of commercial businesses was completed. The results of those individual surveys were used to compile recycling by commercial facilities. No other recyclers' data was used in the calculation of commercial recycling. A summary of the commercial survey data can be found later in this section under Commercial/Industrial Surveying (Other Programs).
- The District surveyed industries in SIC Codes 20, 22-39. Responses were used to compile recycling by industrial facilities. The District did not rely on recycling tonnage from processors, brokers or haulers for the industrial recycling tonnage in 2012. A summary of the commercial survey data can be found later in this section under Commercial/Industrial Surveying (Other Programs).

The residential/commercial sector diverted 38,580 tons of materials in 2012 by recycling and composting. Appendix F contains the *Recyclers and Commercial/Institutional* survey.

The following figure presents the composition of the residential and commercial sector's waste reduction:

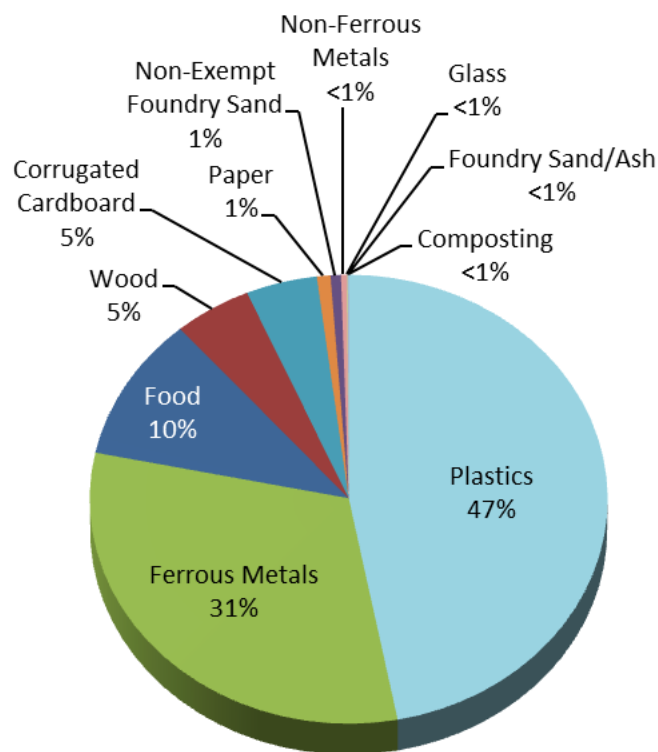
### 2012 Residential/Commercial Waste Reduction



Ferrous metals were the residential/commercial sector's most recycled material (by weight), followed by corrugated cardboard, yard waste, paper, wood, and commingled recycling. Commingled recycling contains paper, cardboard, plastics, metals, and glass. Recycling is typically reported by haulers as commingled when mixed materials are collected in the same container. This is common for residential curbside recycling programs and at drop-offs.

The industrial sector diverted 84,960 tons of materials from landfills by recycling and composting. The following figure presents the composition of the industrial sector's waste reduction:

### 2012 Industrial Waste Reduction



Plastics and ferrous metals were the primary components recycled by the industrial sector, comprising 78 percent of the sector's diverted materials. Food (10%), wood (5%), and cardboard (5%) made up nearly the remainder of the materials recycled.

#### F. Existing Waste Reduction/Recycling Activities for Residential, Commercial and Industrial Sector

The following section summarizes the reference year residential, commercial and industrial programs and initiatives for the District. This section is quite extensive and reflects the District's commitment to reducing solid waste disposal at landfills. The following is a list of the District's reference year programs.

Program	Description
MC-1	Curbside Recycling
MC-2	Drop-Off Recycling
MC-3	Yard Waste Management
MC-4	Household Hazardous Waste Management
MC-5	Scrap Tire Recycling
MC-6	Automobile Batteries and Used Oil Collection
MC-7	Special Event Recycling
MC-8	Electronics Recycling
MC-9	Appliance Recycling



Program	Description
MC-10	Recycling Market Development Grant
MC-11	"Buy Recycled" Promotion
MC-12	Internal Grant
MC-13	Community Recycling Grant
MC-14	Litter Collection Grant
MC-15	School Waste Reduction Grant
MC-16	Education and Awareness <ul style="list-style-type: none"> <li>• School Presentations</li> <li>• Contests</li> <li>• District Displays</li> <li>• Publicity and Advertising</li> <li>• Informational Flyers and Brochures</li> <li>• District Web Site</li> <li>• Drop-Off Education</li> <li>• Industrial Technical Assistance</li> </ul>
MC-17	Miami County Transfer Facility Pay-Per-Bag
MC-18	Pay-As-You-Throw Technical Assistance
MC-19	Miami County Debris Management Guide
MC-20	Miami County Transfer Station

## RESIDENTIAL/COMMERCIAL RECYCLING PROGRAMS

Political subdivisions are responsible for developing and implementing recycling programs. The District provides financial resources, technical assistance, solid waste management expertise and other education and outreach services to political subdivisions, businesses, residents, haulers and policymakers. The following recycling efforts were in operation in 2012:

### 1. Curbside Recycling Programs

A variety of curbside recycling programs operated in the District, including:

- **Non-Subscription Curbside Recycling:** All residents in a political subdivision have recycling service; customers cannot opt out, but participation in the program is not mandatory.
- **Subscription Curbside Recycling:** Residents must request recycling services for a fee in order to participate in a curbside program.
- **Pay-As-You-Throw (PAYT):** Non-subscription curbside recycling program paired with a tiered solid waste fee structure where residents must pay per bag of waste, or pay more according to the size of waste container, but unlimited recycling is provided for no additional cost. This is the most

effective style of residential recycling program. It is convenient and creates a financial incentive for residents to recycle more and waste less.

### Subscription Curbside Recycling Programs

The following eight communities offered subscription curbside recycling programs in the District in 2012:

2012 Subscription Curbside Recycling Programs	
Bethel Township	Monroe Township
Concord Township	Newton Township
Elizabeth Township	Spring Creek Township
Lostcreek Township	Staunton Township

### Non-Subscription Curbside Recycling Programs

The following seven communities provided non-subscription curbside recycling programs to residents in 2012:

2012 Non-Subscription Curbside Recycling Programs	
Bradford Village ( <i>new in 2012</i> )	Tipp City (PAYT)
Covington Village (PAYT)	Troy City
Piqua City	West Milton (PAYT)
Pleasant Hill Village	

#### A. Bradford Village

The Village of Bradford began a non-subscription curbside recycling program in June of 2012. Red open top bins were distributed to residents to collect recyclables and a letter was sent out to residents explaining the purpose of the bins and the collection schedule, which was on the same day as trash collection.

#### B. Piqua City



The City of Piqua contracted with Rumpke Recycling to provide residents with a non-subscription curbside recycling program in 2012. Recyclables were collected in red open-top bins that were to be placed alongside regular refuse prior to 6:30AM on residents' regularly scheduled refuse collection day. Residents wishing to obtain a new/additional bin or replace a damaged bin could do so by contacting the City's Health Department and requesting a bin drop-off at their home, or bins were provided directly to residents at

the Health Department inside the Municipal Government Complex. Residents generating more than two bins of recyclables per week were permitted to designate a regular refuse receptacle for recycling as long as it was clearly labeled as such. The City of Piqua accepted the following materials:

- #1 Plastic beverage bottles, 2-liter soda pop bottles, frozen food boil-in-bag pouches, and microwave food trays
- #2 Milk jugs, trash bags, detergent bottles, bleach bottles, and aspirin bottles
- #3 Plastic vinyl cooking oil bottles & mouthwash bottles
- #6 Polystyrene-plastic foam, Styrofoam, egg cartons, meat trays, & hot beverage cups
- Glass bottles and jars (clear, green, and amber)
- Chipboard/paperboard
- Corrugated cardboard
- Aseptic containers and cartons
- Newsprint
- Aluminum cans and foil
- Steel cans

The recycling program accepted many plastic materials that are not commonly accepted by curbside recycling programs; however, mixed paper, office ledger, and bulk mail was not accepted by this program.

### **C. Pleasant Hill**

The Village of Pleasant Hill continued to provide a weekly non-subscription curbside recycling program for residents in 2012. An ordinance was passed to increase the monthly cost of weekly curbside collection of waste and recyclables incrementally over the three year period spanning from 2011 to 2013. The increases are as follows:

- 2011: The rate will increase from \$14.25 per month to \$15.50
- 2012: The rate will increase to \$16.75
- 2013: The rate will increase to \$18.00

### **D. Troy**

The City of Troy continued to provide a weekly non-subscription curbside recycling program for residents in 2012. The City's municipal collection crew only collects solid waste, so Rumpke was contracted to collect recyclables. The City's program accepts the following materials:

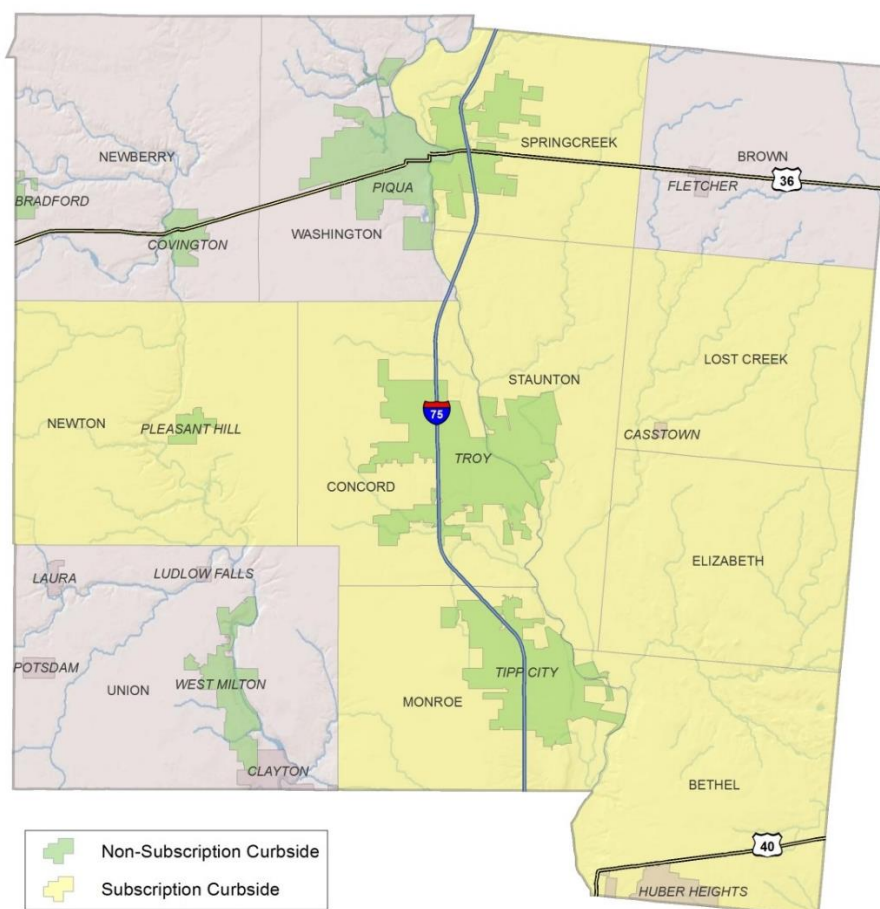
- Mixed paper
- Gable top containers
- Paperboard
- Corrugated cardboard
- Steel/tin cans
- Aluminum cans
- Glass bottles and jars (all colors)
- Plastic bottles and jugs (#1-7)

The City's residential recycling rate is approximately 25 percent. Rumpke estimated that increasing the recycling rate to 60 percent would save the City \$255,426 annually in collection and disposal costs.

Residents may obtain a recycling bin by calling the Troy Central Maintenance Facility at 335-1914.

The following figure presents access to curbside collection programs throughout the District:

### 2012 Curbside Recycling Programs



Each of the programs collected at a minimum aluminum cans, steel cans, glass, #1-2 plastics, mixed paper, and cardboard. A total of 4,308 tons of recyclables was reported to the District for 2012 from six of the seven communities for non-subscription services. Tonnage was not reported by any of the political subdivisions where subscription curbside recycling programs were available.

### **Pay-As-You-Throw**

In Pay-As-You-Throw (PAYT) programs, residents pay for waste disposal based on the volume of solid waste disposed, but unlimited recycling is provided at no extra cost. PAYT programs create an economic incentive for the resident to recycle more and waste less. These programs have proven to be effective not only in Ohio, but around the world. PAYT programs generally divert a considerably higher percent of the waste stream compared to other curbside programs and drop-off programs.

During 2012, three municipalities provided PAYT programs, and the transfer station also operated a PAYT option. The municipalities that provided PAYT programs were the City of West Milton, the City of Tipp City, and the Village of Covington.

#### **A. Tipp City PAYT Program**

Tipp City's PAYT program was operated by Waste Management (WM). The city signed a contract with WM for city-wide residential refuse collection. The contract began October 1, 2010 and will run through September 30, 2014. The city and hauler designed a package which included three program options for residential customers:

##### **Regular Refuse Collection Program:**

- Customer utilizes their own bags/cans along with the provided recycling bin for curbside/alley pick-up.

##### **Cart Program**

- A 96-gallon cart and a recycling bin is provided to residents.

##### **Low Volume Rate Program**

- A 35-gallon cart and recycling bin is provided to residents.

The monthly residential rates for weekly service from October 1, 2013 to September 30, 2014 were as follows:

#### Regular Refuse Collection Program

- \$20.05
- *Customer provides trash cans, hauler provides recycling bin*

#### Cart Program

- \$23.05
- *Hauler provides 96-gallon waste cart and recycling bin*
- *Additional refuse carts are \$3.00 each*

#### Low Volume Program

- \$13.28
- *Hauler provides a 35-gallon waste cart and recycling bin*
- *Additional waste can be disposed using special orange "low volume" bags (\$2.16/each)*

#### Recycling Cart

- \$2.00 each
- *Choice of 35-gallon or 96-gallon*

#### Yard Waste Bags

- \$1.75 each
- *Year-round curbside pickup*

Tipp City's PAYT option is the Low Volume Program. Residents are provided with a 35-gallon carts for waste and a recycling bin. If residents who are using the Low Volume Program need to dispose of additional waste, special orange "low volume" bags must be used. These bags can be purchased from the Government Center for \$2.16 per bag. All customers, including Low Volume customers, are eligible for bulk/white goods pick-up for no additional cost. Christmas tree pick-up is also provided, approximately the second week in January, for no additional charge.

Billing for refuse and recycling collection is included on residential utility bills.

## B. West Milton PAYT Program

The City of West Milton also contracted with Waste Management for city-wide refuse collection. Residential customers have two options for recycling and refuse service:

### Unlimited

- Residents may dispose of an unlimited amount of waste using their own trash cans or bags

### Low-Volume

- Hauler provides 35-gallon waste cart

Monthly pricing for weekly residential services and other details regarding the City of West Milton's recycling and refuse collection options are as follows:

### Unlimited Program

- \$22.80
- \$3.00 per month to lease a 96-gallon cart (optional)

### Low-Volume Program

- \$18.69
- Hauler provides 35-gallon waste cart

### Curbside Yard Waste Collection

- Included in cost of refuse/recycling collection
- No special bag or container needed
- Residents who previously used a cart for yard waste can continue to lease it for \$3.00 per month
- Brush and limbs must be cut into lengths no longer than 4'-0" and bundle and tied. Bundles cannot exceed 7" in diameter.

### Bulk Items and White Goods

- Customers must call 48 hours prior to collection day
- Bulk items are collected weekly
- White goods are collected on the 3rd Saturday of each month.
- No additional charge for bulk or white goods pick-up

The City of West Milton's PAYT option is the Low-Volume Program. Residents are provided with a 35-gallon cart for waste and a recycling bin. All customers, including Low Volume customers, are eligible for bulk/white goods pick-up for no additional cost.



WM operates the curbside recycling programs in both Tipp City and West Milton. The following figure is from the recycling brochures that residents in each city received from Waste Management. It presents the materials accepted by both cities' recycling programs:



Materials accepted by the recycling programs in Tipp City and West Milton include:

- Mixed paper
- Aseptic containers
- Chipboard (cereal boxes)
- Corrugated cardboard
- Telephone books
- Aerosol cans
- Aluminum foil, pans, and cans
- Tin and steel cans
- All plastic containers #1-7 (no lids or film plastics accepted)

### C. Covington PAYT Program

In 2013, the Village of Covington received a \$7,490 Community Recycling Grant from Ohio EPA to expand the existing curbside recycling program. The grant provided funding to purchase 96 and 48 gallon carts, lids, and a container flipping arm for the collection truck.

The Village provides each household with a cart for waste and as many recycling bins as needed. Carts and bins must be returned to the Village if residents move. Additional carts can be obtained for a monthly fee of \$5.00.



There is no charge or limit for recycling bins. Waste must be placed inside the cart. If additional waste is placed outside the cart, it is subject to a fee. The Village also collects yard waste. Grass must be placed in paper biodegradable bags (available locally).

The program accepted plastic bottles and jugs #1-7, glass, mixed paper, aluminum containers, and steel containers. Recyclables were collected as single stream and delivered to the Rumpke MRF in Dayton, Ohio.

Prior to receiving the grant, the village's municipal crew provided curbside solid waste and recycling collection to about 1,110 households. Approximately 925 tons of waste was collected and 177 tons of recyclables were collected. On a monthly basis, residents paid \$16.00 per household for waste collection and \$2.00 per household for recycling.

#### **D. Transfer Station PAYT Program**

The PAYT program operated at the Miami County Transfer Station and Recycling Facility is referred to as the "Blue Bag" program. The program is for residents who drop-off waste and recyclables directly to the transfer station in lieu of having curbside collection. Residents are able to purchase bundles of five 30-gallon blue trash bags for \$6.00 at the scale house. When bags are full, residents come to the recycling center and drop-off the blue bags along with their recycling. There is no charge for recyclables.

The District offered technical assistance to the cities that offer PAYT programming, as well as to other municipalities in the District that are interested in beginning PAYT programs.

#### **PAYT Program Comparison**

The following table presents a comparison of the curbside recycling programs operating in the District based on per capita recycling rates.

Type	Program	Population	# HH	2012 Recycling Tonnage	Per Capita Recycling (lbs/person/year)
NS	Piqua City	20,619	8,318	1,608	156
PAYT	Tipp City	9,775	3,861	744	152
PAYT	Covington Village	2,593	1,037	177	137
NS	Troy City	25,374	10,353	1,585	125
PAYT	West Milton	4,657	834	162	70
NS	Bradford Village	1,838	394	32	35

The table above presents data available. The District was unable to obtain information from individual political subdivisions or contracted service providers regarding more specific data needed for a meaningful analysis. Additional information needed for such an analysis include the number of residents in each political subdivision that have selected the PAYT service option versus the unlimited collection option.

The following table summarizes the program details.

<b>Curbside Recycling Program Summary</b>	
<b>Description</b>	<b>Details</b>
Program Number	MC-1
Entity Responsible for Maintaining Program	Miami County Political Subdivisions
Service Area for Program	Miami County
Materials Reduced/Recycled	<b>WM-operated programs:</b> Mixed paper, aseptic containers, chipboard, corrugated cardboard, telephone books, aerosol cans, aluminum foil, pans and cans, tin and steel cans, and plastic containers #1-#7 <b>Other programs:</b> Varies; details included in narrative
2012 Recycled Tonnage	4,308
2012 Program Costs	\$0
Program Operator/Contractor	Miami County Political Subdivision, Waste Management, Rumpke

Strengths of the program include:

- Single stream recycling has become more prevalent throughout the District, resulting in increased recycling.
- The District has increased curbside recycling with 15 communities now providing service.
- Provides a convenient way for residents in single-family and multi-family homes to recycle.

Challenges of the program include:

- The cost of operation and or contracting to the community for the recycling program (in non-subscription communities) has increased.

- Resident participation (in subscription communities).
- Obtaining annual tonnage collected from communities that offer subscription curbside recycling.
- Obtaining participation rates based on service level (PAYT vs. unlimited collection) from communities that offer non-subscription curbside recycling.

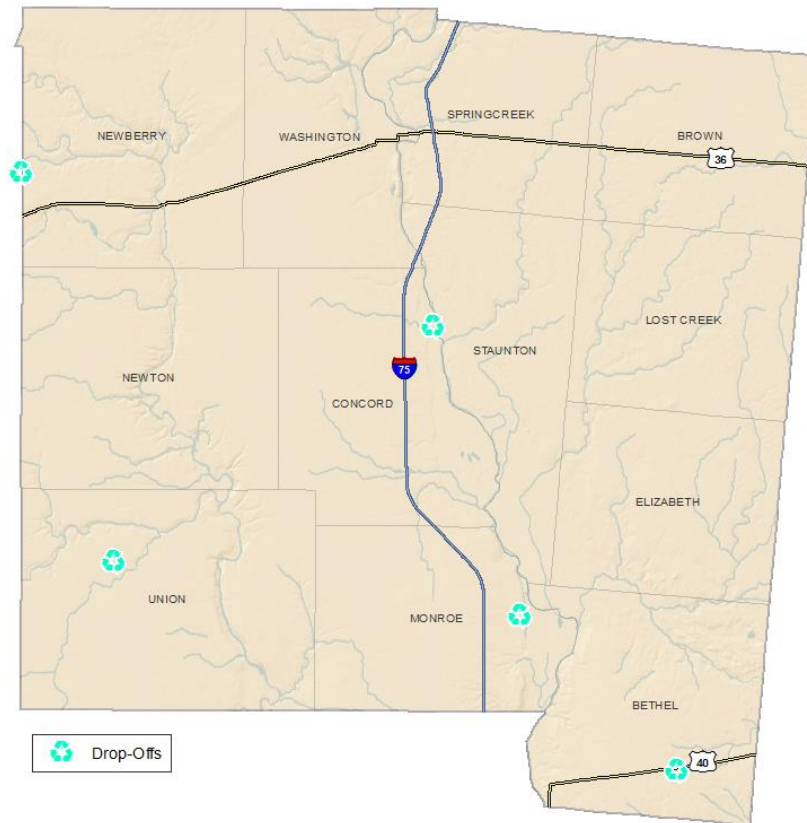
## **2. Residential Drop-off Recycling Programs**

There were five full-time/full-service recycling drop-off locations operating in 2012. The following is a list of each location (additional details in Table III-5):

- Bethel Township
- Bradford Township (discontinued in May of 2012, converted to curbside recycling)
- Miami County Transfer Station
- Monroe Township (discontinued December, 2012)
- Union Township

The amount recycled from each drop-off is included in the District totals summarized in Table III-5. Each of the drop-offs accepted at a minimum aluminum and steel containers, paper, #1-2 plastics, glass, and cardboard. The drop-off located at the Miami County Transfer Station was the largest and most comprehensive in terms of materials accepted. Political subdivisions where the drop-offs were located were responsible for the operation and maintenance of the recycling program. The District managed the site located at the Transfer Station. There were no contracted service arrangements needed for this program. The District bales the cardboard and the transfer station manager markets the cardboard and other materials to local recycling companies. The following figure presents the locations of the drop-off recycling facilities:

## 2012 Drop-Off Recycling Facilities



There were numerous private businesses in the District that accepted single or limited materials for recycling such as motor oil, antifreeze, car batteries, clothing/reusables, and aluminum cans. The District maintains a resource list of locations that accept these materials.

Since 1994, the District has provided a pay-per-bag waste disposal system at the transfer station. Residents can self-haul bagged waste to the transfer facility. They can drop-off recyclables at the same time. The system offers potential savings to households that recycle. The residential waste disposal and recycling drop-off areas at the transfer facility are situated to facilitate quick and easy service for residents. The recycling drop-off is open Monday through Friday from 6:00 am to 6:00 pm and Saturday from 7:00 am to 2:30 pm.

The following table summarizes the program details.

Drop-Off Recycling Program Summary	
Description	Details
Program Number	MC-2
Entity Responsible for Maintaining Program	Miami County Political Subdivisions; District

Drop-Off Recycling Program Summary	
Description	Details
Service Area for Program	Miami County
Materials Reduced/Recycled	Aluminum and steel cans, glass bottles and containers, #1-#2 plastic bottles and containers, mixed paper, and corrugated cardboard. Select locations accept additional materials.
2012 Recycled Tonnage	1,670
2012 Program Costs	\$1,400
Program Operator/Contractor	Miami County political subdivisions and District

Strengths of the program include:

- Communities and the public sector assume the costs to operate the program except for the Miami County Transfer Station site.
- Not a prevalent recycling program because of strong curbside recycling options.
- Provides recycling opportunities to apartments, condominiums and other multi-family housing.

Challenges of the program include:

- Glass recycling in bars and restaurants needs improvement.
- Increasing participation rates in areas that do not have drop-off or curbside recycling services (i.e., encouraging residents to use a nearby drop-off).
- Location of drop-offs is not promoted online and may be difficult for residents to find.

### 3. Yard Waste Management Program

The District has adequate infrastructure to manage organic materials. There were four registered class IV compost facilities, five collection programs operated by political subdivisions, and various food waste haulers servicing the District in 2012.

## Registered Facilities

There were four registered compost facilities in Miami County, including:

- BR Mulch in Monroe Township – 506 tons
- Chaney's Nursery in Concord Township – 260 tons
- City of Piqua Compost Facility – 655 tons
- City of Troy Dye Mill Road Facility – 1,950 tons

## Collection Activities

In addition to the registered compost facilities, there were several communities that operated their own leaf composting facilities. The District has made an effort to obtain yard waste numbers from area compost facilities. In 2012, the compost facilities reported approximately 3,370 tons of yard waste that was composted. Each private and public sector compost operation is responsible for their program or facility. The private sector operations provide service to the entire District. The public sector facilities were typically limited in service area to their respective communities.

Some of the facilities listed in Table III-6 were not registered or licensed with Ohio EPA. The District does not work directly with any of the facilities listed in this table and, therefore, the District does not have direct control of their regulatory status. The following yard waste collection activities were conducted during the reference year:

### A. City of Troy

The City of Troy provided curbside yard waste collection to the residents. Yard waste collected included grass clippings, tree trimmings, and leaves throughout the spring, summer and fall seasons. Residents who utilize the service are required to either place items in a paper biodegradable yard waste bag or bundle their items. Paper biodegradable yard waste bags may be purchased for \$1.25 at the following locations:

#### **City of Troy Billing and Collection Office**

City, Hall, 1<sup>st</sup> Floor  
100 South Market Street  
Hours: Monday-Friday, 8AM – 5PM

#### **True Value Hardware of Troy**

850 South Market St.  
Hours: Monday-Saturday, 8AM – 9PM, Sunday, 10AM-6PM

Residents are also encouraged to utilize the Dye Mill Road Compost Facility as an alternative disposal method to curbside collection.

The Dye Mill Road Compost Facility is a registered Class IV compost facility that is owned and operated by the City. The facility is available to all the City of Troy residents. The compost facility accepts compost materials including grass, brush, leaves, and garden refuse (excluding fruit) and non-compost materials such as rocks, bricks, and concrete. The City contracts with a local contractor to periodically grind all the compostable materials received at the facility. The contractor is responsible for properly managing the grindings. The City composts approximately 6,500 cubic yards of material annually.

The Facility is open from the end of March through the end of November each year. The Compost Facility is also open for holidays during the open season.

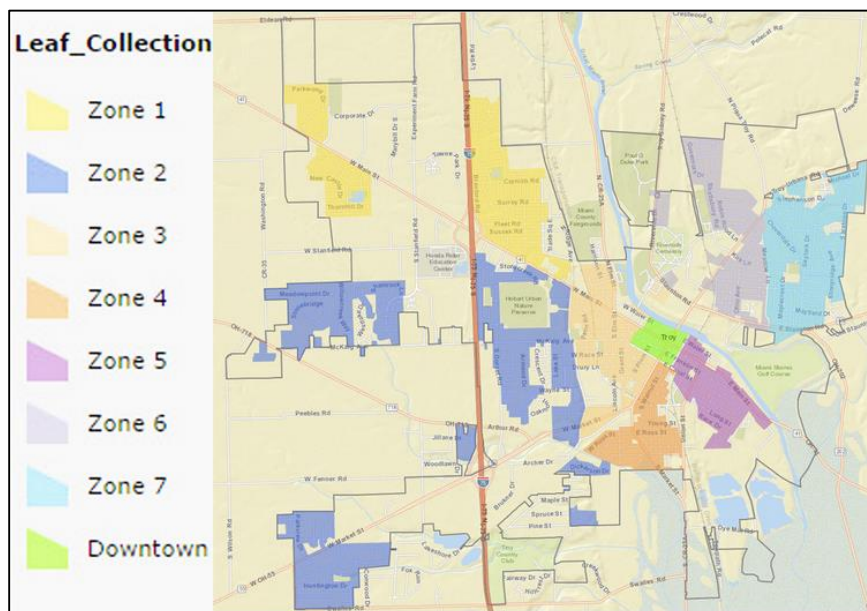
The use of the Compost Facility is free of charge for residents. Residents must show proof of Troy residency in order to utilize the Compost Facility. The following materials are accepted:

- Brick
- Brush
- Paper yard waste bags
- Concrete
- Dirt
- Garden waste, vines, plants (no fruits or vegetables)
- Grass
- Gravel
- Leaves
- Logs
- Masonry / concrete block
- Non dumping trucks and trailers
- Non painted concrete yard figures
- Rock
- Sand
- Shrubs
- Sod
- Stumps
- Trees and limbs
- Wood chips

The City of Troy also provides two rounds of curbside leaf collection. The city is divided into 7 zones plus the downtown

area. Residents receive notification in utility bills when curbside leaf collection will take place. The schedule is also available online. The following figure presents the zones and downtown area where leaf collection is available:

### City of Troy Leaf Collection Zones



In lieu of curbside collection, residents may also deliver leaves directly to the Dye Mill Road Compost Facility.

### B. City of Piqua

The City of Piqua operates its own sanitation department and provides weekly collection of yard waste, grass, leaves, trimmings and brush. Piqua operates a registered yard waste composting facilities to which materials are taken.

City crews provide three rounds of leaf pick-up during the fall each year, plus additional coverage, as needed, in areas with a heavy concentration of leaves. During the fall, leaves should not be bagged.

Curbside collection of twigs, branches, limbs, and other tree trimmings is provided to residents. Bundles must be less than six feet in length and less than four inches in diameter. Brush and tree trimmings must be tied into bundles no larger than 24 inches in diameter or placed in bags or cans and kept separate from trash.



Grass clippings and yard waste is collected curbside from residents and must be placed in containers or plastic bags, and clearly separated from any garbage or trash. Materials are collected on the same days as regular trash.

Holiday tree collection is also provided by the city. Residents are asked to place holiday trees in the tree lawn in front of the house throughout the month of January.

Trees are chipped and piled for use as a mulch material in the auxiliary parking lot at the Pitsenbarger Sports Complex, east of the swimming pool. City residents are permitted to come to the park and pick up mulch for gardens and planting areas. Anyone who is unable to haul their own mulch should contact the Street Department at 778-2095 for assistance.

The service is provided to citizens of the community and is intended for personal use by private property owners and not for commercial use.

This program provides an opportunity for homeowners to secure mulch at no cost and at the same time provide an environmentally sound system for the disposal of used holiday trees.

### **C. Tipp City**

Yard waste from Tipp City is collected on a weekly basis by Waste Management, Inc. and managed at a private composting facility. In the reference year, Waste Management contracted with Neighborhood Lawn Service to collect and deliver the yard waste materials. Residents were able to purchase yard waste bags for \$1.75 each at either the Tipp City Government Center or Food Town. The service was available year round.

Yard waste was collected on Mondays from April through November. Residents wishing to compost yard waste from December through March were instructed to set bags out on their regular refuse pick-up day.

Yard waste that was unable to fit into the yard waste collection bags was able to be bundled and set out for collection. Bundles needed to be less than 2 feet in diameter and 4 feet in length.

**D. West Milton**

Yard waste was collected from West Milton by Waste Management, Inc. and taken to a private composting facility. In the reference year, Waste Management contracted with Neighborhood Lawn Service to collect and deliver the yard waste materials.

The City published the leaf collection schedule on the electronic sign in front of 701 S. Miami Street, on its website, and on the local public access cable station (WMPA Cable TV Channel 5 on analog channels and 99.1 on the digital channels).

Leaf collection typically begins in mid-to-late-October and ends in early December of each year.

**E. Covington**

The Village of Covington collects leaves in the fall and spreads them on local fields.

The Village also collects yard waste on a weekly basis. Grass must be placed in paper biodegradable bags (available locally).

**F. Bradford**

The Village of Bradford collects leaves and yard waste and takes them to a compost site on village owned property.

Leaf collection begins in October and ends the day before Thanksgiving. After Thanksgiving, residents may make arrangements with the Village Administrator to access the compost site to deposit yard waste.

Residents are also encouraged to drop off yard waste materials directly at the compost facility located on Klinger Road.

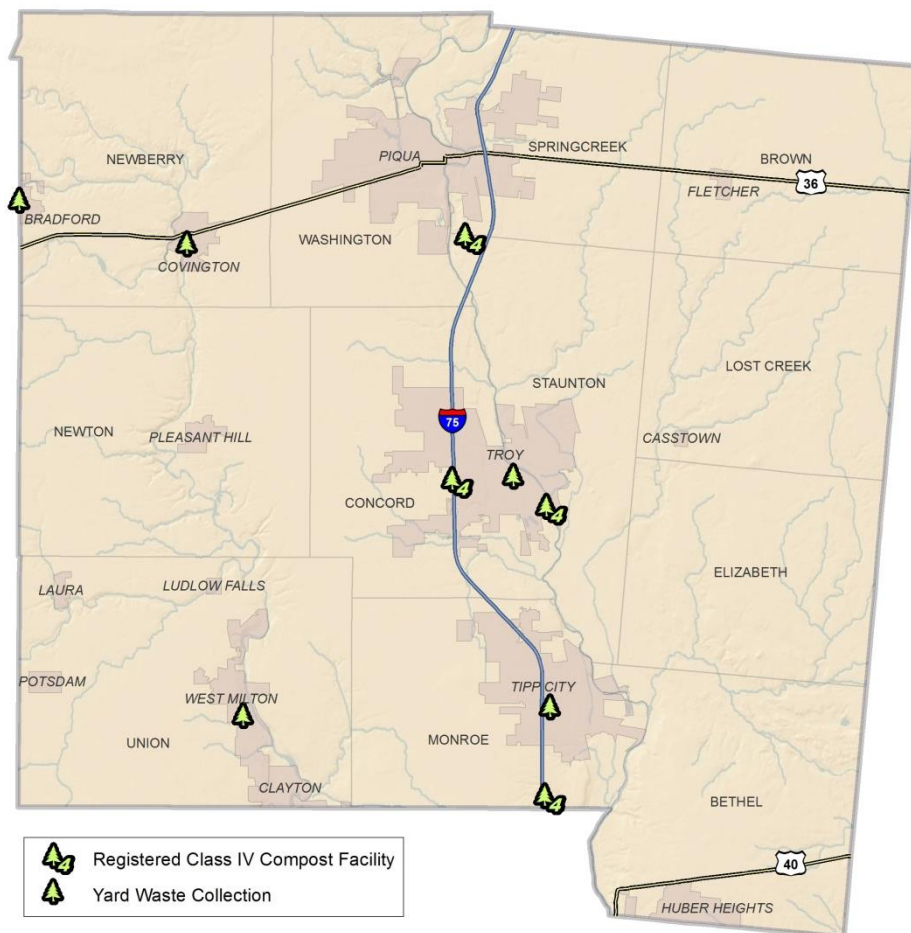
**G. Miami County Solid Waste and Recycling Facility**

Holiday trees collected throughout the County were accepted at the Miami County Transfer Station for processing. The trees were ground for the purposes of producing mulch products. Multiple private and public haulers also collected holiday trees and provided processing.

Industrial and commercial businesses reported composting and land applying an additional 401 tons of yard waste.

The following figure presents the locations of registered facilities and yard waste collection activities:

### 2012 Yard Waste Management Facilities and Activities



The District annually evaluates changes in yard waste collection programs and infrastructure to identify whether there is adequate capacity to manage yard waste materials in Miami County. The District works with communities that are interested in enhancing current yard waste collection programs and advocates for new programs when necessary.

In 2012, there were no changes to the yard waste composting infrastructure in the District and all programs operating in 2011 continued.

The following table summarizes the program details.

<b>Yard Waste Management Program Summary</b>	
<b>Description</b>	<b>Details</b>
Program Number	MC-3
Entity Responsible for Maintaining Program	Miami County Political Subdivisions and Private Sector Compost Facilities
Service Area for Program	Miami County
Materials Reduced/Recycled	Yard waste, brush, leaves, grass, wood
2012 Recycled Tonnage	3,956
2012 Program Costs	\$8,509
Program Operator/Contractor	Neighborhood Lawn Service, Political subdivisions, private sector compost facilities, private sector businesses, and District

Strengths of the program include:

- Less yard waste is being delivered to the Miami County Transfer Station for disposal.
- The District's cost for yard waste grinding services has decreased due to the need for more volume in the system.
- There are more registered compost facilities since the last Plan Update adding capacity and processing to meet the higher demand for yard waste management services.

Challenges of the program include:

- None noted.

#### **4. Household Hazardous Waste Management Program**

In 2012, the District held one drop-off event in September and collected 6,589 pounds of HHW. Residents were charged \$1 per pound for proper disposal, which was collected to pay the vendor.

In addition, household batteries and cans of paint were collected at the Miami County Transfer Station. Rechargeable batteries were shipped to the Call2Recycle program. Approximately 480 pounds of rechargeable batteries and approximately 9,000 cans of paint were collected. The total pounds of household batteries collected was not available.

The District answered HHW questions over the phone as well as provided information on the website. On average, 20 calls pertaining to HHW were received by the District each month.

The District continued to work on enhancing the HHW collection program by investigating opportunities for hosting additional events or operating a permanent HHW collection site that would be open to residents year-round.

The following table summarizes the program details.

<b>Household Hazardous Waste Management Program Summary</b>	
<b>Description</b>	<b>Details</b>
Program Number	MC-4
Entity Responsible for Maintaining Program	District
Service Area for Program	Miami County
Materials Reduced/Recycled	Paint, oil, antifreeze, pesticides, miscellaneous chemicals, roof tar, driveway sealer, tires, electronics
2012 Recycled Tonnage	6,589 pounds
2012 Program Costs	\$4,417
Cost to Residents	\$1 per pound
Program Operator/Contractor	Miami County Solid Waste District, Call2recycle

Strengths of the program include:

- The program is offered throughout the year.
- Residents pay a user fee that off-sets the cost to manage the program.
- A significant portion of the HHW material collected is recycled.

Challenges of the program include:

- None noted.

## **5. Scrap Tire Program**

The District maintained a scrap tire collection program at the Miami County Transfer Station. Scrap tires are accepted for a fee at the transfer station during normal business hours. Residents were charged \$3.00 per passenger tire, \$6.00 per large truck tire, and \$20.00 per tractor tire. Kelbley Tire was used to manage tires collected at the transfer station.

More than 64 tons of scrap tires were collected at the Miami County Transfer Station. There were also many tire dealers and wholesalers that accepted scrap tires throughout the county. In all, more than 880 tons of scrap tires were collected and recycled from the District.

#### Scrap Tire Grants Ohio EPA

The Miami Soil & Water Conservation District applied for funding from the Ohio EPA to recycle and/or re-use scrap tires in a beneficial manner.

The Miami County Solid Waste District did not apply for any grants in 2012. Grants are prepared on an as needed basis or as projects are identified. The District also assists businesses or other entities that wish to apply for a scrap tire grant upon request. In 2012, no requests were made.

The following table summarizes the program details.

<b>Scrap Tire Recycling Program Summary</b>	
<b>Description</b>	<b>Details</b>
Program Number	MC-5
Entity Responsible for Maintaining Program	District
Service Area for Program	Miami County
Materials Reduced/Recycled	Scrap tires
2012 Recycled Tonnage	880
2012 Program Costs	\$7,200
Program Operator/Contractor	District, Private Sector, Enviro Tire, R Willig Tire Distributors, Miami S&W District, Liberty Tire, Rumpke, Kelbley Tire, and other private sector businesses

Strengths of the program include:

- Provides an on-going opportunity for residents and businesses to recycle scrap tires.
- Decreases illegal dumping of scrap tires, which can pose risks to human and environmental health.
- Grant program provides low-income residents with opportunities to properly manage scrap tires.

Challenges of the program include:

- The District has determined that participants in this program do not understand that the cost to recycle their tires is less if done when they purchase new tires.

## 6. **Automobile Batteries and Used Oil Collection Program**

The District annually surveys the majority of the automotive supply stores, parts stores, and dealerships in the County that service the residential sector to determine if automotive batteries and used oil were accepted from the public and recycled. Surveys requested the total number of automotive batteries separately from lawn tractor, farm tractor, or truck lead-acid batteries (LABs) to ensure that the total reported on the Annual District Report only included residential sector LABs.

The results of the survey indicated that collection and recycling was available in multiple locations across the County. LABs were also collected at the Miami County Transfer Station. A total of 98 tons of lead acid batteries and 214 tons of used oil were recycled by private businesses and the District.

The following table summarizes the program details.

<b>Automobile Batteries and Used Oil Collection Program Summary</b>	
<b>Description</b>	<b>Details</b>
Program Number	MC-6
Entity Responsible for Maintaining Program	Private Sector, District
Service Area for Program	Miami County
Materials Reduced/Recycled	Automobile batteries and used oil
2012 Recycled Tonnage	LAB: 98 Used oil: 214
2012 Program Costs	\$0
Program Operator/Contractor	Private Sector

Strengths of the program include:

- Lead acid batteries are recycled year round at the Miami County Transfer Station.
- Local vendors also provide recycling services for batteries and used oil.

Challenges of the program include:

- None noted.

## 7. Special Event Recycling Program

The District assisted organizations and establishments with special event recycling by providing labor and loaning temporary collection infrastructure. Clear Stream recycling stands and lids were loaned to the Miami County Fair, the City of Piqua Heritage Festival, and other events in the County. The following photo pictures one of the District's Clear Stream recycling collection stands:



The District has been in agreement with RT Industries since 2008 to handle the event recycling labor. The agreement between the District and RT Industries is a continuing contract that must be approved annually. Materials collected included beverage containers. RT Industries is responsible for collecting the recycling stands, transporting the stands to the location of the special event, and returning them after the event. It is up to the event organizer whether the District will receive recyclables collected at the event, or whether the contracted hauler for the event will deliver them to an alternate location for processing.

RT Industries is operated by the County Board of Developmental Disabilities. Employees of RT Industries are paid \$10 per hour, up to \$2,000 annually under the current contract with the District. In addition to providing event recycling labor, program costs also include pickup costs for materials collected at some events.

The District's assistance with special event recycling was an excellent opportunity for event planners to maximize sustainability, but the program is often underused. This program was promoted on the District's website.



The District applied for grant funding in 2012 through Ohio EPA's Community Grant program to purchase additional containers for this program. In 2013, the District received \$2,946 from Ohio EPA to purchase 60 ClearStream recycling stands and three recycling stand transporters.

The following table summarizes the program details.

<b>Special Event Recycling Program Summary</b>	
<b>Description</b>	<b>Details</b>
Program Number	MC-7
Entity Responsible for Maintaining Program	District
Service Area for Program	Miami County
Materials Reduced/Recycled	Beverage Containers
2012 Recycled Tonnage	5
2012 Program Costs	\$911
Program Operator/Contractor	District, RT Industries

Strengths of the program include:

- The demand for this program has increased.
- Provides a great opportunity for RT Industries employees to gain valuable training and income.

Challenges of the program include:

- Food vendors still generate non-recyclable materials at the events.
- Program is underutilized.

## **8. Electronics Recycling Program**

One collection event was held at the Miami County Transfer Station in June of 2012. The event ran from 8AM to 12PM. The District issued a request for proposals (RFP) for management of the electronics collected. Goodwill Industries was selected as the vendor for the event at no cost to the District.

Approximately 160 cars participated in the program and 19.54 tons of electronics were collected. There was no charge to residents for the program. The District Coordinator was given flex time for working the event. Materials accepted included:

- Monitors
- Computers (desktop & laptop)
- Printers (laser and inkjet)
- Scanners
- Hard drives (external or internal)
- Keyboards
- Mice
- Speakers
- Cords and cables
- Ink and toner cartridges (full or empty)
- Software
- Televisions (charges varied from \$5-10 for models containing cathode-ray tubes (CRTs))
- Cell phones
- Tablets
- VCRs/DVD players
- Other electronic office equipment

The Transfer Station will accept electronic items from residents during regular operating hours at the standard tipping fee of \$61.80 per ton or ~3 cents/pound. Additionally, equipment operators working on the Transfer Station tipping floor also separate any electronics that are discovered. Electronic waste is extracted from the general waste and placed in a separate area where it can be stored and eventually donated to Goodwill Industries of Miami Valley for recycling. Approximately 16.3 tons of electronics were either collected separately from residents or extracted from MSW by transfer station employees and recycled in 2012.

Additionally, the Piqua and Troy Goodwill stores accepted electronics daily for recycling and collected a total of 112.2 tons of e-waste. The District promotes Miami County's Goodwill Industries electronics recycling program on its website.

The following table summarizes the program details.

<b>Electronics Recycling Program Summary</b>	
<b>Description</b>	<b>Details</b>
Program Number	MC-8
Entity Responsible for Maintaining Program	District
Service Area for Program	Miami County
Materials Reduced/Recycled	Computer monitors, CPUs, mice, key boards, printers, fax machines, software, miscellaneous equipment
2012 Recycled Tonnage	135.8
2012 Program Costs	\$0

<b>Electronics Recycling Program Summary</b>	
<b>Description</b>	<b>Details</b>
Program Operator/Contractor	District, Goodwill Industries of Miami Valley

Strengths of the program include:

- Provides residents with ongoing recycling opportunities with the local service providers.

Challenges of the program include:

- 27" + TVs are not recycled by Goodwill.
- Local and regional electronics recyclers charge for acceptable materials.

## 9. Appliance Recycling Program

The District accepts appliances for recycling at the Miami County Solid Waste and Recycling Facility. In 2012, the District purchased a machine and accessories to begin removing Freon from appliances like air conditioners or refrigerators. Appliances and other metals were stored in the same container at the Transfer Station, so the total tons of appliances were not available, but a total of 79.7 tons of scrap metals including appliances were collected in 2012. The District charges a fee for Freon removal. Records indicate that approximately 130 Freon-containing appliances were collected and processed in 2012. Scrap metal and appliances were recycled at the Polings Scrap Yard.

The following table summarizes the program details.

<b>Appliance Recycling Program Summary</b>	
<b>Description</b>	<b>Details</b>
Program Number	MC-9
Entity Responsible for Maintaining Program	District
Service Area for Program	Miami County
Materials Reduced/Recycled	White goods (appliances)
2012 Recycled Appliances	130 Freon-containing appliances
2012 Program Costs	\$850 (included in Transfer Station Operations)
Program Operator/Contractor	District

Strengths of the program include:

- Provides residents with recycling opportunities for white goods, including those which may contain Freon.

Challenges of the program include:

- None.

## **RESIDENTIAL/COMMERCIAL/INDUSTRIAL MARKET DEVELOPMENT PROGRAMS**

The District promoted recycling markets through a variety of education and awareness activities, grant applications and direct market support. The following section summarizes the District's Market Development Programs.

### **1. Recycling Market Development Grant Ohio EPA**

The Recycling Market Development Grant is a grant program operated by Ohio EPA. The District has only identified one industry in Miami County, Plastic Recycling Technology (PRT), Inc. that would be a candidate for this grant. PRT, Inc. specializing in post-industrial flexible packaging reclaim.

The District contacts industries that may be ideal candidates for the Recycling Market Development Grant to raise awareness about grant opportunities, as well as offers to provide technical assistance to industries that are interested in applying for the grant. In 2012, there were no requests for assistance with grant applications.

The following table summarizes the program details.

<b>Recycling Market Development Grant Program Summary</b>	
<b>Description</b>	<b>Details</b>
Program Number	MC-10
Entity Responsible for Maintaining Program	District
Service Area for Program	Miami County
Materials Reduced/Recycled	Varies
2012 Recycled Tonnage	0
Total Amount Awarded	\$0
Program Operator/Contractor	District, Ohio EPA

Strengths of the program include:

- Provides an opportunity for the District to work directly with local businesses to increase recycling.

Challenges of the program include:

- The program is dependent on State funding which may or may not be available in the future.

In addition to the above listed program, the District educates and promotes market development through a variety of efforts including promoting recycled content products and providing technical assistance to residents and businesses seeking products with recycled content materials.

## 2. “Buy Recycled” Promotion

Buying products made with recycled materials closes the recycling loop. When consumers “buy recycled,” it promotes a stable market for secondary materials, causing the cost of products or packaging made with recycled materials to be competitive or lower than their counterparts made with virgin materials. The use of recycled materials also reduces the need to extract or harvest virgin raw materials and natural resources, thereby saving energy and reducing air and water pollution.

The District incorporates the “buy recycled” philosophy into residential, commercial, and industrial reduction and recycling programs as often as possible. The District’s activities related to promoting the “buy recycled” philosophy are generally hosting a booth with information about materials and items that contain recycled content. Booths are hosted upon request. In 2012, there were no requests to the District to host a booth at a community event.

The District also maintains information about products that contain recycled content materials. Most office supplies purchased and promotional items purchased by the District are made with recycled materials. Additionally, the Transfer Station uses tire wear pads made from recycled rubber on its bucket loader.

The following table summarizes the program details.

<b>“Buy Recycled” Promotion Program Summary</b>	
<b>Description</b>	<b>Details</b>
Program Number	MC-11
Entity Responsible for Maintaining Program	District
Service Area for Program	Miami County
Materials Reduced/Recycled	Varies
2012 Recycled Tonnage	0
Total Amount Awarded	\$0
Program Operator/Contractor	District, Private Sector Companies

Strengths of the program include:

- Promotes stable market for recycled materials by supporting the market.

Challenges of the program include:

- None.

## **RESIDENTIAL/COMMERCIAL/INDUSTRIAL GRANT PROGRAMS**

### **1. Internal Grant (for the Municipal Court System)**

The District has supported the Miami County Court System since the ODNR Recycle Ohio Grant was stopped. The court system receives \$20,000 per year for litter pickup throughout the county. The program utilized community service workers for litter collection activities. No deputies are involved in this program; only court officers, such as probation officers, manage the community service workers.

In 2012, litter was collected from approximately 150 miles of roadway. Litter was also collected from the area surrounding the transfer station on multiple occasions.

The following table summarizes the program details.

<b>Internal Grant Program Summary</b>	
<b>Description</b>	<b>Details</b>
Program Number	MC-12
Entity Responsible for Maintaining Program	Miami County Court System
Service Area for Program	Miami County
Materials Reduced/Recycled	Litter
2012 Tonnage	16.2
2012 Program Costs	\$20,000
Program Operator/Contractor	Miami County Court System

Strengths of the program include:

- This program provides the opportunity to make the community aware of litter issues.
- Helps maintain a litter free environment in Miami County.

Challenges of the program include:

- Funding is limited.
- Litter was collected as a single stream and recyclable materials that were collected with litter were disposed as waste. Materials were too contaminated to sort after they were collected.

## 2. Community Recycling Grant Program

The Community Recycling Grant (CRG) program is operated by Ohio EPA. The District applies for the CRG when a need is identified and when funding is available. The CRG provides financial assistance to governments that propose projects that aid in the collection or processing of recyclable materials. A fifty percent cash match is required to win a CRG. In 2012, the District did not apply for this grant.

The District also provides outreach and education to municipalities that may benefit from the CRG program. When Ohio EPA announces the grant cycle, the District emails communities to inform them about the timeline and provides them with a link to the application. The District also offers assistance with preparing grant applications to interested communities upon request.

The following table summarizes the program details.

<b>Community Recycling Grant Program Summary</b>	
<b>Description</b>	<b>Details</b>
Program Number	MC-13
Entity Responsible for Maintaining Program	District
Service Area for Program	Miami County
Materials Reduced/Recycled	N/A
2012 Tonnage	0
2012 Program Costs	\$0
Program Operator/Contractor	Ohio EPA, District

Strengths of the program include:

- Provides financial assistance to local governments to improve or expand recycling infrastructure.

Challenges of the program include:

- Funding is limited and must be matched.

### 3. Litter Collection Grant

The Litter Collection & Prevention (LCPG) Grant program is operated by Ohio EPA. The District applied for Ohio EPA's Litter Collection & Prevention (LCPG) Grant and received \$2,000 to cleanup ramps on I-75 in Miami County. The grant was used to fund a litter collection event on five of the nine highway ramps in Miami County. The event lasted four hours. Existing Adopt-a-Highway groups participated in the event.

The District provides outreach and education to litter collection and beautification groups that may benefit from Ohio EPA's LCPG program. When the grant cycle is announced, the District emails the targeted groups to inform them about the timeline and provides them with a link to the application. The District also offers assistance with preparing grant applications to interested groups upon request.

The following table summarizes the program details.

<b>Litter Collection Grant Program Summary</b>	
<b>Description</b>	<b>Details</b>
Program Number	MC-14
Entity Responsible for Maintaining Program	District
Service Area for Program	Miami County
Materials Reduced/Recycled	N/A
2012 Tonnage	0
2012 Program Costs	\$0
Program Operator/Contractor	Ohio EPA, District

Strengths of the program include:

- Provides financial assistance to local governments to remove litter or illegally dumped tires.

Challenges of the program include:

- None.

### 4. School Waste Reduction Grant

The District operates a grant program for public and private schools to assist administrators, teachers, and educators with environmental education programming as it relates to solid waste issues. Schools may apply for up to \$500 in grant funding for waste reduction projects including but not limited to:



- Purchasing containers and other supplies for a school recycling program;
- Purchasing recycled content materials and supplies;
- Implementing a school waste reduction practice;
- Creating a composting area;
- Developing activities that teach about recycling, waste reduction, litter prevention, pollution, landfills, or other solid waste topics;
- Supplies for solid waste related classroom activities; and
- Waste reduction or recycling kits.

The District provides up to \$3,000 in grant funds to community schools each year.

In 2012, the District received one grant application for a composting project from Bethel Schools. The District awarded \$500 to Bethel Schools, but due to weather-related implications, the project could not be implemented until 2013.

In 2013, five applications were received and awarded. Two applications were to start a recycling program in the schools and three were for school trips to the Dayton Art Institute for a tour of a recycled art installation and to complete a recycled art project.

The following table summarizes the program details.

<b>School Waste Reduction Grant</b>	
<b>Description</b>	<b>Details</b>
Program Number	MC-15
Entity Responsible for Maintaining Program	District
Service Area for Program	Miami County
Materials Reduced/Recycled	N/A
2012 Tonnage	0
2012 Program Costs	\$500
Program Operator/Contractor	District

Strengths of the program include:

- Provides financial assistance to local schools for waste reduction and environmental education activities.

Challenges of the program include:

- None.

## RESIDENTIAL/COMMERCIAL/INDUSTRIAL SECTOR EDUCATION AND AWARENESS PROGRAMS

The District provides a variety of activities and materials to raise awareness and promote recycling and waste reduction. The education and awareness program was developed to reach all sectors and appeal to a wide audience. The following section summarizes the District's education and awareness programs.

### 1. Education and Awareness Program

#### School Presentations



The District conducts presentations pertaining to recycling and solid waste management issues with local school groups upon request. The District utilizes its displays, educational brochures and other tools to educate students on the

solid waste issues facing Miami County. In 2012, the District gave presentations at schools.

Additionally, the District contracts with the "Illusion Maker" to give annual school performances on recycling and the environment. The Illusion Maker typically performs 12 shows in a week, reaching approximately 3,000 students each year.

#### Civic Presentations

The District conducts adult presentations on a variety of topics related to solid waste management, recycling, or composting. In 2012, the District gave nine presentations to civic groups upon request.

#### Contests

The "Green Gals" hosted several contests at schools related to recycling and conservation. The Green Gals included:

- Linda Raterman, *Miami Soil & Water Conservation District*
- Dana Wolfe, *Newspaper in Education*
- Karen Kelly, *Scott Family McDonalds*
- Cindy Bach, *Coordinator, Miami Co. SWMD*

The group was disbanded after the reference year due to administrative changes.

Contests hosted in 2012 included the following:

- Grocery Bag Project: Local grocery stores (Kroger) donated and distributed paper bags to District schools to give students a change to create their own environmental messages using grocery sacks as a medium. Schools could participate for no cost by signing up with the District. After bags were decorated, the school delivered bags back to the grocery store. Grocery stores distributed bags to shoppers during Earth Week (April 20-26). More information on this project is available at: [www.earthdaybags.org](http://www.earthdaybags.org).
- Poster Contest: The District held a poster contest among local schools. Posters were to exhibit a recycling or environmental theme.
- Pull Tab Contest: The District and the County Commissioners sponsored the America Recycles Day Pull Tab Contest among local schools. Local schools collected pop tabs that would be used to make a donation to the Ronald McDonald House in Dayton.
- Recycled Ornament Contest: Teachers and parents could enter students or children into the Recycled Ornament Contest. The objective of the contest was to create holiday inspired ornaments using only recyclable or reclaimed objects. Ornaments could be no more than 6"x 6"x 6" in size, lightweight enough to hang on a tree, and free of safety hazards or perishable items. Ornament submissions were due November 30, 2012, and were put on display at the Miami County Sanitary Engineer's office December 10<sup>th</sup>.

### **District Displays**

The District owns a table top display that is utilized in school presentations and at special events. The District routinely attends the Miami County Fair where the display is used as a solid waste education and awareness tool in the Miami Soil & Water Conservation Area. The display is adaptable to a variety of solid waste subject matter but was only used at the Fair in 2012 because no other requests were received.

## **Publicity and Advertising**

The District utilizes local media outlets to spread the word about solid waste management issues. The District typically uses press releases along with newspaper ads and the District's website to disseminate information and publicity regarding District events and or solid waste management issues.

## **Informational Flyers and Brochures**

The District produced educational brochures on the following topics:

- Household Hazardous Waste Management
- Composting
- Recycling Means Business in Ohio
- Recycling in Ohio
- Plant Pride Not Litter

Brochures are made available as needed and are distributed to residents and businesses as requested.

## **District Website**

The website contains many informational resources for residents about recycling. The District also supports political subdivisions by sharing any community recycling events or news on its website.

## **Drop-Off Recycling Education**

A part-time employee at the Recycling Center located at the Miami County Transfer Station provides residents with education on how to properly recycle. The goal of the customer service employee, as well as the District Coordinator, is to reduce contamination and promote the program when residents call in to obtain information about services. The recycling drop-off at the Transfer Station is advertised on the District's website for residents that do not have access to curbside recycling.

## **Industrial Technical Assistance**

The District offers technical assistance to industrial sector businesses. Every year on the industrial and commercial surveys, recipients are asked if they would like a waste audit. Depending on time constraints, businesses are contacted to see if they would like to follow through with having a waste audit completed. In 2012, there were five audits done. The District provides suggestions for businesses that complete the waste audit process on how waste can further be minimized.

The District finds that most industrial businesses recycle due to the economics and ease of collecting uncontaminated recyclable waste materials from operational processes.

The following table summarizes the program details.

<b>Education and Awareness Program Summary</b>	
<b>Description</b>	<b>Details</b>
Program Number	MC-16
Entity Responsible for Maintaining Program	District
Service Area for Program	Miami County
Materials Reduced/Recycled	Varies
2012 Recycled Tonnage	N/A
2012 Program Costs	\$6,140
Program Operator/Contractor	District

Strengths of the program include:

- Creates the opportunity for the District to work with industry on waste reduction and solid waste issues.
- Allows the District to promoting recycling and waste reduction techniques to a broad audience.
- The District provides a vast array of promotional literature as well as direct engagement with residents, institutions and businesses.

Challenges of the program include:

- Requests for classroom presentations to school age children are declining.
- District web site lacks comprehensive recycling information.

## **ECONOMIC INCENTIVES PROGRAMS**

### **1. Miami County Transfer Facility Pay-Per-Bag**

The District operated a direct-haul version of a pay-as-you-throw (PAYT) waste and recycling system. Residents could purchase packs of five thirty-gallon trash bags for \$6.00. The cost of the trash bag includes the cost of disposal. A recycling center is available for residents at the transfer station. There is no limit or charge for recyclables delivered to the transfer station. The program provides a financial incentive to consumers to recycle more and produce less garbage. More than 9,380 bags were sold in 2012.

The District promotes this program through literature and on its website. Many program participants said that they learned about the program through word-of-mouth. The majority of users typically come from single person or small households.

The following table summarizes the program details.

<b>Miami County Transfer Facility Pay-Per-Bag Program Summary</b>	
<b>Description</b>	<b>Details</b>
Program Number	MC-17
Entity Responsible for Maintaining Program	District
Service Area for Program	Miami County
Materials Reduced/Recycled	N/A
2012 Recycled Tonnage	N/A
2012 Program Costs	\$2,462
Program Operator/Contractor	District

Strengths of the program include:

- Program continues to grow in popularity each year.
- Creates financial incentives for residents to recycle more and produce less garbage.

Challenges of the program include:

- None.

## **2. Pay-As-You-Throw Technical Assistance**

The District offered technical assistance to any political subdivision interested in implementing a PAYT collection system. The Transfer Station Manager and the Solid Waste Coordinator will work with any District political subdivision that requests information on PAYT programming options. No communities requested assistance in 2012.

Two communities that previously implemented PAYT, Tipp City and West Milton, maintained their programs. In 2012, the Village of Covington started a program that was volume based for their residents.

The following table summarizes the program details.

<b>PAYT Technical Assistance Program Summary</b>	
<b>Description</b>	<b>Details</b>
Program Number	MC-18
Entity Responsible for Maintaining Program	District
Service Area for Program	Miami County
Materials Reduced/Recycled	N/A
2012 Recycled Tonnage	N/A
2012 Program Costs	\$0
Program Operator/Contractor	District

Strengths of the program include:

- Creates financial incentives for residents to recycle more and produce less garbage.
- Provides assistance to political subdivisions to upgrade recycling programs.

Challenges of the program include:

- None.

## **OTHER PROGRAMS**

### **1. Miami County Debris Management Guide**

The District prepared the *Miami County Debris Management Guide* in cooperation with numerous agencies from throughout Miami County, including the Miami County Emergency Management Agency, the Miami County Health District and the OEPA Southwest District Office. The response guide incorporates best practices from debris management plans produced by local, state and Federal agencies. After it was prepared, the guide was submitted to FEMA. FEMA communicated with the Emergency Management Agency that the draft plan was approved and is in effect immediately; although no written notification was received. Ohio EMA is currently reviewing the plan as a result of new standards.

The District's role if a debris event occurs is as follows:

The SWMD Coordinator will assist debris managers (DMs) from the county, townships, cities, and villages with oversight and coordination of debris management operations.

The District will aid in the disposal debris and will coordinate the removal of hazardous waste from commercial operations as well as from private property with the jurisdictional DM, Ohio EPA Emergency Response Group, and hazardous waste vendors.

The District's Office will be utilized as the centralized Command Post for all Debris Managers in case of a large scale debris gathering event occurs within the boundaries of Miami County. This facility is equipped with an emergency backup generator in case of a large power outage throughout Miami County.

For more information on the Miami County Debris Management Guide Program, see Appendix H.

The following table summarizes the program details.

<b>Miami County Debris Management Guide Program Summary</b>	
<b>Description</b>	<b>Details</b>
Program Number	MC-19
Entity Responsible for Maintaining Program	District
Service Area for Program	Miami County
Materials Reduced/Recycled	N/A
2012 Recycled Tonnage	0
2012 Program Costs	\$0
Program Operator/Contractor	District

Strengths of the program include:

- Provides plan to manage debris in the event of a natural disaster.

Challenges of the program include:

- None.

## **OTHER FACILITIES**

### **1. Miami County Transfer Station**



The District owns and operated the Miami County Transfer Station during 2012. The Transfer Station has been in operation since 1988 when the incinerator was taken out of service. For many years, the District has designated the Transfer Station as the facility where municipal solid waste

generated in Miami County must be delivered.



The District's enforcement of flow control protects the operations of the Miami County Transfer Station by ensuring that it will receive sufficient quantities of solid waste and generate adequate revenue to pay back public-debt for construction of the facility and finance its ongoing operations.

Designating the transfer station under flow control has also helped the District achieve a sufficient economy of scale to obtain lower disposal rates for solid waste. The Miami County SWMD and the Montgomery County SWMD were able to aggregate the solid waste streams collected at their transfer stations and direct them to a single landfill facility in order to obtain a better disposal price.

The Transfer Station is a resource available to all District residents. Residents can bring municipal solid waste to the Transfer Station that their hauler may not accept anytime during normal business hours:

Monday – Friday: 6:00AM – 6:00PM  
Saturday: 7:00AM – 2:30PM

The Transfer Station operates a variety of programs that accept the following special materials:

- Lead-acid batteries
- Appliances, including Freon-containing
- Wood/tree waste
- Latex paint
- Scrap tires
- Scrap metal
- Light bulbs
- Cell phones

The Pay-Per-Bag program is also operated out of the Transfer Station. This program provides residents living in jurisdictions that do not offer curbside waste and recycling collection with a PAYT program, where residents can dispose of waste after buying bags at the scales house and utilize the recycling center for no cost.



The drop-off recycling center, located behind the Sanitary Engineering Administration office at the Transfer Station, is open to all residents during regular business hours.

Materials accepted at the drop-off recycling center include:

- Glass bottles and jars (all colors)
- Mixed paper
- Paperboard
- Cardboard
- #1 & #2 plastic jugs and containers
- Steel cans
- Aluminum cans
- Household batteries

Containers should be rinsed and plastic lids should be discarded. Cans, boxes, and plastic containers should be crushed or flattened.

The following table summarizes the details of this facility.

<b>Miami County Transfer Station Program Summary</b>	
<b>Description</b>	<b>Details</b>
Program Number	MC-20
Location	2200 N. County Rd. 25A, Troy, OH 45373
Phone	937-440-3488
Transfer Station Hours	Monday through Friday from 6 a.m. to 6 p.m. Saturday from 7:00 a.m. to 2:30 p.m. Sunday closed
Costs for Residents	Charges for refuse: \$57.05/ton + \$4.75/ton Ohio EPA fee. There is a \$5.48 minimum for items brought in under 200 pounds
Passenger Tires	\$3.00 each
Large Truck Tires	\$6.00 each
Farm Tires	\$20.00 each
Low Density Surcharge	\$16.50/ton x difference in minimum & actual weight
Labor for Digout	\$65.00 per hour
Vehicle Weigh	\$10.00 each
Returned check fee	\$35.00
Freon Filled Appliances	\$10.00 per appliance
Spill Cleanup	\$40/hour + material, equipment and disposal
Payment Methods	Credit/debit cards are taken at this time

The following materials were not accepted at the center for recycling:

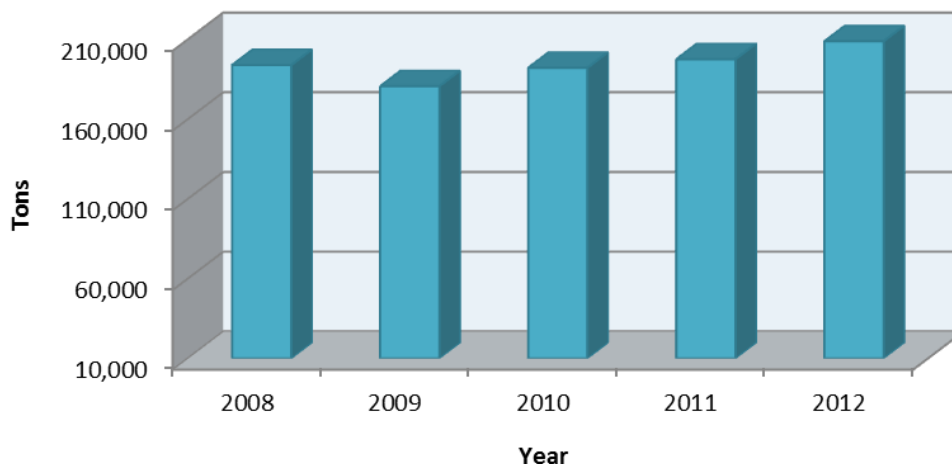
- Windows
- Grass clippings
- Metal drums with ends intact

- Ceramic materials
- Plastic insulation
- #3 - #7 plastics
- Polystyrene
- Liquids
- Hazardous materials
- Items over 8' in length or 2' in diameter

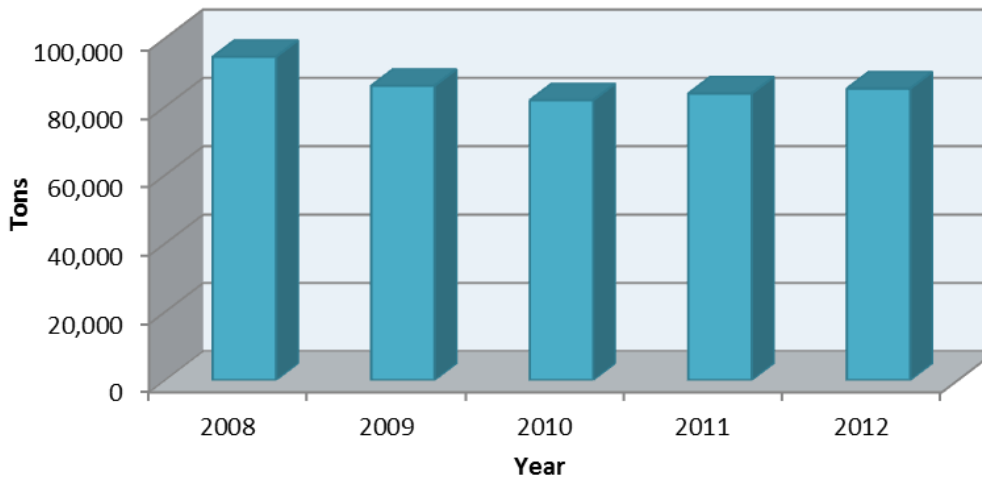
**G. Total Waste Generation: Historical Trends Plus Waste Reduction**

Table IV-7 presents the District's total waste generation patterns over a five year period spanning from 2008 to 2012. Total waste generation is calculated by summing the total waste landfilled (either by direct disposal or transfer), total tons recycled, and total tons composted. An examination of the District's total waste generation patterns over the five year period reveals that in 2012, a high of 208,854 tons was generated and in 2009, a low of 180,649 tons was generated. Waste generation has steadily been rising since 2009. The following figure presents the District's historical total waste generation.

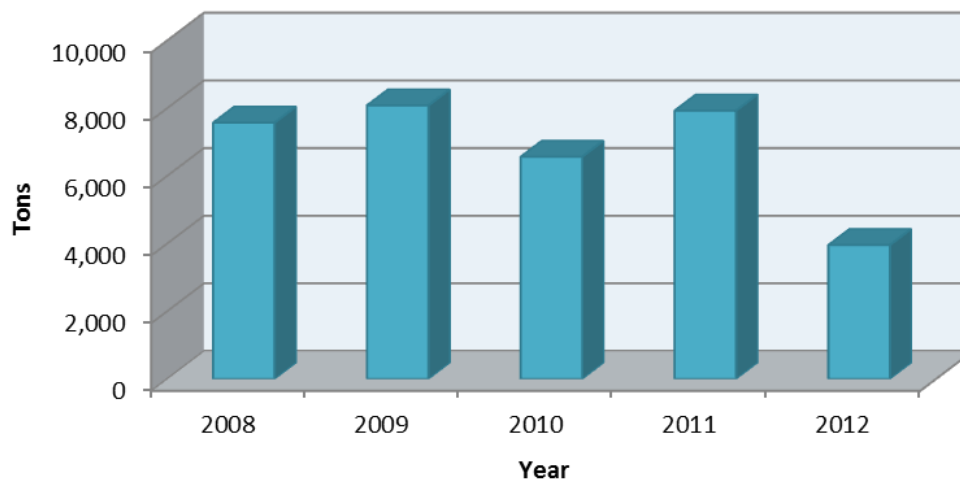
**District Historical Waste Generation (2008 – 2012)**



Landfilled waste tonnage reached its highest point in 2008 and lowest point in 2010. Tonnage decreased from 94,577 tons in 2008 to 81,876 tons in 2010. Since 2010, tonnage has increased annually. The following figure presents the historic landfilling totals:

**District Historical Landfilling (2008 – 2012)**

Yard waste remained somewhat stable from 2008 to 2011, ranging from 6,566 tons to 8,082 tons. In 2012, yard waste totals decreased to less than 4,000 tons. Closer analysis of the decrease in tonnage between 2011 and 2012 revealed that nearly all registered compost facilities managing the District's yard waste reported significant declines in tonnage. Some of the decrease may be due to the atypical weather patterns present in Ohio over the past few years. The following graph depicts the historical yard waste totals:

**District Historical Yard Waste Composting (2008 – 2012)**

Recycling was at a five year low in 2009 at 86,454 tons. Recycling has increased annually from 2009 to 2012. The five-year high in 2012 (119,584 tons) is a 38% increase in the total tons recycling since 2009. The following figure presents the historical recycling totals:

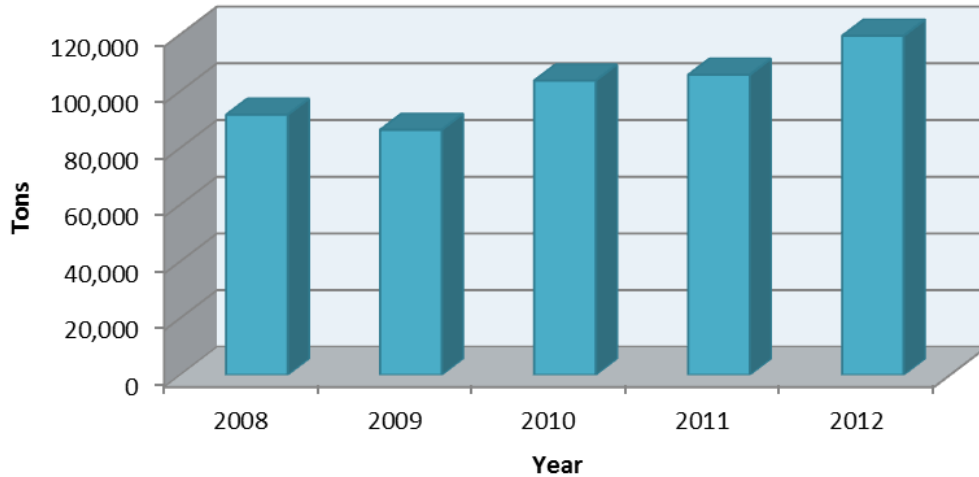
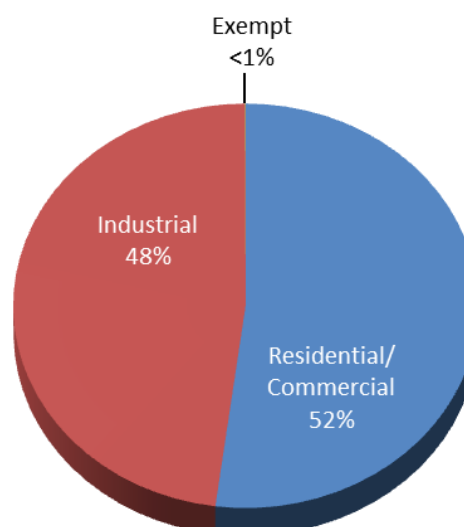
**District Historical Recycling (2008 – 2012)****H. Reconciliation of Waste Generation**

Table IV-8 presents adjusted reference year total waste generation for the District, which is based on actual reported disposal and recycling tonnage. Total District generation was 208,854 tons. This includes recycling, composting, and waste disposal from all sectors. The residential and commercial sector generated 108,769 tons or 5.80 pounds per person per day. The industrial sector generated 99,996 tons of materials or approximately 5.33 pounds per person per day. Exempt waste totaled 89 tons or 0.005 pounds per person per day.

The following figure presents the percentage of total tons generated by sector.

**2012 Reference Year Waste Generation by Sector**

The District considers using the actual reported disposal, composting, and recycling tonnage (Table IV-8) as a more accurate method of projecting waste generation throughout the planning period rather than using generation projections based on historical and national averages (Table IV-4).

The per capita generation rate for the residential/commercial sector is approximately 0.32 pounds higher than the projected per capita generation rate based on the District's historical average of 5.47 pounds. The per capita generation rate for the industrial sector is approximately 1.51 pounds lower than the projected per capita generation rate based on survey responses and average generation rates based on SIC codes. Actual tonnage recorded at transfer stations, landfills, material recovery facilities, and compost facilities supports using generation rates in Table IV-8 versus Table IV-4. Table IV-8 more accurately reflects the generation conditions in Miami County.

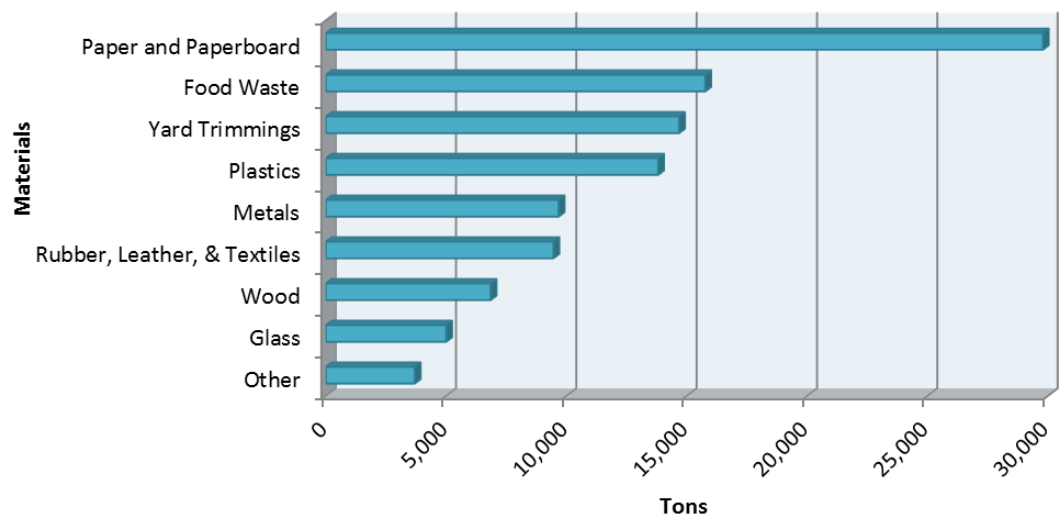
The District recognizes the potential for mislabeling waste that is recorded at material management facilities after it is weighed. However, the total results are likely to be more accurate using the reported disposal and diversion data than averages. Therefore, the District will not use the totals calculated in Table IV-4 for future projections in this *Plan Update*.

## **I. Waste Composition**

The District estimated the residential/commercial waste stream composition in Table IV-9, "Estimated Residential/Commercial Waste Stream Composition for the District for the Reference Year", using national averages from US EPA for 2012. The largest component of the residential/commercial waste stream is projected to be paper and paperboard at 27.4 percent (29,803 tons), followed by food waste at 14.5 percent (15,771 tons), and yard trimmings at 13.5 percent (14,684 tons).

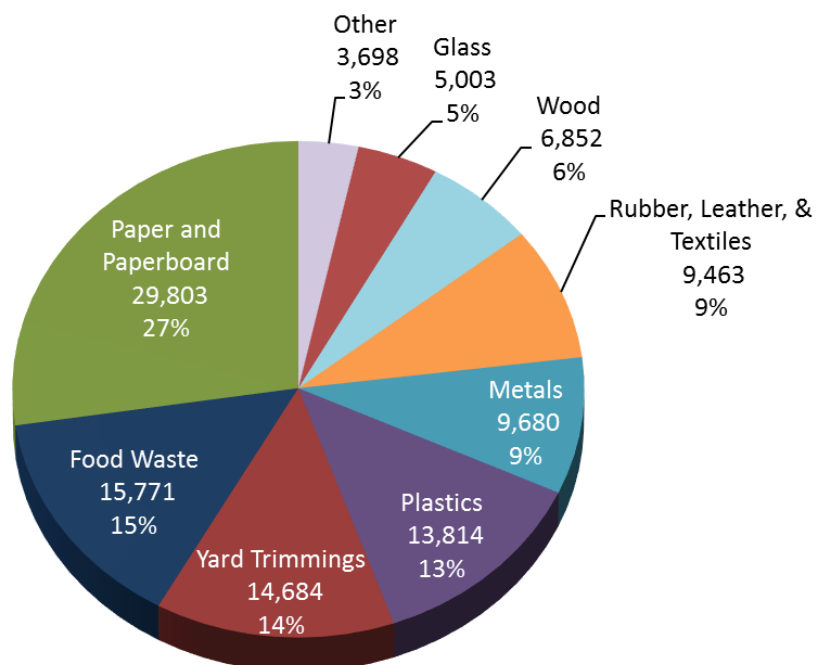
The following figure depicts the residential/commercial waste composition for the reference year.

### 2012 Residential/Commercial Waste Stream Composition



The following figure depicts the residential/commercial waste composition for the reference year.

### 2012 Residential/Commercial Waste Stream Composition (in Tons and Percent of Waste Stream)



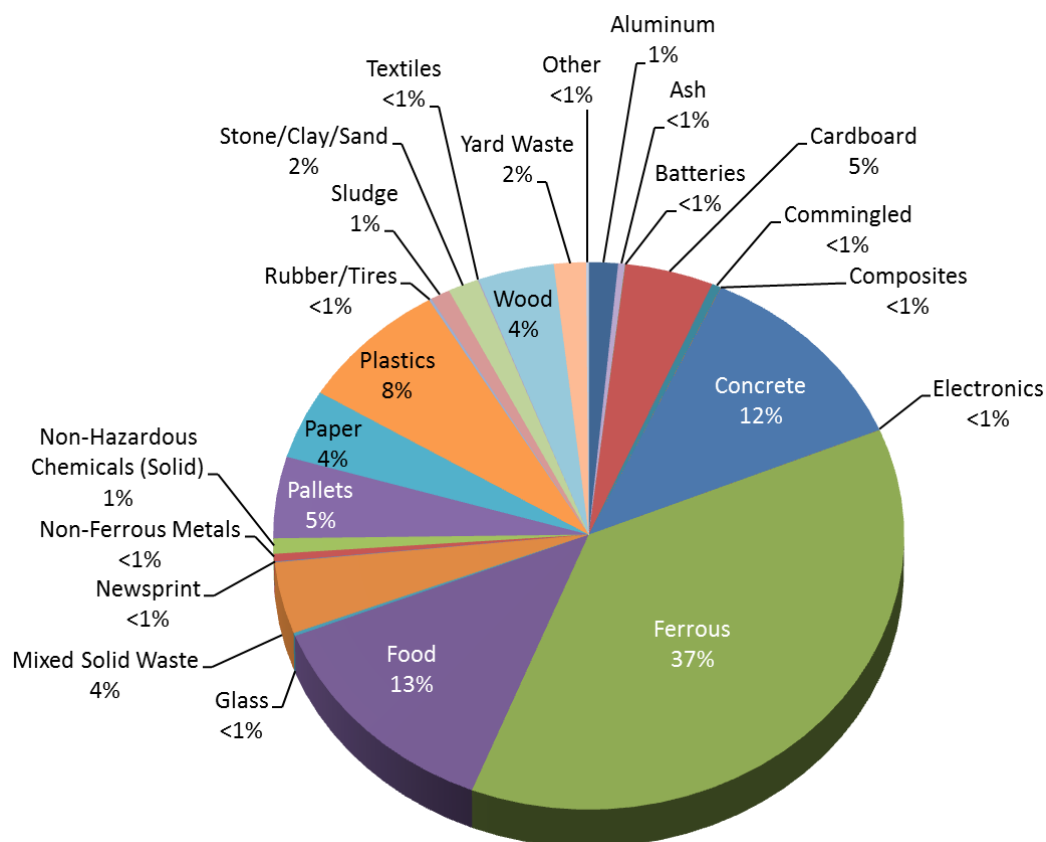
Similar to the residential/commercial waste stream, the purpose for reviewing the industrial waste stream is to determine what types of materials comprise the largest volumes and the programs that are in-place to manage these materials.

Industrial waste composition was estimated based on the amount of industrial waste that was landfilled and recycled (Table IV-10). Information for recycling was obtained from industrial facilities responding to the survey. Non-hazardous waste, concrete, ash and sludge were eliminated from the acceptable waste materials for recycling calculations only. All recycled materials are provided as actual totals. The remainder of material disposed in the landfill is categorized as general solid waste.

The largest component of the District's industrial solid waste stream was ferrous metals (37,269 tons). Food was the second largest component of the industrial waste stream at 12,962 tons. Other significant contributors to the industrial waste stream were concrete, plastics, pallets, and cardboard.

The following figure depicts the industrial waste composition for the reference year.

**2012 Industrial Waste Composition by Percent and Tonnage**





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

County/Community Name	2012 Population		Estimated Residential/Commercial Generation Rate (lbs/person/day)	2012 District Residential/Commercial Generation (Tons)
	Before Adjustment	After Adjustment		
Miami County	103,060	103,060	5.47	102,683
Village of Bradford (Darke County)	757	103,817		
Union City (majority in Montgomery County)	24	103,793		
Huber Heights (majority in Montgomery County)	965	102,828		
<b>Miami County Solid Waste Management District</b>		<b>102,828</b>		

**Source(s) of information:**

2012 Population - Ohio Development Services Agency Office of Research, 2012 Population Estimates by County, City, Village & Township, May 2013.  
 Generation Rate - 2012 residential/commercial generation rate was calculated using the District's average per capita generation rate from 2007 - 2011 as reported on Ohio EPA's ADR Review Forms.  
 2012 Generation Rate - Average of Miami County SWMD's 2009 - 2011 generation rates. Tonnage to calculate generation rates from 2009 - 2011 ADRs; Population for 2009 - ODOD Census and Final Estimates of the Intercensal Population of Ohio and Counties, 2000-2010.

**Adjustments:**

There are 757 residents in the Village of Bradford living in Darke County. This community has more than 50% of its population in Miami County and is therefore added to the Miami County SWMD total.  
 There were 24 residents in Union City living in Miami County. The majority of the population lives in Montgomery County. The 24 Union County residents were subtracted from the Miami County SWMD total.  
 There were 965 residents in Huber Heights living in Miami County. The majority of the population lives in Montgomery County. The 965 Huber Heights residents were subtracted from the Miami County SWMD total.

**Example calculations:**

$$\begin{aligned} \text{Total Res/Com Generation} &= \frac{\text{Population (people)} \times \text{Generation Rate (lbs/person/day)} \times 365 \text{ (days/year)}}{2,000 \text{ (lb/ton)}} \\ 102,683 &= \frac{102,828 \times 5.47 \times 365}{2,000} \end{aligned}$$

**Table IV-2**  
**Industrial Waste Generation Survey Respondents vs. Unreported**

Standard Industrial Classification (SIC)	Survey Respondents			Amounts Based Upon Secondary Data (Unreported)				Total Industrial Waste Generated	
	# of Industries	# of Employees	Tons of Waste Generated	Generation Rate (T/employee)	# of Industries	# of Employees	Generation Rate (T/employee)		Tons of Waste Generated
20	5	921	12,724	13.82	9	79	13.92	1,100	13,824
22	1	3	10	3.27	4	85	9.99	849	859
23	0	0	0	N/A	5	8	2.80	22	22
24	3	187	4,738	25.34	16	25	51.62	1,291	6,029
25	0	0	0	N/A	4	159	1.79	285	285
26	4	374	3,403	9.10	6	720	17.50	12,600	16,003
27	2	30	47	1.58	34	1,239	6.70	8,301	8,349
28	4	238	2,470	10.38	2	42	12.43	522	2,992
29	2	30	188	6.28	2	15	7.33	110	298
30	6	843	4,532	5.38	13	57	7.29	416	4,948
31	0	0	0	N/A	2	4	3.41	14	14
32	6	213	8,611	40.43	10	16	10.55	169	8,779
33	5	241	1,684	6.99	11	505	36.93	18,650	20,333
34	11	1,596	7,597	4.76	45	54	11.16	603	8,200
35	29	1,453	3,529	2.43	87	1,876	5.72	10,731	14,260
36	6	1,307	18,976	14.52	8	93	2.98	277	19,253
37	3	1,081	1,967	1.82	6	9	3.21	29	1,996
38	0	0	0	N/A	11	51	1.74	89	89
39	2	323	1,153	3.57	31	135	4.62	624	1,777
Total	89	8,840	71,631	8.10	306	5,172	N/A	56,679	128,310

**Source(s) of information:**

2012 District Industrial survey responses  
Total number of industries and employees from Lexis Nexis Dossier report  
Appendix JJ-2 was used to calculate unreported data.

**Example calculations (SIC 20):****Survey Respondents:**

$$\text{Generation Rate} = \frac{\text{Waste Generated}}{\text{\# of Employees}}$$

$$13.82 = \frac{12,724}{921}$$

**Non-Respondents:**

Generation Rate x Number of Employees (Unreported) = Tons of Waste Generation (Unreported)

$$13.92 \times (79) = 1,100$$

**Table IV-3**  
**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)
Construction and Demolition Debris	0.005	89
<b>Total</b>	<b>0.005</b>	<b>89</b>

**Source(s) of information:**

2012 Landfill and Transfer Station Operation Reports (Table III-1)

$$\text{Generation Rate (lbs/person/day)} = \frac{\text{Total Exempt Waste (tons/yr)} \times 2,000 \text{ (lb/ton)}}{\text{Population} \times 365 \text{ days/yr}}$$

**Example calculation:**

$$0.005 = \frac{89 \times 2,000}{102,828 \times 365}$$

**Table IV-4**  
**Reference Year Total Waste Generation for the District**

Type of Waste	Generation Rate (lbs/person/day)	Tons/Year
Residential/Commercial	5.47	102,683
Industrial	6.84	128,310
Exempt	0.005	89
<b>Total Waste Generation</b>	<b>12.31</b>	<b>231,082</b>

**Source(s) of information:**

Residential/Commercial - Table IV-1

Exempt - Table IV-3

Industrial - Table IV-2

$$\text{Generation Rate (lbs/person/day)} = \frac{\text{Total Industrial Waste (tons/yr)} \times 2,000 \text{ (lb/ton)}}{\text{Population} \times 365 \text{ days/yr}}$$

**Example calculation (Industrial):**

$$6.84 = \frac{128,310 \times 2,000}{102,828 \times 365}$$

**Table IV-5**  
**Reference Year Residential/Commercial Waste Reduction in the District**

Type of Waste Source Reduced	Tons	Type of Waste Recycled	Tons	Incineration, Composting, Resource Recovery		
				Total Waste Received	Residual Landfilled	Net Waste Reduced
None	0	Ferrous Metals	15,981	Incineration*	Ash	Net Incineration*
		Corrugated Cardboard	5,931	0	0	0
		Paper	2,774	Composting	Residuals	Net Compost
		Commingled Recyclables	2,619	3,946	0	3,946
		Wood	2,561	Resource	Ash	Net Resource
		Plastics	1,178	0	0	0
		Scrap Tires	880			
		Textiles	842			
		Glass	819			
		Food	318			
		Non-Ferrous Metals	279			
		Used Oil	214			
		Electronics	136			
		Batteries	98			
		HHW	3			
		<b>Subtotal</b>	<b>34,634</b>	<b>3,946</b>	<b>0</b>	<b>3,946</b>
				<b>Total</b>		<b>38,580</b>

**Source(s) of information:** 2012 Annual District Report and Ohio EPA Review Comments

**Table IV-6  
Reference Year Industrial Waste Reduction in the District**

Type of Waste Source Reduced	TPY	Type of Waste Recycled	TPY	Incineration, Composting, Resource Recovery		
				Total Waste Received	Residual Landfilled	Net Waste Processed
None	0	Plastics	39,915	Incineration*	Ash	Net Incineration*
		Ferrous Metals	26,572	0	0	0
		Food	8,852	Composting	Residuals	Net Compost
		Wood	4,142	10	0	10
		Corrugated Cardboard	3,793	Resource Recovery	Ash	Net Resource Recovery
		Paper	728	0	0	0
		Non-Exempt Foundry Sand	551			
		Non-Ferrous Metals	312			
		Glass	48			
		Ash	25			
		Textiles	13			
<b>Subtotal</b>			<b>84,951</b>	<b>10</b>	<b>0</b>	<b>10</b>
<b>Total</b>						<b>84,960</b>

**Source(s) of information:** 2012 Annual District Report and Ohio EPA Review Comments

**Table IV-7**  
**Total Waste Generation Based Upon Disposal Plus Waste Reduction**

Year	Management Method Used (TPY)			Total Waste Generation (TPY)
	Source Reduction & Recycling	Yard Waste Composting	Landfill Disposal	
2008	91,764	7,573	94,577	193,914
2009	86,454	8,082	86,113	180,649
2010	103,794	6,566	81,876	192,236
2011	105,831	7,928	83,854	197,613
2012	119,584	3,956	85,314	208,854

**Source(s) of information:** Facility Data Reports, Annual District Reports

**Example calculation:**

2012 Total Waste = Source Reduction & Recycling + Yard Waste Composting + Landfill Disposal

$$208,854 = 119,585 + 3,956 + 85,314$$

**Table IV-8**  
**Adjusted Reference Year Total Waste Generation**  
**for the District**

Type of Waste	Generation Rate (lbs/person/day)	Tons/Year
Residential/Commercial	5.80	108,769
Industrial	5.33	99,996
Exempt	0.005	89
<b>Total Waste Generation</b>	<b>11.13</b>	<b>208,854</b>

**Source(s) of information:**

Residential/Commercial - Tables III-1, III-2, III-3, and IV-5

Industrial - Tables III-1, III-2, III-3, and IV-6

Exempt - Tables III-1, III-2, and III-3

**Example calculation:**

$$\text{Generation Rate (lbs/person/day)} = \frac{\text{Total Waste (tons/yr)} \times 2,000 \text{ (lb/ton)}}{\text{Population} \times 365 \text{ days/yr}}$$

$$11.13 = \frac{208,854 \times 2,000}{102,828 \times 365}$$

**Table IV-9**  
**Estimated Residential/Commercial Waste Stream**  
**Composition for the District for the Reference Year**

<b>Waste Stream Type</b>	<b>Percentage of the Waste Stream</b>	<b>Tons</b>
Paper and Paperboard	27.4%	29,803
Food Waste	14.5%	15,771
Yard Trimmings	13.5%	14,684
Plastics	12.7%	13,814
Metals	8.9%	9,680
Rubber, Leather, & Textiles	8.7%	9,463
Wood	6.3%	6,852
Glass	4.6%	5,003
Other	3.4%	3,698
<b>Total</b>	<b>100.0%</b>	<b>108,769</b>

**Source(s) of information:**

Total tons: Table IV-8

Total MSW Generation (by material) from US EPA Municipal Solid Waste Generation, Recycling, and Disposal in the United States: Facts and Figures for 2012



**Table IV-10**  
**Estimated Industrial Waste Composition for the Reference Year in the District**

Waste Stream Type	TPY	Waste Stream Type	TPY	Waste Stream Type	TPY	Waste Stream Type	TPY
Aluminum	1,497	Concrete	11,817	Newsprint	39	Rubber/Tires	139
Ash	355	Electronics	6	Non-Ferrous Metals	453	Sludge	1,009
Batteries	20	Ferrous	37,269	Non-Hazardous Chemicals (Solid Only)	908	Stone/Clay/Sand	1,590
Cardboard	4,561	Food	12,962	Pallets	4,810	Textiles	49
Commingled	466	Glass	184	Paper	4,110	Wood	3,924
Composites	17	Mixed Solid Waste	4,232	Plastics	7,796	Yard Waste	1,650
						Other	134
<b>Subtotal</b>	<b>6,916</b>	<b>Subtotal</b>	<b>66,470</b>	<b>Subtotal</b>	<b>18,116</b>	<b>Subtotal</b>	<b>8,495</b>
							<b>Total</b>
							<b>99,996</b>

**Source(s) of information:**

2012 District Industrial Waste Survey Responses

**Example Calculation:**

Adjustment Factor =  $\frac{\text{Total Industrial Waste Generated (Table IV-8)}}{\text{Total Industrial Waste Generated (Table IV-2 - Survey)}}$

Adjustment Factor =  $1.3960 = 99,996 / 71,631$

Type of Industrial  
Waste Generated  
(tons) =

Type of Industrial Waste Generated (Table IV-6 -Survey) x Adjustment Factor

4,561 (tons of cardboard) = 3,267 (tons of cardboard from Appendix F) x 1.396

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

This Section of the *Plan Update* includes population projections for the District including communities that are located in more than one county. Projections and estimates are made for solid waste generation and recycling for the planning period. Existing District programs and activities that will continue are presented. Most of the detailed descriptions for existing programs refer the reader back to Section IV for details. The details for new programs and activities are described in this section of the *Plan Update*.

### **A. Planning Period**

Solid waste management plans must provide projections for population, waste generation, and waste reduction for a planning period covering a minimum of ten years. Plans must also provide strategies to manage the District's current and foreseen waste management needs of the residents, businesses, and institutions. This *Plan Update* is based on a fifteen year planning period. The planning period for this *Plan Update* is January 1, 2016 to December 31, 2030. The projections and tables in this *Plan Update* include the years 2012 through 2030.

### **B. Population Projections**

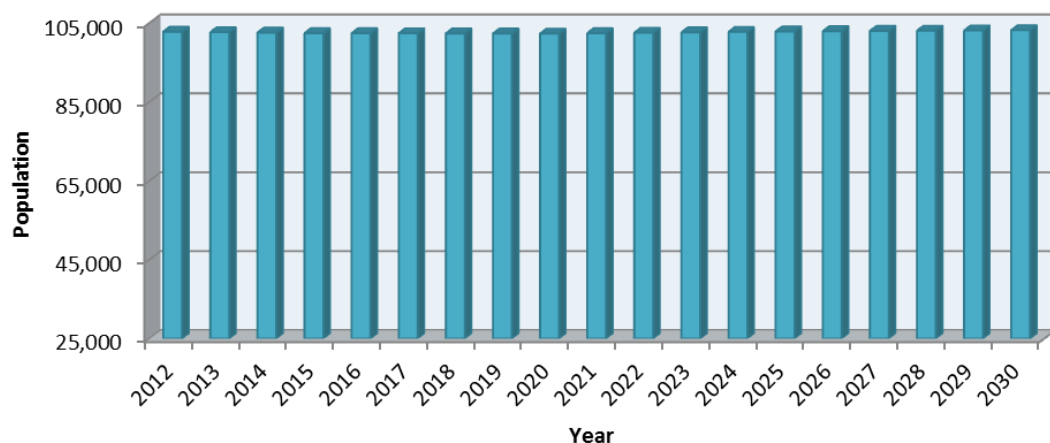
The District's population estimates and projections from the reference year (2012) through the end of the planning period are presented in Table V-1. The Ohio Development Services Agency's (ODSA) 2012 population estimates by county, city, village, and township were used to calculate the District's reference year population of 102,828. Ohio Law requires that the population of a political subdivision that lies within two or more solid waste management districts shall be credited to the district where the majority of the population resides. The District's reference year population was therefore adjusted from Miami County's base population of 103,060 to include the portion of the Village of Bradford's population residing in Darke County (757) because the majority of this political subdivision's residents live inside Miami County. Reference year population was also adjusted to exclude the portion of population residing in the Cities of Huber Heights (965) and Union (24) because the majority of residents in each of the political subdivisions reside outside Miami County.

Population projections were calculated using ODSA's population projections by county in 5-year intervals from 2010 to 2040. The populations in Table V-1 were interpolated for intermediate years using a straight-line average.

The District anticipates that population will remain fairly steady throughout the planning period. Initially, population is expected to decrease 0.47 percent from 2012 to 2020, then increase 0.84 percent from 2020 to 2030. The District is projected to start the planning period in 2016 with a population of 102,442 and end in 2030 with a total population of 103,203. This is a population increase of 0.74 percent for the planning period.

The following figure presents the estimated District population from the reference year to the end of the planning period.

**District Population Projections 2012 – 2030**



## C. Waste Generation Projections

### 1. Residential/Commercial Sector

The District's residential/commercial waste generation projections are presented in Table V-2, "District Residential/Commercial Waste Generation (TPY)." Waste generation is presented for the 2012 reference year and each subsequent year through 2030. For 2012, the District calculated the per capita generation rate based on Ohio EPA's Facility Data Reports for disposal and from the District's 2012 Annual District Report for recycling (with adjustments). The following data was used for this calculation:

2012 Disposal Tonnage: 70,189

2012 Recycling Tonnage: 38,580

2012 Total generation: 108,769

2012 Residential/Commercial  
Per Capita Generation Rate: 5.80

The total residential/commercial waste generation calculation for 2012 was 108,769 tons. Actual tonnage reported on the District's Annual District Report and disposal tonnage from Ohio EPA's Facility Data Report was used to calculate a waste generation of 105,809 tons for 2013. Waste generation is projected to decrease throughout the planning period from 2016 – 2030. The average change in per capita residential/commercial sector generation rates from 2009 to 2013 was used to project generation throughout the planning period.

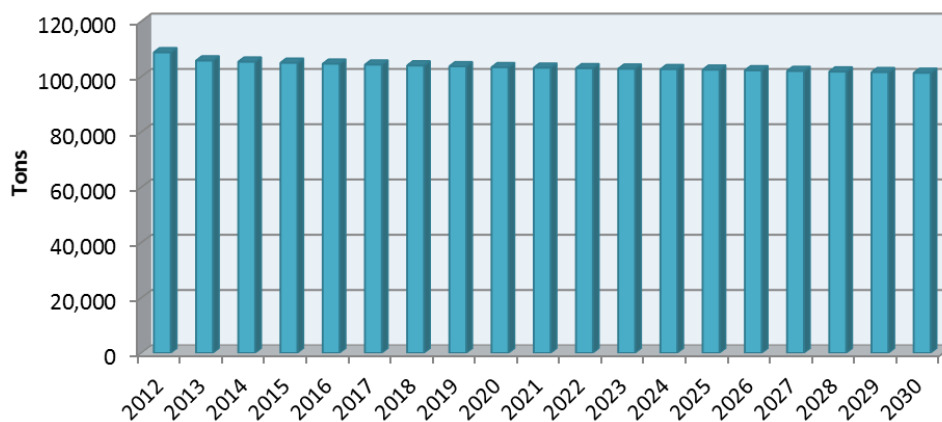
The following table shows the data used to prepare residential and commercial waste generation projections:

Year	Generation	Percent Change	Lbs/Person/Day
2009	106,211	N/A	5.75
2010	99,747	-7.23%	5.33
2011	99,795	0.05%	5.33
2012	108,769	8.65%	5.80
2013	105,809	-2.61%	5.64
<b>2009 – 2013 Average:</b>		<b>-0.28%</b>	

Per capita generation rates are anticipated to decrease 0.28 percent annually. Beginning in 2016, the first year of the planning period, residential/commercial waste is projected to be 104,651 tons. This is expected to decrease to 101,370 tons in 2030, a 3.1 percent decrease throughout the planning period.

The following graph presents the estimated residential/commercial waste generation throughout the planning period.

**Residential/Commercial Waste Generation (2012 – 2030)**



## **2. Industrial Sector**

The District's industrial waste generation projections are presented in Table V-3. Industrial waste generation is presented by Standard Industrial Classification (SIC) code for the 2012 reference year and each year of the planning period through 2030.

The industrial waste generated by each SIC code in 2012 is based on the ratio of waste reported by industries in industrial SIC codes in Table IV-2. The totals have been adjusted to correspond to the total industrial waste generation in Table IV-8, which is based on volumes recorded by landfills, transfer stations, waste-to-energy facilities, plus recycling and composting. Actual reported industrial waste generation was used for 2013. The actual reported totals reflected only tonnage that was managed at in-state facilities. The 2013 tonnage was increased by 79 tons, which was the total waste managed at out-of-state facilities in 2012. The District anticipates tonnage managed at out-of-state facilities in 2013 to be the same as the total reported in 2012. Tonnage for 2014 was projected using the average total waste generation from 2011 to 2013.

Industrial sector generation is projected to change at the same rate as employment projections from 2015 to 2020. Employment projections are from the Ohio Department of Job and Family Services' (ODJFS) publication *2020 Job Outlook for the Dayton Metropolitan Statistical Area, including Greene, Miami, Montgomery and Preble Counties*. ODJFS projects that from 2010 to 2020, industrial sector employment in the Dayton Metropolitan Statistical Area (MSA) will decrease 6.7 percent, or an average of -0.67 percent annually until 2020. The projected decrease is partially linked to the economic recession.

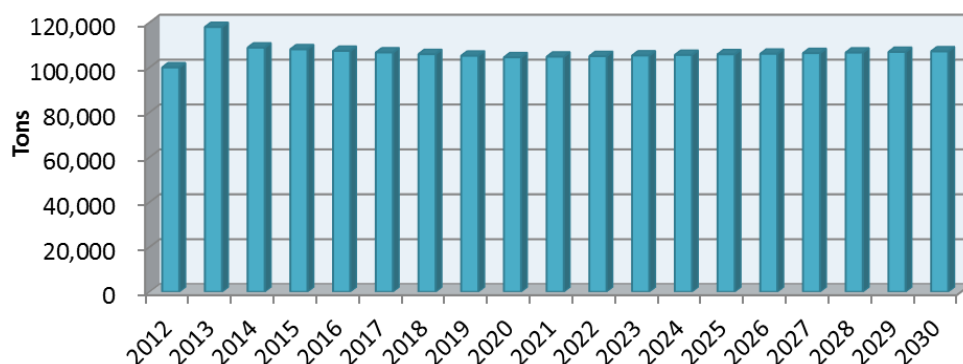
Following 2020, the District estimates that manufacturing will increase at a very modest rate of 0.25 percent annually. The job market in Ohio has changed and it is no longer realistic to project that industrial sector generation levels will return to pre-economic recession levels. The fastest growing occupations in the Dayton MSA from 2010 to 2020 are personal and home care aides, medical secretaries, software developers, market research analysts/marketing specialists, and medical/public health social workers. ODJFS states in the 2013 publication *Manufacturing in Ohio: A Post-Recession Employment Outlook* that new technologies are increasing the efficiency of manufacturing productivity, resulting in the need for less workers. Changing product demand is also a contributing factor to the long-term decline of the industrial sector. An example of changing product

demand from ODJFS's publication is the reduced demand for paper as a result of widespread digital communication. Additionally, many manufacturing companies are outsourcing work due to lower production costs outside the U.S. While many manufacturing subsectors are expected to continue declining after the recession, some subsectors are anticipated to grow. These subsectors include food manufacturing, beverage and tobacco products, wood products, plastic and rubber products, nonmetallic mineral products, fabricated metal products, transportation equipment, and furniture related products.

The District projects industrial waste generation will increase from 99,996 tons in the reference year to 107,183 tons in 2030. The District was careful to not count materials from train boxcars, metals from demolition activities, or ferrous metals resulting from salvage operations conducted by licensed motor vehicle salvage dealers in its industrial sector calculations. The ferrous metals that were included in the industrial waste stream were recorded from industrial survey results.

The following graph presents the estimated industrial waste generation throughout the planning period.

**Industrial Waste Generation (2012 – 2030)**



### **3. Total Waste Generation**

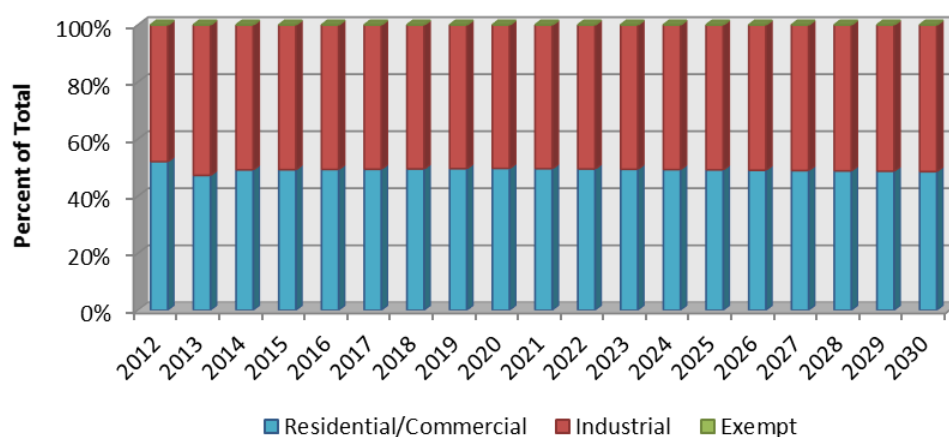
Total waste generation projections for the District during the planning period are presented in Table V-4. The total waste generation calculation for the 2012 reference year was 208,854 tons. This includes residential/commercial waste (108,769 tons), industrial waste (99,996 tons), and exempt waste (89 tons).

Exempt waste does not have a direct correlation to population or other identified factors; therefore, an average of the exempt waste generated from 2010 to 2013 was used to calculate a flat projection

for 2014 to 2030. The generation rate in pounds per person per day (PPD) for the reference year is 11.13. The per capita generation rate decreases slightly to 11.08 PPD in the final year of the planning period. Total waste generation is projected to decrease 3,488 tons over the fifteen-year planning period (2016-2030) from 212,107 tons to 208,619 tons, a -1.6 percent change.

The following graph presents the waste generation per sector as a percentage of the total waste generation.

**District Total Waste Generation (2012 – 2030)**



#### **D. Projections for Waste Stream Composition**

The District does not anticipate any major changes in the composition of the waste stream during the planning period. However, a change in economic conditions, or the closure of an industrial facility could greatly impact the industrial, as well as residential/commercial projections. Current projections indicate the District's residential/commercial and industrial solid waste stream will remain stable over the fifteen-year planning period.

The District's periodic survey of industries should alert the District to any major changes in the industrial sector. The District will report any significant changes in waste stream composition in the Annual Report.

#### **E. Waste Reduction and Recycling Strategies through the Planning Period**

The District must continue to develop recycling and waste reduction strategies to meet goal #1 or goal #2 and goals #3-8 established in the *1995 State Plan*. The goals include:

- Goal #1** Ensure the availability of reduction and recycling opportunities/programs for residential/commercial waste.
- Goal #2** Reduce and/or recycle at least 25 percent of the residential/commercial waste generated and 50 percent of the industrial waste generated.
- 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 managing scrap tires and household hazardous waste (HHW).
- Goal # 6** Districts are required to submit an annual report to Ohio EPA.
- Goal # 7** Prepare a market development strategy (optional).

The following table summarizes the District's programs for the planning period along with the State Plan goals achieved by each program:

Program	Description	State Plan Goal Achieved
MC-1	Curbside Recycling	1, 2
MC-2	Drop-Off Recycling	1, 2
MC-3	Yard Waste Management	2
MC-4	Household Hazardous Waste Management	2, 5
MC-5	Scrap Tire Recycling	2, 5
MC-6	Automobile Batteries and Used Oil Collection	2, 5
MC-7	Special Event Recycling	2
MC-8	Electronics Recycling	2, 5
MC-9	Appliance Recycling	2, 5
MC-10	Recycling Market Development Grant	2, 7
MC-11	"Buy Recycled" Promotion	2, 7
MC-12	Internal Grant	2
MC-13	Community Recycling Grant	2
MC-14	Litter Collection Grant	None
MC-15	School Waste Reduction Grant	2
MC-16	Education and Awareness <ul style="list-style-type: none"> <li>School Presentations</li> <li>Contests</li> <li>District Displays</li> <li>Publicity and Advertising</li> <li>Informational Flyers and Brochures</li> <li>District Web Site</li> <li>Drop-Off Education</li> <li>Industrial Technical Assistance</li> </ul>	3, 4



Program	Description	State Plan Goal Achieved
MC-17	Miami County Transfer Facility Pay-Per-Bag	2
MC-18	Pay-As-You-Throw Technical Assistance	1, 2, 3, 4
MC-19	Miami County Debris Management Guide	None
MC-20	Miami County Transfer Station	1,2
MC-21	Annual Program Performance Assessment	None

### ***Residential/Commercial Waste Reduction/Recycling and Education Strategies***

The District's residential/commercial waste reduction strategies are presented in Table V-5. Explanations for tonnage presented in Table V-5 is as follows:

- Curbside Recycling (MC-1) tonnage for 2012 and 2013 was based on actual reported totals. The average of these two years was used to project 2014. Tonnage is projected to remain flat from 2014 to 2018. In 2019, tonnage is projected to increase 5 percent as a result of implementing a community consortium (Initiative MC-1.1). The community consortium will result in improved recycling services offered at a lower rate to participating communities.
- Drop-Off Recycling (MC-2) tonnage for 2012 was based on actual reported totals. Actual tonnage was not available for 2013, so tonnage was projected to remain flat until 2016. Tonnage is projected to increase 2.5% in 2016 and 2017, then remain flat throughout the rest of the planning period. Increases in 2016 and 2017 are the result of improving the public's awareness of the drop-off recycling program through improvements to the website (Initiative MC-2.3) and working with the Miami Valley Regional Planning Commission to increase participation (Initiative MC-2.5).
- The Bar/Restaurant Consortium (Initiative MC-2.1) is projected to begin in 2018. Tonnage from 2019 to the end of the planning period is based on the assumption that one 6 cubic yard container could be filled with glass each week. Using 1,000 pounds per cubic yard multiplied by 6 cubic yards, multiplied by 52 weeks equals 156 tons. Half of this total was projected for the kick-off year in 2018.
- The Statewide Glass Initiative (Initiative MC-2.4) is projected to begin in 2014. A total of 50 tons is annually projected. This total is based on the estimated tonnage that could be diverted by this program as defined on the District's grant application to Ohio EPA.

- Yard Waste Management (MC-3) tonnage for 2012 and 2013 was based on actual reported totals. The average tonnage from 2010 to 2013 was used to calculate a flat annual projection for 2014 to the end of the planning period.
- Household Hazardous Waste Management (MC-4) tonnage for 2012 and 2013 was based on actual reported totals. The District began a monthly collection from May to December, leading to the increase from 2012 to 2013. Tonnage is projected to change at the same rate as population from 2014 until the end of the planning period.
- Scrap Tire Recycling (MC-5) tonnage, Automobile Batteries and Used Oil Collection (MC-6) tonnage, and Electronics Recycling (MC-8) tonnage for 2012 and 2013 were based on actual reported totals. Tonnage is projected to change at the same rate as population from 2014 until the end of the planning period.
- Special Event Recycling (MC-7) for 2012 and 2013 was based on actual reported totals. Tonnage is projected to increase 1 ton in 2014 and 1 ton in 2015 as a result of the District acquiring additional recycling racks through an Ohio EPA grant. The District can now provide increased recycling collection capacity to special events.
- Internal Grant (MC-12) tonnage for 2012 was based on actual reported totals. Actual tonnage was not available for 2013, so tonnage was projected to remain flat until 2016. Tonnage is projected to increase 5 tons in 2016 then remain flat throughout the rest of the planning period. The increase in 2016 is to reflect the implementation of Initiative MC-12.1, which states that the District will work with the court system to provide recycling bags to collect recycling separately from trash during litter collection activities.
- Miami County Transfer Station (MC-20) tonnage for 2012 and 2013 was based on actual reported totals. The average of these two years was used to project 2014. Tonnage is projected to change at the same rate as population from 2014 until the end of the planning period.
- Other Commercial Business Recycling is tonnage that was not attributed to a particular District program, but was identified as recycled residential/commercial sector materials by brokers and processors. Actual tonnage was used for 2012 and 2013. The average of these two years was used to project 2014. This tonnage is projected to increase 0.25% annually from 2015 until the

end of the planning period. This increase is to reflect the results of the District's efforts that are not measured by other programs, such as education and awareness activities, waste audits, and School Waste Reduction Grants. The quantity of recycling collected from businesses or schools is oftentimes not provided to the generator, so the District has not been able to attribute increases in recycling to individual programs or initiatives. The modest increase in Other Commercial Business Recycling reflects the results of the District's work that has historically been difficult to quantify.

- Food waste composting is projected to increase 30% from 2012 to 2017. Based on the District's 30 percent increase in food waste composting between 2011 and 2012, a 30 percent increase over the next 5-year period is appropriate and consistent with historic patterns. The quantity of food waste haulers servicing the commercial and industrial sector has recently increased in Ohio as a result of new infrastructure capable of managing food waste. Food waste composting is anticipated to increase at this rate until 2017. The five year increase assumes that food waste composting is now more accessible to businesses, so there will be an initial increase in tonnage as more establishments begin composting. Following 2017, tonnage is projected to change at the same rate as population.

The District anticipates that residential/commercial recycling will increase from 38,580 tons in 2012 to 41,051 tons in 2030.

The following strategies address many of the challenges that the District identified with their current solid waste management programs.

## **RESIDENTIAL/COMMERCIAL RECYCLING AND COLLECTION PROGRAMS**

To address the challenges listed in Section IV, the District's strategy is to maintain the level of performance with its residential/commercial recycling programs by monitoring program performance routinely (see Program MC-21). If the result of this ongoing monitoring process yields a drop in waste reduction and recycling activities or volumes, the District may first evaluate its surveying efforts to determine if collected data is accurate and complete.

If all collected data is determined to be accurate and complete, the District may implement additional targeted and broad based education and awareness efforts. These efforts could include advertisements in local media, increased education and awareness presentations and/or the

creation of incentive programs to stimulate participation and or to increase waste reduction and recycling.

The above listed efforts will be implemented only on an as needed basis. The District realizes that continued engagement and interface with the residential/commercial sector is very important and will not be reduced during the planning period.

**1. MC-1 Curbside Recycling**  
(State Plan Goals #1 and #2)

This program will continue (see description in Section IV). To address the challenges identified in Section IV, the District will implement the following initiatives:

**Initiative MC-1.1: Community Consortium**

To aide communities with improving or creating curbside trash and recycling services as well as to reduce the cost of service, the District will work (during the planning period) on developing a curbside trash and recycling community consortium. The consortium can be made up of contiguous or non-contiguous communities (cities, villages and/or townships) that either currently contract for curbside trash and recycling services or operate as subscription communities (non-contracted services).

The objective of the consortium is for communities to work together to develop joint contracting of curbside trash and recycling services for its residents. Communities that already provide publicly operated curbside trash and recycling services would not be a part of a consortium unless they chose to change their program.

The consortium(s) will be designed to accomplish the following:

- Lower monthly or quarterly costs;
- Reduce truck traffic through neighborhoods;
- Manage fuel costs or fuel surcharges currently charged to communities and/or residents by their haulers;
- Increase recycling;
- Create consistent and accountable service; and
- Allow for communities to opt-in or out of consortium.

Joint purchasing consortiums are not a new concept as they are practiced around the State of Ohio on a variety of services as well as for product purchases. Even with this said, curbside trash and recycling services purchased through a consortium can be

complicated. Based on this, the District will first educate all political subdivisions on the concept of a consortium along with the benefits. This will be accomplished through either one or a series of meetings. Based on the results of the meetings, the District will determine what communities present the best opportunity to form a consortium.

After the District has gauged the interest level of communities, its role will include providing seed money for professional services needed to begin the consortium bidding process, which may include consulting and/or legal assistance. Professional services may be required in order to assist with organizing/running meetings with potential consortium members, drafting the request for proposals (RFP), and other related activities. A funding mechanism will be designed so the District can recuperate the seed money put forth for the consortium.

The District's goal is to form a consortium for communities that currently do not contract for curbside trash and recycling services but will work with any group of communities that are interested in the benefits of forming a consortium.

Implementation: The District will work to develop a consortium within the planning period (2016 – 2030).

#### **Initiative MC-1.2: Curbside Recycling Webpage**

The District will develop a curbside recycling section on its website to promote the details for each curbside program operating in the District. This may include the following:

- Curbside recycling program description
- Program operator
- Materials collected
- Materials not accepted
- Days of collections
- Container system utilized

Implementation: 2016

#### **Initiative MC-1.3: Subscription Curbside Promotion**

To address the challenges associated with increasing participation in curbside recycling programs in communities that offer subscription-based services, the District will implement a variety of strategies to promote curbside recycling. The District will work with

haulers that provide services in subscription-based communities to promote the availability of curbside recycling by using mailers, placing ads in newspapers, or including information on customer invoices. The District will also add information on its website identifying which haulers provide subscription curbside recycling services for targeted communities and contact information to obtain service.

Implementation: 2016 - 2030

**2. MC-2 Drop-off Recycling**  
(State Plan Goals #1 and #2)

This program will continue (see description in Section IV). The District will implement the following initiatives to address the challenges identified in Section IV:

**Initiative MC-2.1: Bar/Restaurant Consortium**

The District will focus on developing a consortium for joint bidding on waste and recycling services that targets restaurants and bars. Although bars and restaurants will be the main targets for the consortium, the District will reach out to other businesses and organizations located nearby to participate in the consortium.

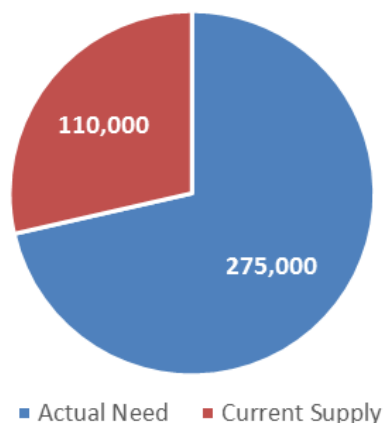
Bars and restaurants are the primary focus of this program because they typically generate a significant amount of recyclable glass. Glass is one of the heaviest components in the waste stream. The following table shows that glass containers weight approximately 1,000 pounds per cubic yard.

<b>Material</b>	<b>Lbs/CY<sup>3</sup></b>
Food Waste	1,070
<b><i>Glass Containers (Uncrushed)</i></b>	<b><i>1,000</i></b>
Mixed Paper (Loose)	875
Yard Waste (Raw/Mulched)	350
Textiles	240
Steel Cans (Uncrushed)	150
Aluminum Cans (Uncrushed)	62
Plastic Soda Bottles (Loose)	35

Each cubic yard of glass diverted contributes more significantly to increasing the District's diversion rate than almost all other materials commonly found in the residential/commercial waste stream (except food waste).

Ohio EPA's 2011 *Ohio Glass Recycling Study Final Report* indicated that Ohio manufacturers are unable to secure adequate volumes of glass cullet from inside the state:

#### Tons of Glass Cullet Per Year in Ohio



Ohio manufacturers are only able to obtain approximately 100,000 tons or 40 percent of the glass cullet needed for operations. Increasing the total glass recycled statewide would provide lower cost materials to manufacturers, potentially creating new jobs while increasing recycling rates and conserving raw materials and energy needed to extract and transport virgin materials.

Most glass waste generated in Ohio is not recycled. The density and weight of glass makes it an important material to keep out of landfills, and a clear need and end market for the recovered materials has been identified.

The consortium(s) will be designed to accomplish the following:

- Lower monthly or quarterly costs.
- Reduce truck traffic.
- Manage fuel costs or fuel surcharges currently charged to businesses by their haulers.
- Increase recycling, especially for glass and cardboard.
- Create consistent and accountable service.
- Allow for businesses to opt-in or out of consortium.

Commercial consortiums are a relatively new concept. Based on this, the District will first develop a targeted list of restaurants and bars that are contiguous or in near proximity to each other. The District will then schedule a series of meetings with the targeted business clusters to educate them on the benefits of a consortium.

Based on the results of the meetings, the District will determine if the targeted businesses would be willing to form the consortium.

If a viable cluster of businesses are willing to form a consortium, the District will provide seed money for professional services needed to begin the consortium bidding process, which may include consulting and/or legal assistance. Professional services may be required in order to assist with organizing/running meetings with potential consortium members, drafting the request for proposals (RFP), and other related activities. A funding mechanism will be designed so the District can recuperate the seed money put forth for the consortium.

Implementation: The District will work to develop a consortium within the planning period (2016-2030).

#### **Initiative MC-2.2: Bar/Restaurant Glass Drop-Off**

If initiative MC-2.1 does not yield a cooperative, the District will evaluate the possibility of implementing a glass recycling drop-off program for bars and restaurants. The District will utilize what was learned from the meetings as well as from the new relationships formed with the targeted businesses in initial MC-2.1 to determine the options for a glass recycling program.

Implementation: The District will evaluate a glass recycling drop-off program within the planning period (2016 – 2030).

#### **Initiative MC-2.3: Drop-Off Recycling Webpage**

The District will develop a drop-off recycling section on its website to promote the details for each drop-off program operating in the District. This may include the following:

- Drop-off recycling program description
- Program operator
- Materials collected
- Materials not accepted
- Days and hours of collections

Implementation: 2016



#### **Initiative MC-2.4: Statewide Glass Initiative**

The District was awarded a 2014 Statewide Glass Initiative Grant from the Ohio EPA in the amount of \$16,664.65. The District was able to establish a bar and restaurant recycling glass drop-off recycling program with assistance from the grant. Glass recycling is estimated to increase by 50 tons per year as a result of the new program.

The District purchased a glass-only roll-off container and several durable recycling containers. County staff are providing face-to-face technical advice and assistance with troubleshooting to develop a sustainable long-lasting recycling plan for participating restaurants and bars. In addition, the District is offering and providing indoor collection containers to handle glass and cardboard. Advertising will be purchased through the branding of window decals and coasters. Upon accepting the decal for display, the business will agree to semi-annual check-ins by the county to ensure the business continues to recycle.

The grant award is also being used to cover a three year contract with Rumpke for hauling fees and a trash can tipper.

Implementation: 2014 – 2016

#### **Initiative MC-2.5: Increasing Drop-Off Participation**

Participation in the drop-off program is low. Using data from the Miami Valley Regional Planning Commission (MVRPG), the District will identify areas prime areas where participation could be improved. This may be based on population density or the density of multi-family residential units that commonly do not qualify for curbside recycling services.

The following figure presents land uses throughout Miami County by category and was sourced from the MVRPC's 2006 Comprehensive Plan.

2003 EXISTING LAND USE BY CATEGORY - TOWNSHIP ACREAGE AS PERCENT OF COUNTY TOTAL MIAMI COUNTY, OHIO AND TOWNSHIPS																			
	UNINCORPORATED																		
	UNINCORPORATED DEVELOPED										UNINCORPORATED UNDEVELOPED								
	RESIDENTIAL										PUBLIC & SEMI-PUBLIC								
	Farm Residential (Over 10 acres)	Large Lot Residential (5-10 acres)	Single Family Residential (Less than 5 acres)	Multi-Family Residential	Mobile Homes	Other Residential	Total Residential	Commercial/Office	Industrial	Utilities	Total Industrial	Institutional	Recreational	Church & Cemetery	Total Public & Semi-Public	Mineral Extraction	TOTAL DEVELOPED	General Agriculture	Vacant Land
Bethel Twp.	14.2%	19.6%	17.5%			12.0%	16.7%	6.9%	15.3%	11.2%	14.8%	13.4%	41.8%		25.2%	0.0%	16.8%		7.1%
Brown Twp.	2.0%	4.0%	0.0%			3.2%	3.2%	3.4%	2.1%	3.0%	2.2%	0.8%	6.2%		3.0%	0.0%	3.1%		9.3%
Concord Twp.	4.8%	9.0%	7.8%			4.3%	6.9%	30.9%	12.6%	13.4%	12.7%	21.9%	3.5%		14.3%	0.2%	5.9%		6.3%
Elizabeth Twp.	10.1%	4.0%	0.0%			8.4%	6.7%	1.3%	0.0%	1.5%	0.2%	2.2%	0.0%		1.3%	0.0%	5.4%		8.7%
Lostcreek Twp.	8.3%	5.5%	0.0%			6.7%	6.6%	0.4%	0.0%	0.0%	0.0%	1.6%	0.0%		1.0%	0.0%	6.2%		8.7%
Monroe Twp.	9.1%	12.0%	26.3%			11.5%	11.1%	9.5%	20.7%	59.0%	25.5%	6.0%	4.6%		5.4%	3.8%	10.4%		5.5%
Newberry Twp.	11.7%	5.6%	7.8%			6.8%	9.3%	12.6%	25.8%	6.0%	23.3%	7.6%	8.7%		8.0%	6.3%	9.5%		11.4%
Newton Twp.	10.0%	6.7%	0.0%			8.2%	8.0%	2.0%	6.5%	0.0%	5.7%	5.7%	6.4%		6.0%	10.7%	7.5%		12.1%
Springcreek Twp.	4.1%	5.0%	6.5%			2.6%	4.3%	10.9%	12.7%	0.0%	11.1%	4.9%	15.1%		9.1%	32.9%	6.2%		6.0%
Stanton Twp.	6.4%	4.8%	9.2%			8.0%	6.8%	6.2%	0.3%	6.0%	8.7%	3.3%			6.5%	32.7%	6.6%		7.2%
Union Twp.	16.0%	16.3%	19.5%			22.9%	17.3%	2.9%	1.6%	0.0%	1.6%	20.5%	9.6%		16.0%	13.5%	16.0%		11.2%
Washington Twp.	3.2%	4.5%	5.1%			5.5%	4.3%	12.9%	2.3%	0.0%	2.0%	6.7%	0.8%		4.2%	0.0%	4.5%		6.6%
MIAMI COUNTY	100.0%	100.0%	100.0%			100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		100.0%	100.0%	100.0%		100.0%

NOTE 1: Other residential includes mobile homes and one acre for each farm residential, as well as other residential uses not otherwise specified.  
 NOTE 2: Church and cemetery uses are included in institutional category.  
 NOTE 3: General agriculture property and vacant land aggregated into Total Undeveloped category.

Source: Miami County Auditor 2003 Parcel Map, generalization of land use codes by MVRPC.  
 Prepared By: Miami Valley Regional Planning Commission, 2003.

The figure above indicates that approximately 64 percent of the land where multi-family housing units are located in the District is in Bethel, Union, and Monroe Townships. Similar data from the MVRPC will be used to identify areas where the District's efforts to increase participation will be most effective.

The District will also attempt to get more detailed information about the total tons collected from each individual drop-off location, or information about how often each drop-off container is emptied and the size of the container. This information will assist the District in determining any locations are under-utilized.

Implementation: 2016 – 2030

### 3. MC-3 Yard Waste Management (State Plan Goal #2)

This program will continue (see description in Section IV). The District will implement the following initiative:

#### Initiative MC-3.1: Yard Waste and Organics Recycling Webpage

The District will develop a yard waste and organics recycling section on its website to promote the details for each yard waste program and/or facility that services the District. This may include the following:

- Yard waste and/or organics recycling program description
- Program operator
- Materials collected
- Materials not accepted
- Days and hours of collections

Implementation: 2017

**4. MC-4 Household Hazardous Waste (HHW) Collection**  
(State Plan Goals #2 and #5)

This program will continue (see description in Section IV). In 2012, the District held one drop-off event. In 2013, the District held 8 drop-off events and in 2014, the District held 7 drop-off events. The District has demonstrated that an increased focus is being placed on making drop-off events more frequent for residents until a permanent HHW collection site is available.

The District's decision to maintain multiple drop-off events or begin operating a permanent HHW collection site is based multiple factors. At the end of the year, the District reviews the tonnage collected each month. Other items that are reviewed include staffing and available storage space. The program is then evaluated for the upcoming year. The costs to facilitate a permanent program are not currently justifiable, but the District will continue annually evaluating opportunities to begin operating a permanent site.

In addition, the District will implement the following initiative:

**Initiative MC-4.1: HHW Webpage**

The District will develop a household hazardous waste management section on its website to educate residents on the District's program as well as on proper management techniques. This may include the following:

- Household hazardous waste recycling program description
- Materials collected
- Materials not accepted
- Dates and hours of collections
- Reuse options for household hazardous waste
- Alternative products that are not hazardous
- Paint calculator for estimating the amount of paint needed for a given sized room or project

- Local household hazardous waste recycling and disposal options

Implementation: 2017

**5. MC-5 Scrap Tire Recycling**  
(State Plan Goals #2 and #5)

This program will continue (see description in Section IV). To address the challenges identified in Section IV, the District will implement the following initiative:

**Initiative MC-5.1: Scrap Tire Webpage**

The District will develop a scrap tire management section on its website to educate residents and businesses on the District's program as well as on proper management techniques. This may include the following:

- Scrap tire recycling program description
- Dates and hours of collections
- Reuse options for household hazardous waste
- Education statement on the cost of recycling scrap tires at the time of purchase of new tires
- Local scrap tire recycling options

Implementation: 2017

**6. MC-6 Automobile Batteries & Used Oil Collection**  
(State Plan Goals #2 and #5)

This program will continue (see description in Section IV). The District will implement the following initiative:

**Initiative MC-6.1: LAB and Used Oil Webpage**

The District will develop an automobile battery and used oil management section on its website to educate residents and businesses on the District's program as well as on proper management techniques. This may include the following:

- Automobile battery and used oil recycling program description
- Dates and hours of collections
- Local battery and used oil recycling options

Implementation: 2016

**7. MC-7 Special Event Recycling**  
(State Plan Goal #2)

This program will continue (see description in Section IV). To address the challenges identified in Section IV, the District will implement the following initiative:

**Initiative MC-7.1: Vendor Agreement Assistance**

The District will work with each special event venue that requests assistance from the District in the planning period to create a vendor agreement document that encourages or requires special event vendors, that sell consumable products, to provide acceptable recyclable options for the product. This would include drink and food containers.

Implementation: 2016 – 2030

**8. MC-8 Electronics Recycling**  
(State Plan Goal #2)

This program will continue (see description in Section IV). To address the challenges identified in Section IV, the District will implement the following initiatives:

**Initiative MC-8.1: Securing Television Recycling Vendor**

The District will continue to evaluate options for recycling televisions locally or regionally. The District will also work with Goodwill Industries on options for dealing with televisions.

Implementation: 2016

**Initiative MC-8.2: E-Waste Webpage**

The District will develop an electronics recycling section on its website to educate residents and businesses on the District's program as well as on proper management techniques. This may include the following:

- Electronics recycling program description
- Dates and hours of collections
- Local/regional electronics recycling options

Implementation: 2016

**9. MC-9 Appliance Recycling**  
(State Plan Goals #2 and #5)

This program will continue (see description in Section IV).

**RESIDENTIAL/COMMERCIAL/INDUSTRIAL MARKET DEVELOPMENT PROGRAMS**

**1. MC-10 Recycling Market Development Grant (Ohio EPA)**  
(State Plan Goals #2 and #7)

This program will continue (see description in Section IV).

**2. MC-11 “Buy Recycled” Promotion**  
(State Plan Goals #2 and #7)

This program will continue (see description in Section IV).

**RESIDENTIAL/COMMERCIAL/INDUSTRIAL GRANT PROGRAMS**

**1. MC-12 Internal Grant (for the Municipal Court System)**  
(State Plan Goals #2)

This program will continue (see description in Section IV). To address the challenges identified in Section IV, the District will implement the following initiative:

**Initiative MC-12.1: Source Separated Recyclables Collection**

The District will work with the court system to provide recycle bags and recycling procedures to source separate litter that is recyclable. The separated materials will then be recycled by the District.

Implementation: 2016

**2. MC-13 Community Recycling Grant**  
(State Plan Goals #2)

This program will continue (see description in Section IV).

The District applied for Ohio EPA’s Community Grant in 2012 and was awarded \$2,946 in 2013 to purchase additional 60 ClearStream recycling stands and three recycling stand transporters. The recycling stands and transporters are loaned to

organizations and establishments located in the District for special events. Funds used from this grant award are reflected in MC-7, *Special Event Recycling*, in Table VIII-5.

**3. MC-14 Litter Collection Grant**

This program will continue (see description in Section IV). This program will be for grant applications through Ohio EPA's litter grant program. Ongoing litter collection is provided in Program MC-12.

**4. MC-15 School Waste Reduction Grant**

This program will continue (see description in Section IV).

**RESIDENTIAL/COMMERCIAL/INDUSTRIAL SECTOR EDUCATION AND AWARENESS PROGRAMS**

**1. MC-16 Education and Awareness**  
(State Plan Goals #2, #3, #4, #5)

This program will continue (see description in Section IV). The District will implement the following initiatives to address the challenges identified in Section IV:

**Initiative MC-16.1: Promotion of Presentations to Schools**

The District will conduct a promotional campaign to the schools in the District to increase the number of presentations conducted. This may include any of the following:

- Direct mailer to schools
- Direct email to schools
- Meeting with schools
- Combination of the above

Implementation: 2016 – 2020

**Initiative MC-16.2: Education and Awareness Webpage**

The District will update and expand its website to contain more information.

Implementation: 2011 – 2017

## Industrial Technical Assistance

Table V-6 presents projections for industrial recycling. A variety of factors will influence the industrial sector's recycling totals throughout the planning period, including:

- Changes in industrial sector employment are expected to impact industrial sector recycling.
- Economic factors are also causing more businesses to streamline operations, waste less materials, and recycle more.
- It is becoming more common for businesses (especially industrial businesses) to adopt more environmentally sustainable practices. Many solid waste districts around the state of Ohio have reported that requests for free waste audits have been dwindling. The District suspects that less businesses are seeking assistance because more businesses now have a dedicated person or department that manages sustainability and waste reduction issues.

Actual reported industrial recycling totals are presented in Table V-6 for 2012 and 2013. The average from 2012 to 2013 was used to project 2014. Industrial recycling is anticipated to be impacted by changes in the industrial sector employment an annual rate of -0.67 percent from 2012 to 2020, and 0.25 percent annually from 2021 to 2030. Industrial recycling is also anticipated to increase 0.2 percent from 2012 to 2030 to reflect the impact of economic factors and the trend of incorporating sustainability into modern manufacturing operations.

In 2012, the industrial sector recycled 84,960 tons. The District projects the industrial sector will recycle 94,132 tons of materials by 2030. This is a 2.6 percent increase over the planning period.

## ECONOMIC INCENTIVE PROGRAMS

### 1. MC-17 Miami County Transfer Facility Pay-Per-Bag (State Plan Goals #2)

This program will continue (see description in Section IV).



**2. MC-18 Pay-As-You-Throw Technical Assistance**  
(State Plan Goals #1, #2, #3, #4)

This program will continue (see description in Section IV).

**OTHER PROGRAMS**

**1. MC-19 Miami County Debris Management Guide**

This program will continue (see description in Section IV).

**2. MC-21 Annual Program Performance Assessment**

The District's strategy is to maintain or improve the performance of its residential/commercial recycling programs by monitoring program performance routinely. The criteria for evaluating program performance will vary for different types of programs. The criteria used to evaluate most programs will be annual tons collected. The following are examples of criteria that will be used to evaluate programs when an assessment based on tonnage is not applicable:

- Bar/Restaurant Consortium (MC-2.1)
  - Number of meetings held
  - Number of interested establishments
  - Qualitative measurements (i.e., progress made at meetings)
- Education & Awareness (MC-16):
  - Number of students/adults reached
  - Number of presentations, district displays, contests, advertisements, flyers/brochures distributed, updates to website

If the result of this ongoing monitoring process yields a drop in waste reduction and recycling activities or volumes, the District may first evaluate its surveying/data collection efforts to determine if information is accurate and complete.

If all collected data is determined to be accurate and complete, the District may implement additional targeted and broad based education and awareness efforts. These efforts could include advertisements in local media, increased education and awareness presentations and/or the creation of incentive programs to stimulate participation and or to increase waste reduction and recycling. The District may also identify operational or programmatic changes to be made to improve the performance of a particular program.

The above listed efforts will be implemented only on an as needed basis. The District realizes that continued engagement with the residential/commercial sector is very important and will remain a strong focus during the planning period.

**Initiative MC-21.1: Development of Assessment Tool**

The District will develop an annual assessment spreadsheet to be used internally. The spreadsheet will identify the matrices by which each program will be evaluated. It will be set up so results from each year are easily comparable.

Implementation: 2015 – 2016

**OTHER FACILITIES**

**1. MC-20 Miami County Transfer Station**

This facility will continue to operate throughout the planning period. See Section IV for facility description.

**Table V-1**  
**District Population Projections**

Year	Total Miami County Population	+ Bradford Village population in Darke County	- Huber Heights population in Miami County	- Union population in Miami County	Total District Population
2012	103,060	757	965	24	102,828
2013	102,940	755	964	24	102,708
2014	102,820	754	963	24	102,587
2015	102,700	752	962	24	102,467
2016	102,678	750	961	24	102,442
2017	102,656	747	961	24	102,418
2018	102,634	744	961	24	102,394
2019	102,612	742	961	24	102,369
2020	102,590	739	961	24	102,345
2021	102,704	735	962	24	102,453
2022	102,818	730	963	24	102,561
2023	102,932	725	964	24	102,670
2024	103,046	721	965	24	102,778
2025	103,160	716	966	24	102,886
2026	103,228	712	967	24	102,949
2027	103,296	708	967	24	103,013
2028	103,364	704	968	24	103,076
2029	103,432	700	968	24	103,139
2030	103,500	696	969	24	103,203

**Source(s) of information:** 2012 Population - Ohio Development Services Agency Office of Research, *2012 Population Estimates by County, City, Village & Township*, May 2013.

Population projections in 5-year intervals 2010 - 2040 - Ohio Development Services Agency, *Population Projections: County Totals*, March 30, 2013.

Community Population	County Percent Change 2012-2030	Average Annual Percent Change
Miami County	0.4%	0.02%
Bradford Village (Darke County)	-8.1%	-0.40%

**Sample Calculations:**

2012 Population = Total Miami County population + Bradford Village population (Darke) - Huber Heights population (Miami) - Union population (Miami)

$$102,828 = 103,060 + 757 - 965 - 24$$

2013 Total Miami County Population = ((2015 ODSA Miami County population projection - 2012 ODSA Miami County Population estimate) ÷ 3) + 2012 ODSA Miami County Population estimate

$$102,940 = ( (102,700 - 103,060) \div 3 ) + 103,060$$

**Table V-2**  
**District Residential/Commercial Waste Generation (TPY)**

Year	District Population	Per Capita Generation Rate	Total Residential/Commercial Generation (TPY)
2012	102,828	5.80	108,769
2013	102,708	5.64	105,809
2014	102,587	5.63	105,389
2015	102,467	5.61	104,970
2016	102,442	5.60	104,651
2017	102,418	5.58	104,333
2018	102,394	5.57	104,017
2019	102,369	5.55	103,700
2020	102,345	5.54	103,385
2021	102,453	5.52	103,205
2022	102,561	5.50	103,025
2023	102,670	5.49	102,845
2024	102,778	5.47	102,665
2025	102,886	5.46	102,485
2026	102,949	5.44	102,261
2027	103,013	5.43	102,038
2028	103,076	5.41	101,815
2029	103,139	5.40	101,592
2030	103,203	5.38	101,370

**Source(s) of information:**

District Population- Table V-1

Per Capita Generation Rate- IV-8 (2012), ADR and Facility Data Report (2013)

Annual average change in the District's R/C per capita generation rate from 2009 - 2013 (-0.28%) is the factor used to project per capita generation rate from 2014 - 2030.

**Sample calculation (2012):**

District population x per capita generation rate (lb/person/day) x 365 days/year x 1 ton/2,000 lbs =  
 Total Residential/Commercial Generation (tons)

2012 Total Residential/Commercial Waste Generation = 102,828 x 5.80 x 365 x 1/2,000 = 108,769

**Table V-3**  
**Projected Industrial Waste Generation**

SIC Code	Year																		
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
20	10,774	12,725	11,727	11,648	11,570	11,493	11,416	11,339	11,263	11,291	11,320	11,348	11,376	11,405	11,433	11,462	11,490	11,519	11,548
22	669	791	729	724	719	714	709	705	700	702	703	705	707	709	710	712	714	716	718
23	17	21	19	19	19	19	18	18	18	18	18	18	18	18	19	19	19	19	19
24	4,698	5,549	5,114	5,080	5,046	5,012	4,978	4,945	4,912	4,924	4,936	4,949	4,961	4,974	4,986	4,998	5,011	5,024	5,036
25	222	262	241	240	238	237	235	233	232	232	233	234	234	235	235	236	237	237	238
26	12,472	14,731	13,575	13,484	13,394	13,304	13,215	13,126	13,038	13,071	13,104	13,136	13,169	13,202	13,235	13,268	13,301	13,335	13,368
27	6,506	7,685	7,082	7,035	6,988	6,941	6,894	6,848	6,802	6,819	6,836	6,853	6,870	6,888	6,905	6,922	6,939	6,957	6,974
28	2,332	2,754	2,538	2,521	2,504	2,488	2,471	2,454	2,438	2,444	2,450	2,456	2,462	2,468	2,475	2,481	2,487	2,493	2,499
29	232	275	253	251	250	248	246	245	243	244	244	245	246	246	247	247	248	249	249
30	3,856	4,555	4,197	4,169	4,141	4,113	4,086	4,059	4,031	4,041	4,052	4,062	4,072	4,082	4,092	4,102	4,113	4,123	4,133
31	11	13	12	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
32	6,842	8,081	7,447	7,398	7,348	7,299	7,250	7,201	7,153	7,171	7,189	7,207	7,225	7,243	7,261	7,279	7,297	7,316	7,334
33	15,847	18,717	17,248	17,133	17,018	16,904	16,791	16,678	16,567	16,608	16,650	16,691	16,733	16,775	16,817	16,859	16,901	16,943	16,985
34	6,390	7,548	6,956	6,909	6,863	6,817	6,771	6,726	6,681	6,697	6,714	6,731	6,748	6,765	6,781	6,798	6,815	6,832	6,850
35	11,113	13,126	12,097	12,016	11,935	11,855	11,776	11,697	11,618	11,647	11,677	11,706	11,735	11,764	11,794	11,823	11,853	11,882	11,912
36	15,005	17,723	16,332	16,223	16,114	16,006	15,899	15,792	15,686	15,726	15,765	15,804	15,844	15,884	15,923	15,963	16,003	16,043	16,083
37	1,556	1,838	1,693	1,682	1,671	1,660	1,648	1,637	1,626	1,631	1,635	1,639	1,643	1,647	1,651	1,655	1,659	1,663	1,668
38	69	82	75	75	74	74	73	73	72	72	73	73	73	73	73	74	74	74	74
39	1,365	1,635	1,507	1,497	1,487	1,477	1,467	1,457	1,448	1,451	1,455	1,458	1,462	1,466	1,469	1,473	1,477	1,480	1,484
Totals (TPV)	99,996	118,109	108,843	108,114	107,390	106,570	105,955	105,245	104,540	104,802	105,064	105,326	105,590	105,854	106,118	106,384	106,649	106,916	107,183

NAICS Industry Category	Percent Change 2010-2020	Annual Percent Change *
	Manufacturing	-6.70%

**Source(s) of information:**

Industrial Generation by SIC Code for 2012 from Table IV-2 adjusted to correspond to total industrial waste on Table IV-8.

The Ohio Department of Job and Family Services (ODJFS), 2020 Job Outlook for the Dayton Metropolitan Statistical Area, including Greene, Miami, Montgomery and Preble Counties.

**Notes:** Industrial sector generation is projected to change at the same rate as employment projections from 2015 - 2020; generation from 2021 - 2030 is expected to increase at a rate of 0.25% annually.

**Sample calculation:**

Waste generated in previous year + (waste generated in previous year x assumed growth rate) = waste generated in estimated year  
2017 SIC Code 20: (11,570 tons) + (11,570 tons x -0.0067) = 11,493 tons

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

Year	Residential/ Commercial	Industrial	Exempt	Total Waste	Generation Rate (lbs/person/day)
2012	108,769	99,996	89	208,854	11.13
2013	105,809	118,109	41	223,959	11.95
2014	105,389	108,843	66	214,298	11.45
2015	104,970	108,114	66	213,150	11.40
2016	104,651	107,390	66	212,107	11.35
2017	104,333	106,670	66	211,069	11.29
2018	104,017	105,955	66	210,038	11.24
2019	103,700	105,245	66	209,012	11.19
2020	103,385	104,540	66	207,992	11.14
2021	103,205	104,802	66	208,073	11.13
2022	103,025	105,064	66	208,154	11.12
2023	102,845	105,326	66	208,237	11.11
2024	102,665	105,590	66	208,321	11.11
2025	102,485	105,854	66	208,405	11.10
2026	102,261	106,118	66	208,446	11.09
2027	102,038	106,384	66	208,487	11.09
2028	101,815	106,649	66	208,530	11.09
2029	101,592	106,916	66	208,574	11.08
2030	101,370	107,183	66	208,619	11.08

**Source(s) of information:**

Residential/Commercial Waste - Table V-2

Industrial Waste- Table V-3

Exempt Waste for 2012 - Table III-1; 2013 - Facility Data Report, 2014-2030 - average tons 2010-2013

**Sample calculations (2012):**

$$\text{Total Waste} = \text{Residential Commercial} + \text{Industrial} + \text{Exempt}$$

$$208,854 = 108,769 + 99,996 + 89$$

$$\text{Generation Rate (lbs/person/day)} = \frac{\text{Total Waste (tons)} \times 2,000 \text{ (lb/ton)}}{365 \text{ (days/yr)} \times 2012 \text{ District Population (persons)}}$$

$$11.13 = \frac{208,854 \times 2,000}{365 \times 102,828}$$

Table V-5  
Residential/Commercial Waste Reduction Strategies

Program	Program/ Initiative	Type of Material Reduced and/or Recycled	Tons of Waste Reduction																			
			2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
			Recycling Strategies																			
Curbside Recycling	MC-1	Al, Bi, Gl, Pl, MxP, OCC	4,308	3,935	4,121	4,121	4,121	4,121	4,121	4,328	4,328	4,328	4,328	4,328	4,328	4,328	4,328	4,328	4,328	4,328	4,328	
	MC-2	Al, Bi, Gl, Pl, MxP, OCC	1,670	1,670	1,670	1,670	1,712	1,755	1,755	1,755	1,755	1,755	1,755	1,755	1,755	1,755	1,755	1,755	1,755	1,755	1,755	
	MC-2.1	Gl	0	0	0	0	0	78	156	156	156	156	156	156	156	156	156	156	156	156		
	MC-2.4	Gl	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	MC-3	YW	3,946	5,733	5,915	5,915	5,915	5,915	5,915	5,915	5,915	5,915	5,915	5,915	5,915	5,915	5,915	5,915	5,915	5,915		
	MC-4	HHW	3	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	MC-5	T	880	1,355	1,354	1,352	1,352	1,351	1,351	1,351	1,350	1,352	1,353	1,355	1,356	1,358	1,358	1,359	1,360	1,361	1,362	
	MC-6	LAB, Oil	313	363	363	362	362	362	362	362	362	362	362	363	363	364	364	364	364	365	365	
	MC-7	Al, Bi, Gl, Pl, MxP, OCC	5	6	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	
	MC-8	EW	136	423	423	422	422	422	422	422	422	422	422	423	423	424	424	424	425	425	425	
Internal Grant	MC-12	Al, Bi, Gl, Pl, MxP, OCC	16	16	16	16	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	
	MC-20	Al, Bi, Gl, Pl, MxP, OCC, YW, EW	673	427	550	549	549	549	549	549	549	549	550	551	552	552	552	553	553	553	553	
	Subtotal		11,950	13,938	13,912	13,910	13,951	13,994	14,071	14,355	14,354	14,356	14,359	14,361	14,363	14,365	14,367	14,368	14,369	14,371	14,372	
Other Waste Reduction Strategies																						
Other Commercial Business Recycling	n/a	Al, Bi, Gl, Pl, MxP, OCC, T, LAB, Oil, EW	26,312	24,156	25,234	25,297	25,361	25,424	25,487	25,551	25,615	25,679	25,743	25,808	25,872	25,937	26,002	26,067	26,132	26,197	26,263	
	n/a	FW	318	306	325	344	363	413	413	413	413	414	414	414	415	415	416	416	416	416	417	
	Subtotal		26,630	24,463	25,559	25,642	25,724	25,837	25,901	25,964	26,028	26,093	26,157	26,222	26,287	26,352	26,417	26,482	26,548	26,614	26,679	
Grand Totals			38,580	38,401	39,471	39,552	39,675	39,831	39,972	40,319	40,382	40,449	40,516	40,583	40,650	40,718	40,784	40,851	40,917	40,984	41,051	

Al = aluminum, Bi = bi-metal cans, Gl = glass, Pl = plastics, MxP = mixed paper, OCC = old corrugated cardboard, YW = yard waste, HHW = household hazardous waste, T = tires, LAB = lead-acid batteries, Oil = used motor oil, EV = electronic waste, FW = food waste

**Source(s) of information:**

2012 tonnage by program - Section IV Plan narrative

2013 tonnage - ADR

Table V-6  
Industrial Waste Reduction Strategies

Tons of Source Reduction/Recycling																					
Strategy	Materials Reduced or Recycled	Program #	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Recycling																					
Industrial Business Recycling	Al, Bi, Gl, Pl, MxP, OCC, YW, W	n/a	84,960	102,033	92,582	92,145	91,711	91,279	90,849	90,420	89,994	90,400	90,807	91,216	91,627	92,040	92,454	92,871	93,289	93,710	94,132
			84,960	102,033	92,582	92,145	91,711	91,279	90,849	90,420	89,994	90,400	90,807	91,216	91,627	92,040	92,454	92,871	93,289	93,710	94,132

Al = aluminum, Bi = bi-metal cans, Gl = glass, Pl = plastics, MxP = mixed paper, OCC = old corrugated cardboard, YW = yard waste, W = wood

**Source(s) of information:**

2012 tonnage - Table IV-6, 2013 tonnage - ADR, 2014 tonnage calculated as average from 2011 to 2013

**Assumptions:**

Industrial recycling is projected to change at the same rate as industrial sector employment from 2015 to 2030.

After impacts from changes to industrial sector employment is applied, total tonnage is increased 0.2% annually. This is to reflect the trend that more industries and businesses are recycling more due to economic necessity, as well as becoming more environmentally sustainable to public perception.



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

This section of the *Plan Update* demonstrates that the District has capacity through facilities and its programs to manage the waste generated for the planning period. A regional capacity analysis provides information to demonstrate the District meets or exceeds capacity requirements under Ohio law. The District will continue to exercise flow control provisions (to direct waste to appropriate facilities). The designation of facilities is a power granted to solid waste management districts (SWMDs) under Ohio law allowing the District to designate where solid waste generated within or transported into the District shall be taken for disposal, transfer, resource recovery, or recycling.

Additionally, this section of the *Plan Update* includes a detailed siting strategy for new proposed facilities.

### **A. District Methods for Management of Solid Waste**

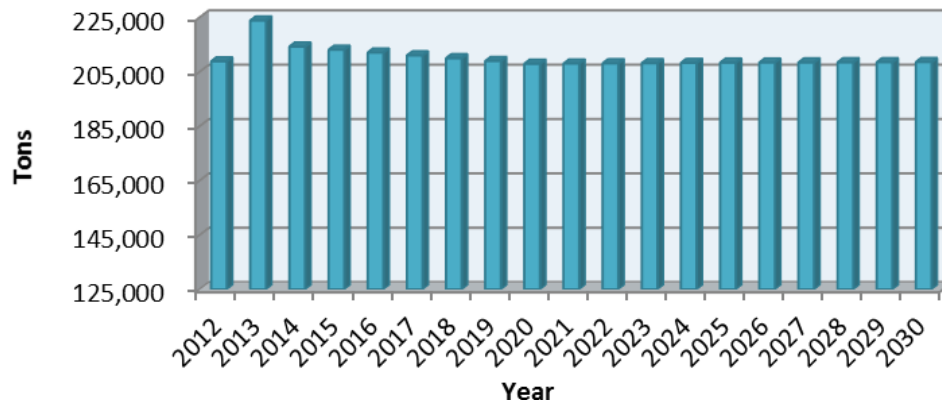
#### **1. Waste Management Methods for All Sectors**

Table VI-1 presents the waste management methods used to manage the total waste generated in the District and the processing capacity needed during each year of the planning period. Management methods include source reduction, recycling, transferring, composting, incinerating, and landfilling.

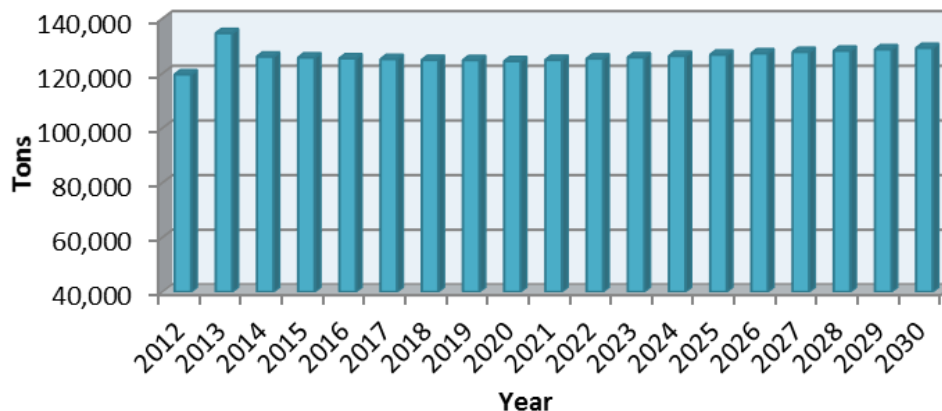
#### **Waste Generation**

The District generated 208,854 tons of waste materials in 2012. Total waste generation includes tons that were disposed as well as recycled. Total waste generation is projected to increase to 212,107 tons by the first year of the planning period, then decrease to 208,619 tons by the end of the planning period. Source reduction can affect the total net tons that will be managed by the District. Source reduction can occur when materials accepted by a waste management facility are reduced in volume due to evaporation. Source reduction can also be measured when businesses change a process or manufacturing method which results in less waste generation. Source reduction is not anticipated throughout the planning period. Therefore, the total waste generated is equal to the net tons to be managed by the District.

The following figure presents the net tons that will be managed during the planning period.

**2012 – 2030 Total District Waste Generated****Recycling**

In 2012, a total of 119,594 tons of waste was recycled (not including composting). Recycling is projected to increase to 125,472 tons in 2016 and by 2030, recycling should reach 129,268 tons. The following figure presents the total tons recycled throughout the planning period.

**2012 – 2030 Total District Waste Recycling****Yard Waste Composting**

Yard waste composted by the District in 2012 was 3,946 tons. Yard waste composting volumes often do not correlate with population, economic, political, or social trends, making yard waste totals difficult to accurately project. Yard waste totals are most influenced, in many cases, by weather-related events like storms which can produce significant quantities of broken tree limbs and other organic debris. Due to the highly unpredictable nature of yard waste generation, the totals for each year from 2014 to the end of the planning period are

a flat projection calculated by averaging the District's totals from 2010 to 2013.

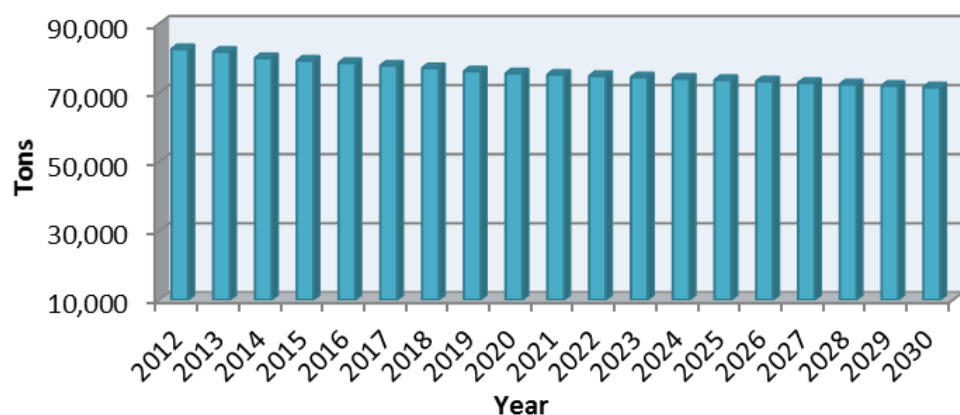
### Transferred Waste

Transferred waste includes all solid waste that first went to a licensed transfer station. In 2012, 82,670 tons were accepted by transfer stations. The average percentage of landfilled waste first managed at transfer stations from 2012 to 2013 for each sector was used to project the total tons to be managed at transfer stations throughout the planning period. The follow table presents the calculations used to project residential/commercial tonnage transferred for 2014:

Year	Transferred	Landfilled	Percentage Managed at Transfer Stations	Average Percent
2012	68,799	70,189	98.02%	98.97%
2013	67,360	67,408	99.93%	
2014	65,918 x 98.97% = 65,242	65,918		

Transfer stations are projected to manage a total of 78,322 tons in the beginning of the planning period and 71,311 tons at the end of the planning period. The following figure presents the total tons projected to be managed by transfer station throughout the planning period.

**2012 – 2030 District Waste Transferred**



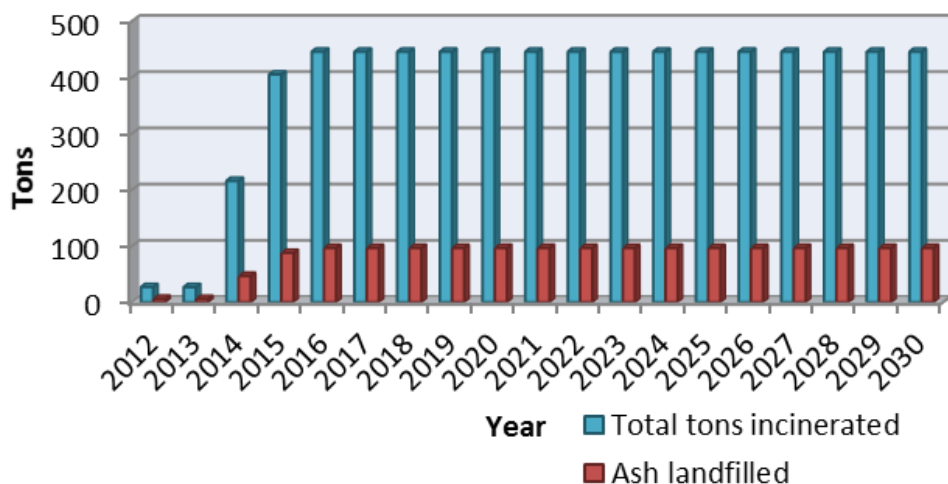
The Montgomery County North Transfer Station is projected to close at the end of 2014. This closure will not affect the District because less than 100 tons of District solid waste was annually sent to this transfer station.

## Incinerated Waste

In 2012, 27 tons of waste was incinerated, which produced 6 tons of ash to be disposed. Incineration can reduce the total quantity of waste by nearly 80 percent. The quantity of waste incinerated for 2013 was projected to change at the same rate as industrial employment. Actual 2013 data was not available at the time that this Plan Update was prepared. Waste-to-energy facilities are projected to manage an increase of waste from 2014 to 2016. Industrial facilities in the District have applied for solid waste waivers; some of this waste will be treated at waste-to-energy facilities. The total waste managed using incineration is projected to remain flat from 2017 to 2030.

The following figure presents the total tons projected to be managed by waste-to-energy facilities throughout the planning period.

**2012 – 2030 District Waste Incinerated**

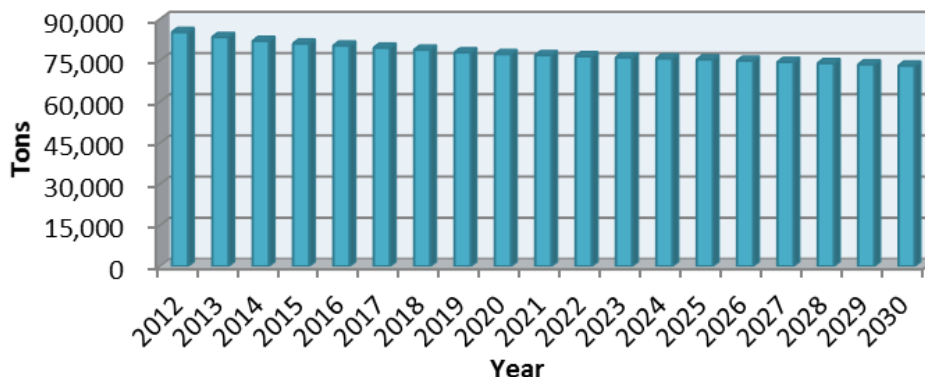


## Landfilled Waste

Landfilling includes waste that was directly hauled to landfills, as well as waste that was first delivered to a transfer station, and ash produced through incineration. Landfills managed 85,293 tons of waste in 2012. Landfills are projected to manage 80,372 tons in the beginning of the planning period and 73,087 tons at the end of the planning period.

The following figure presents the total tons projected to be managed by landfilling throughout the planning period.

### 2012 – 2030 District Waste Landfilled



## 2. Residential/Commercial Waste Management Methods

Table VI-2 presents a summary of waste management methods for residential/commercial solid waste generated by the District. This sector's waste was managed by recycling, organics composting, transferring, and landfilling. In 2012, the residential/commercial sector generated a total of 108,769 tons. This sector will generate 104,651 tons of solid waste at the beginning of the planning period and 101,370 tons of solid waste by the end of the planning period.

The following figure presents the management methods used to manage residential/commercial waste generation throughout the planning period.

### 2012 – 2030 Residential/Commercial Waste Management Methods

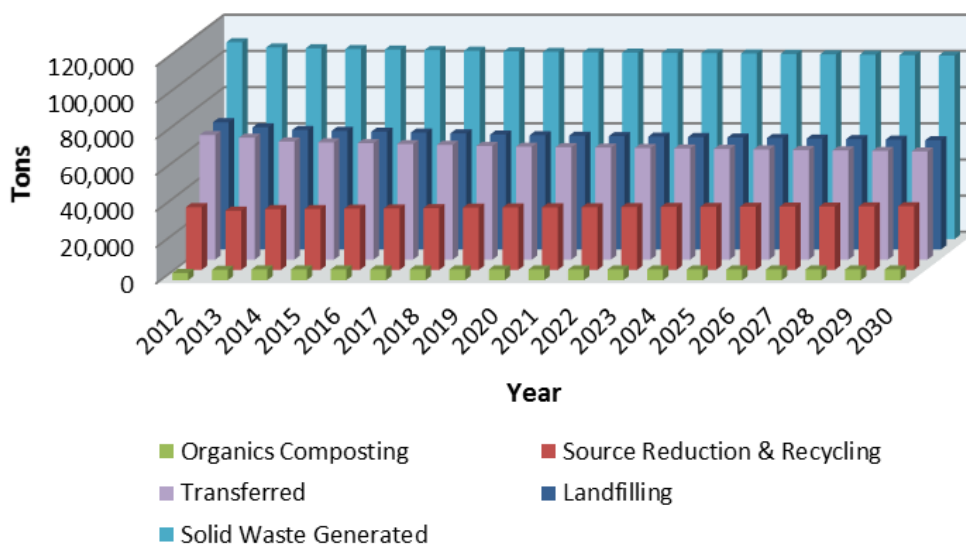


Table VI-3 presents a summary of waste management methods for industrial solid waste generated by the District. This sector's waste was managed by recycling, incineration, and landfilling. In 2012, the industrial sector generated a total of 99,996 tons. This sector is projected to generate 107,390 tons of solid waste at the beginning of the planning period and 107,183 tons of solid waste by the end of the planning period.

The following figure presents the management methods used to manage industrial waste generation throughout the planning period.

### 2012 – 2030 Industrial Waste Management Methods

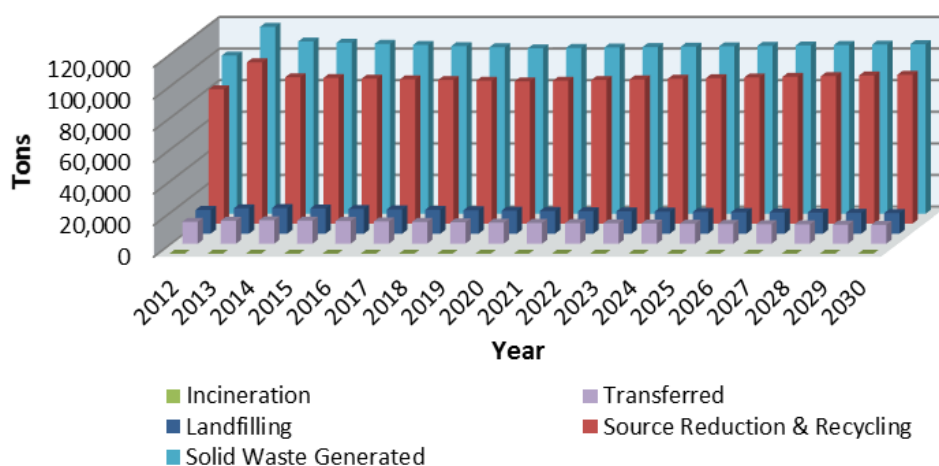


Table VI-4A, "Waste Management Method: Landfill," presents the actual landfill capacity utilization for 2012. Actual landfill capacity utilization reported by Ohio facilities for 2013 is included in the table. Tonnage managed at out-of-state facilities for 2013 was not reported at the time Table VI-4A was developed, so tonnage for out-of-state facilities was based on the total tons reported for 2012. Table VI-4A also presents the anticipated landfill capacity needs throughout the planning period. Total tons landfilled includes waste that was directly hauled to landfills, transferred waste, ash produced through incineration, and treated waste that was first managed at treatment facilities such as Tradebe Treatment and Recycling, which was used to manage District waste in 2012.

The District was under contract with Rumpke Waste Services in 2012 to manage the entire solid waste disposal from the Miami County Transfer Station. Rumpke guaranteed disposal capacity to the District and used their Brown County Landfill to dispose of waste collected at the Transfer Station.

In 2013, the District entered into contract with Republic Services to manage the entire solid waste disposal from the Miami County Transfer Station from August 1, 2013 to July 31, 2018. The District can renew the contract for two additional five-year periods ending on July 31, 2023 and July 31, 2028. Republic guaranteed disposal capacity to the District and intends to use their Cherokee Run Landfill to dispose of waste collected at the Transfer Station.

The District projects Cherokee Run will be able to provide approximately 99 percent of the District's landfill needs over the course of the planning period. The remaining 1 percent of the District's landfill capacity will be provided by up to eight other facilities listed in Table VI-4A.

Table VI-4B, "Waste Management Method: Incineration," presents the total tons projected to be managed by incineration throughout the planning period. The District used one incinerator in the reference year to manage a negligible quantity (27 tons) of industrial sector waste. Actual tonnage information for 2013 was not reported at the time this table was developed, so the quantity was projected to change at the same rate as industrial sector employment trends. Incineration from 2014 to 2016 is projected to increase based on estimated volumes that industrial facilities within the District have reported on solid waste waiver applications. Tonnage is projected to remain flat from 2017 to 2030.

Table VI-4C, "Waste Management Method: Transfer," presents the actual tons managed at transfer stations for 2012. Actual tons managed at Ohio transfer stations in 2013 are included in the table. Tonnage managed at out-of-state facilities during 2013 was not reported at the time Table VI-4C was developed, so tonnage for out-of-state facilities was based on the total tons reported for 2012. Table VI-4C also presents the projected to be managed at transfer stations throughout the planning period. In the first year of the planning period, the District projects approximately 78,322 tons of solid waste will be managed by transfer facilities. This decreases to 71,311 tons during the final year of the planning period. The Miami County Solid Waste & Recycling Facility is a designated facility unless an out-of-state facility is used by District generators or haulers. As a result of this designation, the Miami County Solid Waste & Recycling Facility manages more than 99 percent of the District's transferred solid waste.

The District does not anticipate during the first five years of this *Plan Update* that there is a need to locate, construct or operate additional transfer capacity. However, there could be a future change in

circumstances and the need for a new transfer capacity might be required during the first five years of this Plan. In this case, the Board would refer to the Contingency requirements of this Section for guidance.

Table VI-4D, Waste Management Method: Recycling,” presents the total tons projected to be managed by recycling. The District is projected to recycle an average of 126,384 tons of material annually throughout the planning period. In the first year of the planning period, the District projects approximately 125,472 tons of solid waste will be recycled. This increases to 129,268 tons during the final year of the planning period.

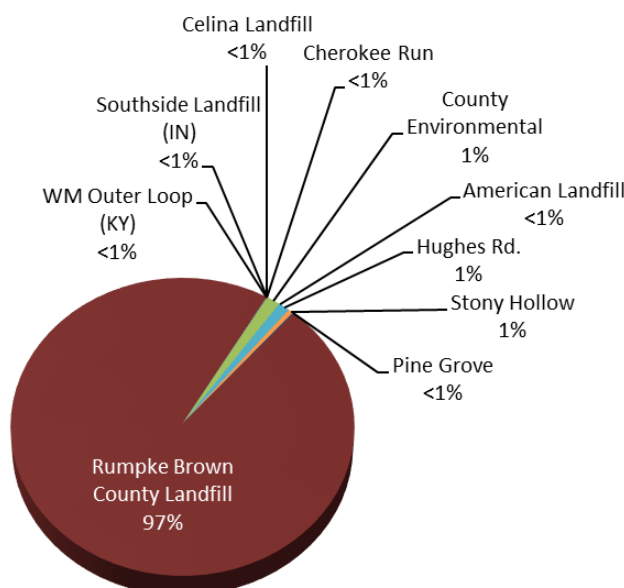
Table VI-4E, “Waste Management Method: Composting,” presents the total tons projected to be managed by composting. Projections from 2014 to 2030 are based on a five year average of historical data from 2010 to 2013. Because the total tons projected throughout the planning period are based on quantities the District’s facilities have previously managed, the District is confident that there is adequate processing capacity for organics.

## B. Demonstration of Access to Capacity

During the 2012 reference year, eight out-of-district landfills and two out-of-state landfills managed 85,293 tons of solid waste generated by District residents, businesses and industries.

The following figure presents the landfills used by the District in 2012.

**2012 Landfills Used by District**





## Regional Capacity Analysis

The purpose for the regional capacity analysis is to evaluate and demonstrate that the District has access to disposal capacity during the planning period. The District's assessment of regional landfill capacity demonstrates there is sufficient permitted capacity available to manage the District's solid waste until December 31, 2030.

In 2012, the District was under contract with Rumpke Services to receive all municipal solid waste from the Miami County Transfer Station. Rumpke used its Brown County Landfill to dispose of waste collected at the District's transfer station. In 2013, the District entered into a contract with Republic Services. Republic intends to use its Cherokee Run Landfill to dispose of waste collected at the District's transfer station. Republic has guaranteed capacity for the District's waste for the duration of the contract beginning August 1, 2013 until July 31, 2018. This contract can last until 2028 depending on contract extensions. At that time or sooner, the District will solicit bids to manage all of the waste collected at the Miami County Transfer Station. Typical contract periods are five years but can be less or more depending on the contract. The Miami County Transfer Station manages more than 99 percent of the solid waste transferred, and approximately 97 percent of the overall waste disposed by the District.

Republic's Cherokee Run Landfill is projected to have ample landfill capacity for the entire planning period. The District's policy for landfill disposal contracts requires that sufficient capacity for all of the District's solid waste disposal needs are met prior to entering into a contract with a prospective landfill operator.

The District projects an average annual need of approximately 76,290 tons or 114,435 cubic yards of landfill capacity during the planning period. Over the fifteen year planning period (2016 – 2030), the District will dispose of approximately 1,132,176 tons or 3,433,048 cubic yards of solid waste. Applying an average 2:1 compaction ratio for landfilled solid waste, the District will need approximately 1,716,524 cubic yards of airspace capacity over the fifteen year planning period.

Using these calculations, Republic's Cherokee Run Landfill could manage the District's entire landfill needs for the planning period. The landfills used by the District had an average remaining lifespan of more than 70 years.

### **C. Schedule for Facilities and Programs: New, Expansions, Closures, Continuations**

Table VI-5, "Implementation Schedule for Facilities, Strategies, Programs and Activities: Dates and Descriptions" presents the District's programs and

initiatives related to collection, market development, grants, education and awareness, other activities, and facilities that will be active during the planning period. These programs are discussed in detail in Sections IV and V.

#### **D. Identification and Designation of Facilities**

Table VI-6 includes the Facilities Identified and Current Designations.

##### **Identification:**

As required in Section 3734.53(A)(13)(a) of the Ohio Revised Code, the District is identifying all Ohio licensed and permitted solid waste landfill, transfer (including the Miami County Transfer Station) and resource recovery facilities and all licensed and permitted out-of-state landfill, transfer and resource recovery facilities. The District is also identifying recycling and composting programs and facilities that are identified in Section III Inventories.

##### **Designation:**

The District has designated and will continue to designate the Miami County Solid Waste & Recycling Facility located at 2200 North County Road 25A in Troy, Ohio as the only facility to receive solid waste generated in the District.

##### **Contract:**

The District may contract (during the planning period and beyond) for the transport and delivery of solid waste to any identified solid waste disposal, transfer, or resource recovery facility for the appropriate disposal, resource recovery or recycling of solid waste. The District may contract with identified recycling facilities or legitimate recycling facilities both in-Ohio or out-of-state for the processing of recyclables. Contracting for the transport and delivery of solid waste will be conducted through appropriate District procedures to procure these types of services.

Residential recyclables may be dropped off at the Miami County Transfer Facility recycling drop-off. Recyclables dropped off are the property of the Miami County Transfer Facility. Commingled or source separated recyclable materials may be placed at the curb for collection and processing or they may be delivered to or sold by the resident or business owner to a hauler, broker, scrap collector or processor selected by the resident or business owner of the recyclable materials.

A political subdivision or the District may select a recycling hauler that provides curbside recycling collection. The residential recyclables will be considered the property of the selected recycling hauler through the act of

setting out the recyclable materials at the location and time normally designated for curbside recycling collection.

**E. Authorization Statement to Designate**

The Board is authorized to establish facility designations in accordance with Section 343.014 of the Ohio Revised Code. In addition, facility designation will be established and governed by applicable district rules.

**F. Waiver Process for the Use of Undesignated Facilities**

In the event that any person desires to use a facility, other than a designated facility, for the disposal of solid waste, the person must submit a written request for a waiver of designation to the Board of Directors of the District. The request must state the type and amount of the material, the facility to be used, the intended duration of the waiver, and the reason for requesting the waiver.

District staff will review the request and may request additional information if necessary. The District Board of Directors will act on the request for a waiver within 90 days after receiving the request. The Board of Directors may grant the request for a waiver if the Board of Directors determines that:

1. Issuance of the waiver is not inconsistent with projections contained in the District's approved plan under ORC Sections 3734.53 (A)(6) and (A) (7); and
2. Issuance of the waiver will not adversely affect implementation and financing of the District's approved plan.

**G. Siting Strategy for Facilities**

The District's Siting Strategy includes the following:

Submission and Review of Plans and Specifications and Application of Siting Strategy to Proposed Solid Waste Facilities, Maximum Feasible Utilization and Exemption of Existing in-District Solid Waste Facilities.

**DEFINITIONS**

For the purposes of this section, the following definitions shall apply:

- a. **Solid Waste Facilities** shall mean all solid waste collection, storage, disposal, transfer, recycling, processing, and resource recovery facilities.
- b. **Siting Strategy** shall mean the process by which the Board of Directors (Board) shall review proposals for the construction or

modification of any Solid Waste Facility and determine whether such proposal complies with the *Plan Update*.

- c. **General Plans and Specifications** shall mean that information required to be submitted to the Board for review for the construction or modification of any proposed Solid Waste Facility and includes, but is not limited to, a site plan for the proposed facility, architectural drawings or artists renderings of the proposed facility, the projected size and capacity of the proposed facility and all other information identified in this Siting Strategy.
- d. **Applicant** shall mean a person, municipal corporation, township or other political subdivision proposing to construct or modify a Solid Waste Facility within the District.
- e. **Modify** shall mean a significant change in the operation of an existing in-District Solid Waste Facility: (1) that requires the approval of the Director of the Ohio Environmental Protection Agency; or (2) that involves a change in the type of material, manner of operation, or activities conducted at the facility (i.e., a conversion of a legitimate recycling facility to a transfer station).

## **PURPOSE AND OBJECTIVE**

The District's Siting Strategy for Solid Waste Facilities ensures that proposals to construct a new Solid Waste Facility within the District or modify an existing Solid Waste Facility within the District are in compliance with the *Plan Update*. The Board shall not approve the General Plans and Specifications for any proposed Solid Waste Facility or the modification of any existing in-District Solid Waste Facility where the construction and operation of the proposed facility, as determined by the Board, will:

- (1) have significant adverse impacts upon the Board's ability to finance and implement the *Plan Update*;
- (2) interfere with the Board's obligation to provide for the maximum feasible utilization of existing in-District Solid Waste Facilities;
- (3) materially and adversely affect the quality of life of residents within 300 feet of the proposed facility; or
- (4) have material adverse impacts upon the local community, including commercial businesses within 500 feet of the proposed facility and the adequacy of existing infrastructure to serve the proposed facility.

Except as otherwise provided herein, all proposed Solid Waste Facilities, whether to be sited by or on behalf of the District, or by or on behalf of any person, municipal corporation, township or other political subdivision, shall be subject to this Siting Strategy and shall comply with the requirement to submit General Plans and Specifications to the District.

**a. Siting Procedure Limited Exemption:**

Notwithstanding the foregoing requirement, existing in-District Solid Waste Facilities specifically identified in this Siting Strategy are not subject to this Siting Strategy unless the owner or operator of any such in-District Solid Waste Facility proposes a modification to the operation of the in-District Solid Waste Facility:

(1) that requires the approval of the Director of the Ohio Environmental Protection Agency; or

(2) that involves a change in the type of material, manner of operation or activities conducted at the facility (i.e., a conversion of a legitimate recycling facility to a transfer station).

**b. Maximum Feasible Utilization of Existing In-District Solid Waste Facilities:**

The Board has determined that the owners and operators of existing in-District Solid Waste Facilities rely on market factors in the determination of whether to expand or modify the facilities or current operations and activities at such existing facilities. The private corporate decisions of those owners and operators determine and establish the maximum feasible utilization of those existing in-District Solid Waste Facilities and the limited exemption for such existing in-District Solid Waste Facilities from the application of this Siting Strategy permits the owners and operators of those facilities to determine the maximum feasible utilization of those facilities. Other than the limited exemption from the application of this Siting Strategy, the Board has no additional obligation with respect to the continuing operation or modification of those facilities.

**REQUIREMENTS**

The District requires that General Plans and Specifications for all proposals to construct any new Solid Waste Facility within the District or modify any existing in-District Solid Waste Facility be submitted for a determination by the Board of whether such General Plans and Specifications and the proposals comply with the *Plan Update*. The District has adopted a rule upon final approval of this *Plan Update* as follows:

*The Miami County Solid Waste Management District Policy Committee and Board of Directors carefully evaluated the present and future facility needs of the Miami County Solid Waste Management District and included all of the facilities that the District needs to effectively and efficiently manage the transfer, disposal, recycling and recovery of solid waste in the District's Solid Waste Management Plan. In order to assure that the District can meet the obligations to which it is committed in the District Plan, the District must determine if any new facility or facility expansion is consistent with the Plan and will not adversely affect the District's ability to finance Plan implementation.*

*In order to make such a determination, the Board must have the plans and specification for the facility to review. The Board also has an interest in assuring that any facility that is constructed or enlarged is appropriately designed and sited to meet its intended purpose without creating excessive burdens upon the county's facilities and services or the neighboring properties. The rules clearly state that the Board will exclude any criteria that would establish design standards that are addressed by the rules of the Ohio Environmental Protection Agency for the issuing of a Solid Waste facility permit.*

### **PROCEDURE IMPLEMENTING SITING STRATEGY**

Unless otherwise provided herein, or an exemption or waiver from this requirement has been granted by the Board, the following procedure and process shall be followed in the event the construction of a new Solid Waste Facility or the modification of an existing in-District Solid Waste Facility is proposed within the District:

#### **STEP 1: Submittal of Plans and Specifications**

Any person, municipal corporation, township or other political subdivision proposing to construct a new Solid Waste Facility or modify an existing in-District Solid Waste Facility shall:

- a. Provide General Plans and Specifications of the proposed facility to the Board. Such General Plans and Specifications shall include, but may not be limited to, the following documents and information:
  - i. a site plan for the proposed Solid Waste Facility;
  - ii. architectural drawings or artist's renderings of the proposed Solid Waste Facility;
  - iii. availability of necessary utilities;

- iv. projected size and capacity of the proposed Solid Waste Facility;
  - v. hours of operation;
  - vi. anticipated source of solid waste or recyclable materials to be received at the proposed Solid Waste Facility. If recycling activities will be conducted at the proposed facility, a detailed description of the recycling activity including materials to be recycled, technology to be utilized to accomplish the separation and processing of the recyclable materials, the anticipated percentage of waste reduction anticipated from the operation of the facility and the identification of the market for the sale of the recyclable materials recovered at the facility must be submitted;
  - vii. types and anticipated number of vehicles utilizing the proposed Solid Waste Facility on an hourly and daily basis;
  - viii. routes to be used by vehicles utilizing the facility and methods of ingress and egress to the facility; and
  - ix. any other information necessary for the Board to evaluate whether the proposed Solid Waste Facility complies with each of the criteria listed below.
- b. Adequately demonstrate to the Board that the construction or modification and subsequent operation of the proposed Solid Waste Facility will:
- i. be consistent with the goals, objectives, projections and strategies contained in the *Plan Update*;
  - ii. not adversely affect financing for the implementation of the *Plan Update*;
  - iii. not adversely affect the Board's obligation to provide for the maximum feasible utilization of existing in-District solid waste facilities;
  - iv. be installed, operated and maintained to be harmonious and appropriate in appearance and use with the existing or intended character of the area;
  - v. be adequately served by essential public facilities and services;

- vi. not create excessive additional requirements at public cost for public facilities or services;
  - vii. not be detrimental to the economic welfare of the community;
  - viii. not involve the excessive production of traffic, noise, smoke, fumes or odors;
  - ix. have vehicular approaches to the property that are designed not to create an interference with traffic;
  - x. not result in the destruction, loss or damage of a natural, scenic, or historic feature of major importance; and
  - xi. not adversely affect property values within the surrounding community.
- c. The Applicant shall submit any additional information as the Board requests to establish, to the reasonable satisfaction of the Board, that the construction or modification and subsequent operation of the proposed Solid Waste Facility or proposed modification of an existing in-District Solid Waste Facility will comply with the *Plan Update*.

## **STEP 2: Board Review**

The Board shall conduct a review of the information submitted for the proposed Solid Waste Facility to determine whether the Applicant has adequately demonstrated that the proposed Solid Waste Facility will be constructed or modified and subsequently operated in compliance with the *Plan Update* and demonstrated that the impacts listed in Step I do not adversely affect the District, its residents and businesses. The Board may expend District funds to employ a consultant or consultants familiar with Solid Waste Facility construction and operation, land use planning and solid waste planning to assist the Board in implementing this Siting Strategy and in its determination of whether a proposed Solid Waste Facility or modification of an existing in-District Solid Waste Facility complies with the *Plan Update*.

Within sixty days of receiving the General Plans and Specifications from an applicant, the Board shall make a determination as to whether the General Plans and Specifications submitted by the applicant contain sufficient information for the Board to complete its review of the proposal. In the event the Board determines that more information is necessary to complete its review of the proposal, the Board shall notify the Applicant of such request in writing within ten days.



Within ninety days of determining that the Applicant has submitted a complete set of General Plans and Specifications, the Board shall determine whether the proposal complies with the *Plan Update* and the criteria identified in Step 1 herein. The Board shall notify the Applicant of its decision in writing. While the Board has broad discretion regarding the approval of General Plans and Specifications for a proposed Solid Waste Facility or modification of an existing in-District Solid Waste Facility, it is the intent of this Siting Strategy that the Board shall not approve General Plans and Specifications for a proposed Solid Waste Facility unless the Board determines that the proposed Solid Waste Facility or modification of an existing in-District Solid Waste Facility complies with the *Plan Update* and the criteria identified in Step 1 herein.

### **STEP 3: Development Agreement**

In the event the Board determines that the proposed construction or modification and subsequent operation of a Solid Waste Facility complies with the *Plan Update*, the person, municipal corporation, township or other political subdivision proposing to construct or modify the Solid Waste Facility shall enter into a development agreement with the District which memorializes the obligations that are the basis of the Board's conclusion that the General Plans and Specifications demonstrate that the proposed facility or its modification complies with the *Plan Update*. The party proposing to construct a Solid Waste Facility shall have an ongoing obligation to comply with the *Plan Update* and the development agreement.

### **WAIVER**

The Board reserves the right to waive application of the requirement for the submission and Board approval of General Plans and Specifications, and any portion or all of the Siting Strategy or otherwise grant exceptions to the rules of the District, or unilaterally modify or amend the Siting Strategy if the Board concludes such waiver, modification or amendment is in the best interest of the District, its residents and businesses and will assist the Board in the successful implementation of the *Plan Update* and further District goals with respect to solid waste and waste reduction activities.

A determination by the Board to construct or modify any District-owned Solid Waste Facility shall be deemed to be in compliance with the *Plan Update* and the other requirements of these rules.

### **Waiver for Legitimate Recycling Facilities**

The Board has a strong commitment to encourage the development of recycling and waste reduction activities that are consistent with the waste reduction, reuse and recycling goals as may be required by the Ohio

Revised Code, the Ohio Administrative Code, the State Solid Waste Management Plan and the *Plan Update*. Upon adequate demonstration to the Board of the likelihood of attainment of certain waste reduction goals, the Board may waive application of the Siting Strategy for any facility determined by the Board as likely to qualify as a “legitimate recycling facility” as defined in Section 3745-27-01(L)(2) of the Ohio Administrative Code.

In the event an Applicant desires a waiver from the application of the Siting Strategy for a legitimate recycling facility, the Applicant shall submit sufficient information to the Board regarding the proposed facility, the waste reduction method to be implemented, technology to be used in the operation of the facility, the source and type of waste to be received at the facility, the materials to be removed from the waste stream and the anticipated amount of waste reduction.

The Board shall review the proposal following the procedures and process in Step 2 of this Siting Strategy and determine whether the waste reduction standards required by OAC Section 3745-27-01(L)(2) are likely to be satisfied at the proposed facility. In the event the Board determines that such facility is likely to qualify as a legitimate recycling facility, the Board may grant a waiver of the application of the Siting Strategy to the proposed facility.

Such waiver may be made contingent upon the execution of a development agreement by which the proposed facility will be obligated to meet the proposed waste reduction standards on a continuing basis and such other obligations regarding operation of the facility as the Board shall require, including such recordkeeping and reporting requirements as may be necessary to establish compliance with the waste reduction goals. Failure to comply with the terms of any such agreement may result in the revocation of Board approval for operation of any such facility. As part of any such development agreement, the Board may require such bond or other assurances in such amounts as the Board determines, in its discretion, shall be necessary to assure that funds are available for the removal of the facility or conversion of the facility to a legal use in the event of non-compliance with waste reduction standards or other obligations as set forth in the development agreement.

#### **H. Contingencies for Capacity Assurance and District Program Implementation**

The District will immediately take the following steps if the contract with the Republic Services – Cherokee Run Landfill or any other facility or service provider that the District may use during the planning period is terminated for any reason.

1. Prepare bid documents and invite competitive bids from qualified firms for solid waste disposal or other necessary services.
2. Accept the best, responsive bid and enter into a contract.

The District reserves the right to reject any and all bids for any reason, or for no reason at all, and to re-bid the solid waste transfer, hauling, or disposal services under consideration.

The District believes that there will be sufficient solid waste disposal capacity within a reasonable hauling distance so that there will be several landfills that can accept District waste at any time during the planning period. A possible scenario for the disposal of District waste is presented on Table VI-4(A), but there are a number of factors that may change during the duration of this plan. Other landfills in west central Ohio may expand and new landfills may be developed.

**Table VI-1**  
**Waste Management Methods Used and Processing Capacity Needed for Each Year of the Planning Period**

Year	Solid Waste Generated	Source Reduction	Net Tons to be Managed by SWMD	Management Method Used and Processing Capacity Required in TPY					
				Recycling	Transfer	Yard Waste Composting	Incineration	Ash Disposal	Landfilling
2012	208,854	0	208,854	119,594	82,670	3,946	27	6	85,293
2013	223,959	0	223,959	134,700	81,881	5,733	27	6	83,505
2014	214,298	0	214,298	126,138	79,951	5,915	216	47	82,076
2015	213,150	0	213,150	125,782	79,054	5,915	405	88	81,136
2016	212,107	0	212,107	125,472	78,322	5,915	446	96	80,372
2017	211,069	0	211,069	125,195	77,591	5,915	446	96	79,611
2018	210,038	0	210,038	124,906	76,878	5,915	446	96	78,868
2019	209,012	0	209,012	124,825	75,964	5,915	446	96	77,924
2020	207,992	0	207,992	124,462	75,334	5,915	446	96	77,266
2021	208,073	0	208,073	124,934	74,958	5,915	446	96	76,875
2022	208,154	0	208,154	125,408	74,581	5,915	446	96	76,483
2023	208,237	0	208,237	125,884	74,202	5,915	446	96	76,089
2024	208,321	0	208,321	126,362	73,823	5,915	446	96	75,695
2025	208,405	0	208,405	126,843	73,443	5,915	446	96	75,299
2026	208,446	0	208,446	127,324	73,018	5,915	446	96	74,858
2027	208,487	0	208,487	127,807	72,592	5,915	446	96	74,417
2028	208,530	0	208,530	128,292	72,166	5,915	446	96	73,975
2029	208,574	0	208,574	128,779	71,739	5,915	446	96	73,531
2030	208,619	0	208,619	129,268	71,311	5,915	446	96	73,087

**Notes:**

Incineration is projected to change at the same rate as industrial sector employment (Table V-3)

**Source(s) of information:**

Solid Waste Generated - Table V-4

Recycling - Tables V-5 and V-6

Transfer - Table VI-2 and VI-3

Yard Waste - Table V-5

**Sample calculations:**

2012 Net tons = Solid waste generated - source reduction

208,854 tons = 208,854 tons - 0 tons

2012 Transfer capacity required = Residential/commercial transferred tonnage (Table VI-2) + industrial transferred tonnage (Table VI-3)

82,670 = 68,799 tons + 13,871 tons

2012 Landfilling capacity required = Net tons - (recycling + yard waste composting) - (incineration - ash disposal)

85,293 tons = 208,854 tons - (119,594 tons + 3,946 tons) - (27 tons - 6 tons)

**Table VI-2**  
**Summary for Residential/Commercial Waste Management Methods**

Year	Solid Waste Generated	Management Method in TPY			
		Source Reduction & Recycling	Yard Waste Composting	Transferred	Landfilling
2012	108,769	34,634	3,946	68,799	70,189
2013	105,809	32,667	5,733	67,360	67,408
2014	105,389	33,556	5,915	65,242	65,918
2015	104,970	33,637	5,915	64,748	65,419
2016	104,651	33,760	5,915	64,310	64,976
2017	104,333	33,916	5,915	63,841	64,503
2018	104,017	34,057	5,915	63,388	64,045
2019	103,700	34,404	5,915	62,732	63,382
2020	103,385	34,468	5,915	62,357	63,003
2021	103,205	34,534	5,915	62,113	62,756
2022	103,025	34,601	5,915	61,868	62,509
2023	102,845	34,668	5,915	61,623	62,262
2024	102,665	34,736	5,915	61,379	62,015
2025	102,485	34,803	5,915	61,135	61,768
2026	102,261	34,869	5,915	60,847	61,477
2027	102,038	34,936	5,915	60,560	61,187
2028	101,815	35,003	5,915	60,273	60,897
2029	101,592	35,070	5,915	59,986	60,608
2030	101,370	35,137	5,915	59,700	60,318

**Note:** Transferred waste is projected to change at the same rate as population from Table V-1.

**Source(s) of information:**

Tons of Generated - Table V-2

Source Reduction & Recycling - Table V-5

Organics Composting - Table V-5

2013 - ADR and Facility Data Report

**Sample calculations:**

2012 Landfilling = Solid waste generated - source reduction & recycling - yard waste composting

70,189 tons = 108,769 tons - 34,634 tons - 3,946 tons

2015 Transferred = 2015 Landfilling x average percentage of landfilled waste transferred from 2012-13

64,748 tons = 65,419 tons x 98.97%

**Table VI-3**  
**Summary for Industrial Waste Management Methods**

Year	Solid Waste Generated	Management Method in TPY				
		Source Reduction & Recycling	Incineration	Ash Disposal	Transferred	Landfilling
2012	99,996	84,960	27	6	13,871	15,015
2013	118,109	102,033	27	6	14,521	16,056
2014	108,843	92,582	216	47	14,710	16,092
2015	108,114	92,145	405	88	14,306	15,651
2016	107,390	91,711	446	96	14,012	15,329
2017	106,670	91,279	446	96	13,750	15,042
2018	105,955	90,849	446	96	13,490	14,758
2019	105,245	90,420	446	96	13,232	14,476
2020	104,540	89,994	446	96	12,977	14,197
2021	104,802	90,400	446	96	12,846	14,053
2022	105,064	90,807	446	96	12,713	13,908
2023	105,326	91,216	446	96	12,579	13,761
2024	105,590	91,627	446	96	12,444	13,614
2025	105,854	92,040	446	96	12,308	13,465
2026	106,118	92,454	446	96	12,171	13,315
2027	106,384	92,871	446	96	12,033	13,164
2028	106,649	93,289	446	96	11,893	13,011
2029	106,916	93,710	446	96	11,753	12,858
2030	107,183	94,132	446	96	11,611	12,703

**Source(s) of information:**

Solid Waste Generated - Table V-3

Source Reduction &amp; Recycling - Table V-6

Incineration and ash disposal - Table VI-1

2013 tonnage - ADR and Facility Data Report

**Sample calculations:**

2012 Landfilling = Solid waste generated - source reduction &amp; recycling - (incineration - ash disposal)

15,015 tons = 99,996 tons - 84,960 tons - (27 - 6)

2015 Transferred = 2015 Landfilling x average percentage of landfilled waste transferred from 2012-2013

14,306 tons = 15,651 x 91.4%

Table VI-4A  
Waste Management Method: Landfill

Facilities Used by District	County	Average Daily Waste (Tons)	AMDWR	Volume Used in 2012 (Yd <sup>3</sup> )	Remaining Capacity		Airspace		Tons of District SW Managed																		
					Years	Data Source	Gross (Yd <sup>3</sup> )	Net (Tons)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Celina Sanitary Landfill	Mercer	190	499	78,005	7.4	OEPA	699,598	384,762	25	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
Cherokee Run Landfill	Logan	807	4,500	228,590	70.5	OEPA	19,561,191	15,762,755	13	35,353	80,975	80,006	79,243	78,793	78,049	77,114	76,464	76,077	75,689	75,300	74,909	74,517	74,082	73,645	73,207	72,768	72,329
County Environmental of Wyandot	Wyandot	816	4,500	241,306	100*	OEPA	21,232,194	24,558,346	1,149	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
American Landfill	Stark	3,424	15,000	1,152,832	68.8	OEPA	83,464,395	67,606,160	6	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Rumpke Waste Hughes Rd. Landfill	Hamilton	1,604	4,000	438,900	61	OEPA	29,663,205	24,945,200	935	694	682	674	668	662	655	648	642	639	636	632	629	626	622	618	615	611	607
Stony Hollow Landfill	Montgomery	916	4,500	327,850	4	OEPA	1,309,019	955,545	415	305	300	296	294	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pine Grove Regional Facility	Fairfield	886	5,000	235,808	66.5	OEPA	20,101,387	15,076,040	101	13	13	13	13	13	12	12	12	12	12	12	12	12	12	12	12	11	11
Rumpke Brown County Landfill	Brown	1,637	3,000	634,497	68.8	OEPA	43,684,000	29,890,777	82,591	47,073	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Southside Landfill	Marion (IN)	DNR	DNR	510,090	29.3	IDEM	42,210,113	33,630,466	16	16	56,20	97	106	105	104	103	102	101	101	100	100	99	99	98	98	97	96
WM Outer Loop Recycling & Disposal Facility	Jefferson (KY)	DNR	DNR	1,107,019	50.2	KY EEC	55,105,310	43,707,054	42	42	41	41	40	40	40	39	39	39	38	38	38	38	38	37	37	37	37
Total/Average		1,285	5,125	3,337,788	52.65		317,030,412	212,810,051	85,293	83,505	82,076	81,136	80,372	79,611	78,868	77,924	77,266	76,875	76,483	76,089	75,695	75,299	74,858	74,417	73,975	73,531	73,087

AMDWR=Allowable Maximum Daily Waste Receipt

AMDWR=Allowable Maximum Daily Waste Receipt

**Note:** Waste from transfer stations, treatment facilities, and ash produced from waste-to-energy facilities has been included in this table.

Projections are based on the facilities used during 2012 and 2013.

Ash disposal from incineration (Table VI-4C) is projected to be landfilled at Southside Landfill.

Tonnage managed at Cherokee Run Landfill increases after 2013 due to a new contract between the District and Republic to manage all waste collected at the transfer station. Montgomery County also entered into an agreement with Republic, so all waste previously managed at Montgomery County Transfer Stations will be projected to be landfilled at Cherokee Run.

#### Source(s) of information:

Facilities - Table III-1

2012 and 2013 Ohio EPA Facility Data Report

2012 IDEM Indiana Municipal Solid Waste (MSW) Landfill Capacity & Estimated Life and Quarterly Facility Operating Reports

Kentucky Energy and Environmental Cabinet, 2011 Contained Landfill Remaining Permitted Airspace

\*Remaining capacity exceeds 100 years due to limited waste receipts in 2012.

#### Sample calculations:

$$2014 \text{ Stony Hollow Landfill} = \frac{2013 \text{ Stony Hollow Landfill}}{2013 \text{ total}} \times 2014 \text{ total}$$

$$682 \text{ tons} = \frac{694 \text{ tons}}{83,505 \text{ tons}} \times 82,076 \text{ tons}$$

**Table VI-4B**  
**Waste Management Method: Incinerator**

Facilities Used by District	County	Tons of District SW Managed												
		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Covanta Indianapolis, Inc.	Marion (IN)	27	27	216	405	446	446	446	446	446	446	446	446	446
<b>Total</b>		<b>27</b>	<b>27</b>	<b>216</b>	<b>405</b>	<b>446</b>	<b>446</b>	<b>446</b>	<b>446</b>	<b>446</b>	<b>446</b>	<b>446</b>	<b>446</b>	<b>446</b>

**Source(s) of information:**  
 Tables III-1 and VI-1



**Table VI-4C**  
**Waste Management Method: Transfer**

Facilities Used by District	County	Tons of District SW Managed																		
		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Miami County Solid Waste & Recycling Facility	Miami	82,495	81,692	79,767	78,872	78,142	77,412	76,700	75,789	75,161	74,785	74,409	74,031	73,653	73,273	72,850	72,425	72,000	71,574	71,147
Montgomery County South Transfer	Montgomery	23	17	17	16	16	16	16	16	16	16	15	15	15	15	15	15	15	15	15
Montgomery County North Transfer	Montgomery	96	120	117	116	115	114	113	111	110	110	109	109	108	108	107	106	106	105	105
Greenville Transfer Facility	Darke	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Midwest Environmental Resource Recovery*	Clark (IN)	42	42	41	41	40	40	39	39	39	38	38	38	38	38	37	37	37	37	37
Tradebe Treatment and Recycling*	Lake (IN)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Indy Disposal Solutions*	Marion (IN)	8	8	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Total		82,670	81,881	79,951	79,054	78,322	77,591	76,878	75,964	75,334	74,958	74,581	74,202	73,823	73,443	73,018	72,592	72,166	71,739	71,311

\*Special waste treatment plants; considered transfer stations in this table because waste will eventually be transferred to another facility for final disposal.

**Notes:** Projections are based on the facilities used during 2013.

**Source(s) of information:**

The total waste transferred is consistent with Table VI-1

**Sample calculations:**

$$\begin{array}{r}
 \text{2014 Miami County Solid Waste \& Recycling Facility} = \frac{\text{2013 Miami Co. Solid Waste \& Recycling Facility}}{\text{2013 total}} \times \text{2014 total} \\
 79,767 \text{ tons} = \frac{81,692 \text{ tons}}{81,881 \text{ tons}} \times 79,951 \text{ tons}
 \end{array}$$

Table VI-4D  
Waste Management Method: Recycling

Facilities Used by District Name	Tons of District SW Managed																		
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
WM Dayton MRF 1700 North Broad Street Fairborn, OH 45324 800-343-6047	2,698	3,038	2,845	2,837	2,830	2,824	2,818	2,816	2,808	2,818	2,829	2,840	2,850	2,861	2,872	2,883	2,894	2,905	2,916
Rumpke Recycling 1300 E. Monument Ave. Dayton, Ohio 45402	5,163	5,815	5,446	5,430	5,417	5,405	5,392	5,389	5,373	5,394	5,414	5,435	5,455	5,476	5,497	5,518	5,539	5,560	5,581
Republic Services of Dayton 1577 W River Rd. Dayton, OH 45418 937 288-8895	324	365	342	341	340	340	339	339	338	339	340	341	343	344	345	347	348	349	351
ABiBow Recycling LLC Angie Shred 300 Peters Ave. Troy, OH 45373 937 332-0300	291	328	307	306	305	305	304	304	303	304	305	306	308	309	310	311	312	313	315
Can-Du Recycling Polings Auto Parts 2226 N County Road 25A Troy, OH 45373 937 335-7855	97	109	102	102	102	102	101	101	101	102	102	102	103	103	103	104	104	105	105
G A Wintzer & Son 12279 Co. Rd. 25A/Dixie Hwy. Wapakoneta, Ohio 45895	3,052	3,438	3,219	3,210	3,202	3,195	3,188	3,186	3,176	3,188	3,201	3,213	3,225	3,237	3,249	3,262	3,274	3,287	3,299
Retail/Wholesale/Institutions Automotive/Service Stations Miami County Transfer Station	27,848	31,366	29,372	29,289	29,217	29,152	29,085	29,066	28,982	29,081	29,202	29,313	29,424	29,536	29,648	29,760	29,873	29,987	30,101
Goodwill Industries 1511 Kurtz Rd. Dayton, OH 45404 937 461-4800	465	524	490	489	488	487	486	485	484	486	488	489	491	493	495	497	499	501	503
	811	914	856	853	851	849	847	847	844	847	851	854	857	860	864	867	870	873	877
	996	1,122	1,051	1,048	1,045	1,043	1,040	1,040	1,037	1,041	1,045	1,049	1,053	1,057	1,061	1,065	1,069	1,073	1,077
All Other Residential/Commercial/Industrial Recycling Facilities	77,770	87,593	82,025	81,794	81,592	81,412	81,224	81,171	80,935	81,242	81,551	81,860	82,171	82,483	82,796	83,110	83,426	83,743	84,061
Total	119,594	134,700	126,138	125,782	125,472	125,195	124,906	124,825	124,462	124,934	125,408	125,884	126,362	126,843	127,324	127,807	128,292	128,779	129,268

Notes: Projections are based on the facilities used during the reference year.

Source(s) of information:

Facilities - Table II-5

Total tons recycled are consistent with Table VI-1

Sample calculations:

$$\begin{aligned}
 & 2013 \text{ WM Dayton MRF} = \frac{2012 \text{ WM Dayton MRF}}{2012 \text{ total}} \times 2013 \text{ total} \\
 & 3,038 \text{ tons} = \frac{2,698 \text{ tons}}{119,594 \text{ tons}} \times 134,700 \text{ tons}
 \end{aligned}$$

Table VI-4E  
Waste Management Method: Composting

Facilities Used by District Name		County	Tons of District SW Managed																		
			2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Dye Mill Road Facility 1200 Dye Mill Rd. Troy, OH 45373		Miami	1,950	2,986	3,080	3,080	3,080	3,080	3,080	3,080	3,080	3,080	3,080	3,080	3,080	3,080	3,080	3,080	3,080	3,080	3,080
City of Piqua Composting Facility 6030 N Piqua-Troy Rd. Piqua, OH 45356		Miami	655	428	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441
BR Mulch Inc. 620 Ginghamsburg Rd. Tipp City, OH 45371		Miami	506	358	369	369	369	369	369	369	369	369	369	369	369	369	369	369	369	369	369
Chaney's Nursery 1610 McKaig Rd. Troy, OH 45373		Miami	260	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR
Covington Village Yard Waste Collection		Miami	125	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR
Tipp City Yard Waste Collection		Miami	59	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR
Commercial Businesses Reporting Land Application of Composted Yard Waste		Miami	391	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR
Bradford Village Yard Waste Collection		Miami	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR
Troy Yard Waste Collection		Miami	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR
West Milton Yard Waste Collection		Miami	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR
Roe Transportation		Shelby	0	1,962	2,024	2,024	2,024	2,024	2,024	2,024	2,024	2,024	2,024	2,024	2,024	2,024	2,024	2,024	2,024	2,024	2,024
Totals			3,946	5,733	5,915	5,915	5,915	5,915	5,915	5,915	5,915	5,915	5,915	5,915	5,915	5,915	5,915	5,915	5,915	5,915	5,915

Notes: Projections are based on the facilities used during 2012 and 2013

#### Source(s) of information:

2012 tons - Table III-5

Total tons recycled - Table VI-1

#### Sample calculations

$$2014 \text{ Dye Mill Rd. Facility} = \frac{2013 \text{ Dye Mill Rd. Facility}}{2013 \text{ total}} \times 2014 \text{ total}$$

$$3,080 \text{ tons} = \frac{2,986 \text{ tons}}{5,733 \text{ tons}} \times 5,915 \text{ tons}$$

**Table VI-5**  
**Implementation Schedule for Facilities,**  
**Strategies, Programs and Activities: Dates and Description**

Facility, Strategy, Program, or Activity	Program ID	Location	Description of Program/Facility	Approximate Dates	
				Begin	Cease
Collection Programs					
Curbside Recycling	MC-1	Covington Village	Each political subdivision is expected to continue their Pay-As-You-Throw non-subscription curbside recycling program. Residents in each political subdivision do not have to opt-in to receive curbside recycling. Program is provided to all single-family housing units. Resident fees are based on the volume of garbage disposed, but unlimited recycling is provided at no additional cost. Programs accept at a minimum aluminum cans, tin/steel cans, glass, #1-#7 plastic bottles and jugs, mixed paper, and cardboard.	Ongoing	Ongoing
		West Milton		Ongoing	Ongoing
		Tipp City		Ongoing	Ongoing
		Bradford Village	Each political subdivision is expected to continue their non-subscription curbside recycling program. Residents in each political subdivision do not have to opt-in to receive curbside recycling. Program is provided to all single-family housing units. Materials accepted vary by program but at a minimum include #1-2 plastic bottles, aluminum cans, tin/steel cans, glass bottles, corrugated cardboard, chipboard/paperboard, and newsprint.	2012	Ongoing
		Piqua City		Ongoing	Ongoing
		Pleasant Hill Village		Ongoing	Ongoing
		Troy City	Each political subdivision is expected to continue their subscription curbside recycling program. Residents in each political subdivision that live in single family housing units can opt-in to receive curbside recycling services. Programs accept at a minimum aluminum cans, tin/steel cans, glass, #1 and #2 plastic bottles, newspaper, and cardboard.	Ongoing	Ongoing
		Bethel Township		Ongoing	Ongoing
		Concord Township		Ongoing	Ongoing
		Elizabeth Township		Ongoing	Ongoing
	Lostcreek Township	Each political subdivision is expected to continue their subscription curbside recycling program. Residents in each political subdivision that live in single family housing units can opt-in to receive curbside recycling services. Programs accept at a minimum aluminum cans, tin/steel cans, glass, #1 and #2 plastic bottles, newspaper, and cardboard.	Ongoing	Ongoing	
	Monroe Township		Ongoing	Ongoing	
	Newton Township		Ongoing	Ongoing	
	Spring Creek Township	The District will develop a curbside trash and recycling consortium in Miami County to improve the quality and reduce the cost of services provided. The District will promote the opportunity, provide seed money for the process, attend meetings, and answer questions from participants or the public.	Ongoing	Ongoing	
	Staunton Township		Ongoing	Ongoing	
Initiative MC-1.1 Community Consortium		The District will develop a curbside trash and recycling consortium in Miami County to improve the quality and reduce the cost of services provided. The District will promote the opportunity, provide seed money for the process, attend meetings, and answer questions from participants or the public.	2016	2030	
Initiative MC-1.2 Curbside Recycling Webpage		The District will create a section on its website to include detailed information on each curbside program operating in the District.	2016	2016	
Initiative MC-1.3 Subscription Curbside Promotion		The District will implement a variety of strategies to promote participation in subscription curbside recycling programs. Strategies could include working with haulers to raise awareness of the availability of curbside recycling services, using mailers, placing ads in newspapers, and adding information on the District website identifying haulers that provide subscription curbside recycling.	2016	2030	

**Table VI-5 (continued)**  
**Implementation Schedule for Facilities,**  
**Strategies, Programs and Activities: Dates and Description**

Facility, Strategy, Program, or Activity	Program ID	Location	Description of Program/Facility	Approximate Dates	
				Begin	Cease
Drop-Off Recycling	MC-2	Bethel Twp./Tipp City	Full-time, full-service recycling drop-off locations accept at a minimum aluminum and steel containers, paper, #1 and #2 plastics, glass, and cardboard. The District will continue to manage the site located at the Miami County Transfer Station. All other drop-offs will continue to be operated and maintained by the political subdivision in which they are located.	Ongoing	Ongoing
		Bradford Village		Ongoing	2012
		City of Troy		Ongoing	Ongoing
		Monroe Twp./Tipp City		Ongoing	2012
		Union Twp./Village of Laura		Ongoing	Ongoing
Initiative MC-2.1 <i>Bar/Restaurant Consortium</i>			The District will work with restaurants and bars to develop a consortium for recycling services. The District will promote the opportunity to targeted businesses, provide seed money for the process, attend meetings, and answer questions from participants.	2016	2030
Initiative MC-2.2 <i>Bar/Restaurant Glass Drop-Off</i>			If Initiative MC-2.1 does not yield a cooperative, the District will evaluate potential expansions or improvements to the current glass recycling drop-off program for bars and restaurants.	2016	2030
Initiative MC-2.3 <i>Drop-Off Recycling Webpage</i>			The District will create a section on its website to include detailed information on each drop-off site operating in the District.	2016	2016
Initiative MC-2.4 <i>Statewide Glass Initiative</i>			The District will use funds awarded by Ohio EPA's 2014 Statewide Glass Initiative Grant to purchase containers to collect glass recyclables and promotional items for program participants.	2014	2015
Initiative MC-2.5 <i>Increasing Drop-Off Participation</i>			The District will utilize secondary research from the Miami Valley Regional Planning Commission to identify prime areas to target for additional education/outreach activities focused on increasing participation in the drop-off recycling program.	2016	Ongoing
Yard Waste Management	MC-3	Public and private entities and the District	Registered composting facilities and collection activities operated by private and public sector entities are expected to continue operating. The District will continue accepting holiday trees at the Transfer Station. Technical assistance will be provided to political subdivisions interested in expanding current organics recycling programs or implementing new organics recycling programs.	Ongoing	Ongoing

**Table VI-5 (continued)**  
**Implementation Schedule for Facilities,**  
**Strategies, Programs and Activities: Dates and Description**

Facility, Strategy, Program, or Activity	Program ID	Location	Description of Program/Facility	Approximate Dates	
				Begin	Cease
Yard Waste and Organics Recycling Webpage	Initiative MC-3.1		The District will create a section on its website to include detailed information on each yard waste collection program and composting site operating in the District.	2017	2017
		District	The District will continue hosting multiple user fee-based HHW collection events annually. The District will continue to annually evaluate the feasibility and demand for a permanent, year-round HHW collection center.	Ongoing	Ongoing
Household Hazardous Waste Management	MC-4	District			
Scrap Tire Recycling	Initiative MC-4.1 HHW Webpage		The District will create a section on its website to include detailed information on upcoming HHW collections and other useful information on managing HHW.	2017	2017
		District	The District will continue to accept scrap tires at the Miami County Transfer Station for a fee. The District will apply for scrap tire grants on an as-needed basis.	2011	Ongoing
Automobile Batteries and Used Oil Collection	Initiative MC-5.1 Scrap Tire Webpage		The District will create a section on its website to include detailed information on upcoming scrap tire collections and other useful information on managing scrap tires.	2017	2017
		District	Automotive (lead-acid) batteries will continue to be accepted at the Miami County Transfer Station. The District will also maintain a current list of acceptable lead-acid battery and used oil recyclers in the Miami County area.	2012	Ongoing

**Table VI-5 (continued)**  
**Implementation Schedule for Facilities,**  
**Strategies, Programs and Activities: Dates and Description**

Facility, Strategy, Program, or Activity	Program ID	Location	Description of Program/Facility	Approximate Dates	
				Begin	Cease
Special Event Recycling	Initiative MC-6.1 <i>LAB and Used Oil Webpage</i>		The District will create a section on its website to include detailed information on upcoming automobile battery and used oil collections and other useful information on managing these materials.	2016	2016
	MC-7	District	The District will assist with recycling at special events upon request by providing labor and loaning temporary collection containers.	2009	Ongoing
Electronics Recycling	Initiative MC-7.1 <i>Vendor Agreement Assistance</i>		The District will provide technical assistance upon request to special event managers to create vendor agreements that encourage or require food/beverage vendors to provide products in recyclable packaging.	2016	2030
	MC-8	District	The District will continue to host electronics collection events annually. The District will also continue its policy to remove electronics from waste when identified at the transfer station. The District will evaluate the option of accepting business generated electronic waste. In addition, the District will maintain an up-to-date list of electronics recyclers in the Miami County area.	2011	Ongoing
Appliance Recycling	Initiative MC-8.1 <i>Securing Television Recycling Vendor</i>		The District will evaluate options for recycling televisions locally or regionally and work with Goodwill Industries on options for dealing with televisions.	2016	2016
	Initiative MC-8.2 <i>E-Waste Webpage</i>		The District will create a section on its website to include detailed information on upcoming electronics collections and other local opportunities to recycle electronics.	2016	2016
	MC-9	District	The District will continue to accept appliances for recycling at the Transfer Station. Freon removal services will continue to be available for a reasonable fee.	Ongoing	Ongoing

**Table VI-5 (continued)**  
**Implementation Schedule for Facilities,**  
**Strategies, Programs and Activities: Dates and Description**

Facility, Strategy, Program, or Activity	Program ID	Location	Description of Program/Facility	Approximate Dates	
				Begin	Cease
Market Development Programs					
Recycling Market Development Grant	MC-10	District	The District will act as a pass-through agent for Ohio EPA's Market Development Grant. The District will also assist viable candidates with their applications for the Market Development Grant.	2009	Ongoing
"Buy Recycled" Promotion	MC-11	District	The District will purchase office supplies, promotional materials, and other goods made with recycled-content materials as often as possible. The District will also maintain information about products containing recycled materials.	Ongoing	Ongoing
Grant Programs					
Internal Grant	MC-12	District	The District will continue to provide funding for the Miami County Court System's litter collection program, which utilizes community service workers to collect litter from roadways and the area surrounding the transfer station.	Ongoing	Ongoing
	Initiative MC-12.1 Source Separated Recyclables Collection		The District will work with the court system to provide recycling bags and develop procedures for separating recyclable litter from waste so it can be diverted.	2016	2016
	Community Recycling Grant	MC-13	District	The District will apply for Ohio EPA's Community Recycling Grant on an as-needed basis when funding is available. The District will also promote the grant opportunity to political subdivisions within Miami County.	Ongoing
Litter Collection Grant	MC-14	District	The District will apply for Ohio EPA's Litter Collection & Prevention Grant on an as-needed basis when funding is available. The District will also promote the grant opportunity to targeted groups.	Ongoing	Ongoing
School Waste Reduction Grant	MC-15	District	The District will annually provide \$500 grants up to \$3,000 total to local schools that apply. Funding may be used on waste reduction activities, programming, and education.	Ongoing	Ongoing



**Table VI-5 (continued)**  
**Implementation Schedule for Facilities,**  
**Strategies, Programs and Activities: Dates and Description**

Facility, Strategy, Program, or Activity	Program ID	Location	Description of Program/Facility	Approximate Dates	
				Begin	Cease
Education and Awareness Programs					
Education and Awareness	MC-16	District	The District will provide education and awareness using the following strategies: school presentations, contests, displays, publicity and advertising, flyers and brochures, the District website, and industrial sector technical assistance.	2010	Ongoing
Initiative MC-16.1 <i>Promotion of Presentations to Schools</i>			The District will conduct a promotional campaign to schools to increase the quantity of presentations conducted.	2016	2020
Initiative MC-16.2 <i>Education and Awareness Webpage</i>			The District will update and expand its website.	2011	2017
Economic Incentive Programs					
Miami County Transfer Facility Pay-Per-Bag	MC-17	District	Garbage bags will be sold to residents at the Miami County Transfer Station. Residents will pay per bag disposed, but unlimited recycling will be provided at no extra cost.	Ongoing	Ongoing
Pay-As-You-Throw Technical Assistance	MC-18	District	The District will provide technical assistance upon request to political subdivisions interested in implementing PAYT systems.	Ongoing	Ongoing
Other Programs					
Miami County Debris Management Guide	MC-19	District	The District will continue to update the Miami County Debris Management Guide on an as-needed basis. If an emergency debris event occurs, the District will assist with oversight and coordination of debris management operations, and aid in the disposal of debris. The District's office will also be available to use as a centralized Command Post for Debris Managers throughout the county.	2009	Ongoing
Annual Program Performance Assessment	MC-21	District	The District will annually evaluate each program and identify opportunities to improve program performance or effectiveness.	2016	Ongoing
Initiative MC-21.1 <i>Development of Assessment Tool</i>			The District will develop a spreadsheet containing matrices by which each program will be evaluated.	2015	2016
Other Facilities					
Facilities: Miami County Transfer Station	MC-20	District	This facility will continue to operate throughout the planning period.	Ongoing	Ongoing

**Table VI-6**  
**Facilities Identified and Current Designations**

<b>Facilities Identified</b>
Ohio Permitted and Licensed Solid Waste Disposal, Transfer and Resource Recovery Facilities
Permitted and Licensed Out-of-State Solid Waste Landfill Facilities
Recycling and Compost Facilities*
<b>Designated Facilities - ORC 343.14</b>
Miami County Transfer Station

\* All of the recycling and composting facilities presented in the tables in Section III are identified for the purposes of this Plan Update.

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

The Ohio EPA 1995 *State Plan* establishes seven goals solid waste management districts (SWMD) are required to achieve in their solid waste management plans. These goals are as follows:

Goal #	Description
#1	Ensure the availability of reduction, recycling and minimization alternatives for municipal solid waste by ensuring 90% of residents have access to curbside and drop-off programs. The District must also demonstrate that there are adequate opportunities for industrial businesses to recycle.
#2	Reduce and/or recycle at least 25% of the total waste generated by the residential/commercial sector and 50% of the total waste generated by the industrial sector.
#3	Provide informational and technical assistance on source reduction.
#4	Provide informational and technical assistance on recycling, reuse, and composting opportunities.
#5	Strategies for scrap tires and household hazardous wastes.
#6	Annual reporting of plan implementation.
#7	Market development strategy (optional).

SWMDs are encouraged to meet both Goal #1 and Goal #2, but are only required to demonstrate compliance with one goal or the other. Goals #3 through #6 are mandated goals to which SWMDs must demonstrate compliance, and Goal #7 is optional. This section will cover the goal selected by the District, its progress toward achieving the goal, and plans to maintain compliance throughout the planning period.

### A. Compliance with Goal #2

One of the original, main objectives of solid waste planning in Ohio was to reduce reliance on landfills. The goal of achieving waste diversion best embodies the purpose and mission of SWMDs, rather than the goal of simply providing programs for the sake of earning “access credits.” Therefore, the District is committed to complying with Goal #2<sup>1</sup>. This requires solid waste districts to:

- Reduce or recycle at least 25% of the residential/commercial waste generated; and

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<sup>1</sup> Tables VII-1 and VII-2 are not applicable to demonstrating compliance with Goal #2 and have been omitted.

- Reduce or recycle at least 50% of the industrial waste generated.

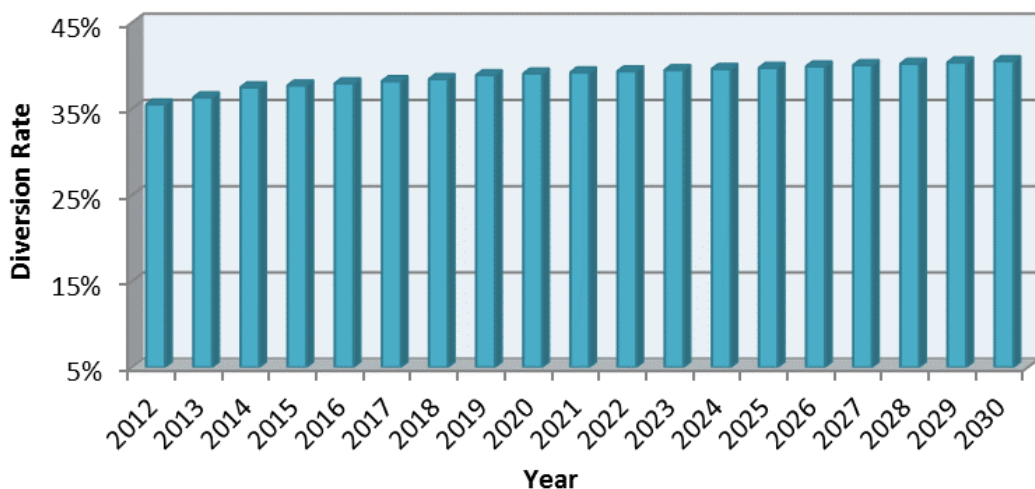
## B. Demonstration of Compliance with Goal #2

In 2012, 35 percent of the District's residential/commercial waste stream was recycled or composted and thus diverted from landfills (Table VII-3). Residential/commercial waste reduction includes tons recycled and tons composted. The 35 percent waste reduction equates to a per capita waste reduction rate of 2.06 pounds per person per day (PPD).

The District is committed to maintaining or exceeding the state goals for recycling and waste reduction. The programs discussed in Section V and Table VI-5 demonstrate the District's plans to continue increasing recyclables and waste reduction throughout the planning period.

The residential/commercial sector is projected to begin the planning period with a waste reduction rate of 38 percent or 2.12 PPD. The sector's waste reduction is anticipated to increase to 40% or 2.18 PPD by the end of the planning period. This is a 2.7 percent increase in per capita waste reduction from 2016 to 2030. Increases in per capita waste reduction are based on the District's pledge to maintain and/or improve successful waste diversion programs. The following graph depicts the residential/commercial sector waste reduction rate throughout the planning period.

### 2012 – 2030 Residential/Commercial Waste Reduction Percentage



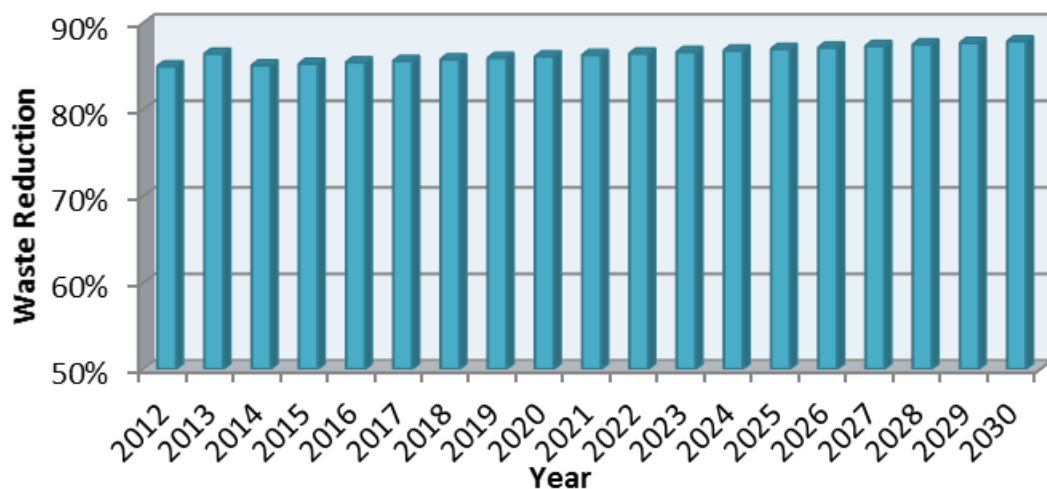
The industrial sector achieved an 85 percent reduction in waste in 2012 (Table VII-4). This equates to a per capita waste reduction rate of 4.53 PPD. Industrial sector waste reduction includes recycling, composting, and volume reduction resulting from incineration. Industries typically have higher waste reduction rates when compared to the residential/commercial

sector because of the significant financial savings associated with minimizing wasted materials in the manufacturing process. Additionally, industries tend to produce predictable, homogenous waste streams, allowing manufacturers to find brokers or processors to purchase or manage their waste materials even if the materials are not accepted by traditional recycling programs.

The industrial sector is projected to begin the planning period with a waste reduction rate of 86 percent or 4.92 PPD. The sector's waste reduction is anticipated to increase to 88 percent or 5.02 PPD by the end of the planning period. This is an increase in 1.8 percent from 2016 to 2030. Increases in industrial sector waste reduction are in part based on the continuation of District programming. Increases are also based on the assumption that, as manufacturing costs in America continue to rise faster than foreign competitors, industries will increase participation in recycling and discover new ways to decrease costs in order to compete in the global marketplace.

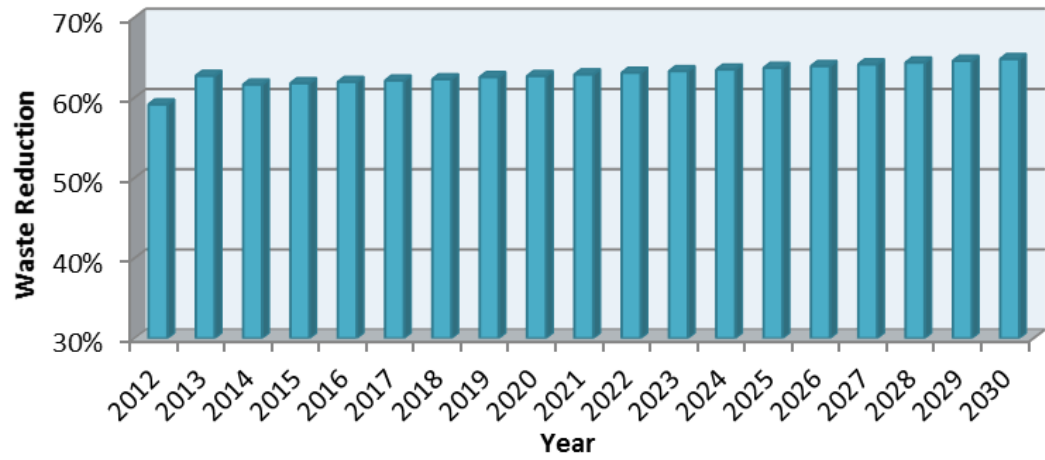
The following figure presents the industrial sector's waste reduction rate throughout the planning period.

**2012 – 2030 Industrial Waste Reduction Percentage**



Overall waste reduction in the District equaled 59% in 2012 (Table VII-5). This equates to 6.58 PPD. The District is projected to begin the planning period with a waste reduction rate of 62 percent or 7.05 PPD. Overall waste reduction is anticipated to increase to 65% or 7.20 PPD by the end of the planning period. This is a 2.1 percent increase in per capita waste reduction from 2016 to 2030. The following graph depicts all sectors waste reduction rate throughout the planning period.

### 2012 – 2030 Overall District Waste Reduction Percentage



**Table VII-3**  
**Annual Rate of Waste Reduction: Residential/Commercial Waste**

Year	Recycling	Composting	Landfill	Total Waste Reduction	Population	Waste Reduction Rate (%)	Per Capita Waste Reduction Rate (lbs/person/day)
2012	34,634	3,946	70,189	38,580	102,828	35%	2.06
2013	32,667	5,733	67,408	38,401	102,708	36%	2.05
2014	33,556	5,915	65,918	39,471	102,587	37%	2.11
2015	33,637	5,915	65,419	39,552	102,467	38%	2.12
2016	33,760	5,915	64,976	39,675	102,442	38%	2.12
2017	33,916	5,915	64,503	39,831	102,418	38%	2.13
2018	34,057	5,915	64,045	39,972	102,394	38%	2.14
2019	34,404	5,915	63,382	40,319	102,369	39%	2.16
2020	34,468	5,915	63,003	40,382	102,345	39%	2.16
2021	34,534	5,915	62,756	40,449	102,453	39%	2.16
2022	34,601	5,915	62,509	40,516	102,561	39%	2.16
2023	34,668	5,915	62,262	40,583	102,670	39%	2.17
2024	34,736	5,915	62,015	40,650	102,778	40%	2.17
2025	34,803	5,915	61,768	40,718	102,886	40%	2.17
2026	34,869	5,915	61,477	40,784	102,949	40%	2.17
2027	34,936	5,915	61,187	40,851	103,013	40%	2.17
2028	35,003	5,915	60,897	40,917	103,076	40%	2.18
2029	35,070	5,915	60,608	40,984	103,139	40%	2.18
2030	35,137	5,915	60,318	41,051	103,203	40%	2.18

**Source(s) of information:**

Recycling and Composting - Table VI-2

Landfill - Table VI-2

Population - Table V-1

**Sample calculation (2012):**

Recycling + composting = Total waste reduction

34,634 tons + 3,946 tons = 38,580 tons

Total waste reduction ÷ (total waste reduction + landfill) x 100 = Waste reduction rate

38,580 tons ÷ (38,580 tons + 70,189 tons) x 100 = 35%

(Total waste reduction x 2,000 lbs) ÷ (district population x 365 days) = Per capita waste reduction rate

(38,580 tons x 2,000 lbs) ÷ (102,828 residents x 365 days) = 2.06 lbs/person/day

**Table VII-4**  
**Annual Rate of Waste Reduction: Industrial Waste**

Year	Recycling	Incineration	Ash Disposal	Landfill	Tons Waste Reduction	Population	Waste Reduction Rate (%)	Per Capita Waste Reduction Rate (lbs/person/day)
2012	84,960	27	6	15,015	84,981	102,828	85%	4.53
2013	102,033	27	6	16,056	102,053	102,708	86%	5.44
2014	92,582	216	47	16,092	92,751	102,587	85%	4.95
2015	92,145	405	88	15,651	92,463	102,467	86%	4.94
2016	91,711	446	96	15,329	92,060	102,442	86%	4.92
2017	91,279	446	96	15,042	91,628	102,418	86%	4.90
2018	90,849	446	96	14,758	91,198	102,394	86%	4.88
2019	90,420	446	96	14,476	90,769	102,369	86%	4.86
2020	89,994	446	96	14,197	90,343	102,345	86%	4.84
2021	90,400	446	96	14,053	90,749	102,453	87%	4.85
2022	90,807	446	96	13,908	91,156	102,561	87%	4.87
2023	91,216	446	96	13,761	91,565	102,670	87%	4.89
2024	91,627	446	96	13,614	91,976	102,778	87%	4.90
2025	92,040	446	96	13,465	92,389	102,886	87%	4.92
2026	92,454	446	96	13,315	92,803	102,949	87%	4.94
2027	92,871	446	96	13,164	93,220	103,013	88%	4.96
2028	93,289	446	96	13,011	93,638	103,076	88%	4.98
2029	93,710	446	96	12,858	94,059	103,139	88%	5.00
2030	94,132	446	96	12,703	94,481	103,203	88%	5.02

**Source(s) of information:**

Recycling, Incineration, Ash Disposal, and Landfill - Table VI-3

Population - Table V-1

**Sample calculation (2012):**

Recycling + (incineration - ash disposal) = Total waste reduction

84,960 tons + (27 tons - 6 tons) = 84,981 tons

Total waste reduction ÷ (total waste reduction + landfill) x 100 = Waste reduction rate

84,981 tons ÷ (84,981 tons + 15,009 tons) x 100 = 85%

(Total waste reduction x 2,000 lbs) ÷ (district population x 365 days) = Per capita waste reduction rate

(84,981 tons x 2,000 lbs) ÷ (102,828 residents x 365 days) = 4.53 lbs/person/day



**Table VII-5**  
**Annual Rate of Waste Reduction: Total District Solid Waste**

Year	Recycling	Composting	Incineration	Ash Disposal	Landfill	Tons Waste Reduction	Population	Waste Reduction Rate (%)	Per Capita Waste Reduction Rate (lbs/person/day)
2012	119,594	3,946	27	6	85,293	123,561	102,828	59%	6.58
2013	134,700	5,733	27	6	83,505	140,454	102,708	63%	7.49
2014	126,138	5,915	216	47	82,076	132,222	102,587	62%	7.06
2015	125,782	5,915	405	88	81,136	132,014	102,467	62%	7.06
2016	125,472	5,915	446	96	80,372	131,735	102,442	62%	7.05
2017	125,195	5,915	446	96	79,611	131,459	102,418	62%	7.03
2018	124,906	5,915	446	96	78,868	131,169	102,394	62%	7.02
2019	124,825	5,915	446	96	77,924	131,088	102,369	63%	7.02
2020	124,462	5,915	446	96	77,266	130,725	102,345	63%	7.00
2021	124,934	5,915	446	96	76,875	131,198	102,453	63%	7.02
2022	125,408	5,915	446	96	76,483	131,672	102,561	63%	7.03
2023	125,884	5,915	446	96	76,089	132,148	102,670	63%	7.05
2024	126,362	5,915	446	96	75,695	132,626	102,778	64%	7.07
2025	126,843	5,915	446	96	75,299	133,106	102,886	64%	7.09
2026	127,324	5,915	446	96	74,858	133,587	102,949	64%	7.11
2027	127,807	5,915	446	96	74,417	134,070	103,013	64%	7.13
2028	128,292	5,915	446	96	73,975	134,556	103,076	65%	7.15
2029	128,779	5,915	446	96	73,531	135,043	103,139	65%	7.17
2030	129,268	5,915	446	96	73,087	135,532	103,203	65%	7.20

**Source(s) of information:**

Recycling, Composting, Incineration, Ash Disposal, and Landfill - Table VI-1

Population - Table V-1

**Sample calculation (2012):**

Recycling + composting + (incineration - ash disposal) = Total waste reduction

119,594 tons + 3,946 tons + (27 tons - 6 tons) = 123,561 tons

Total waste reduction ÷ (total waste reduction + landfill) x 100 = Waste reduction rate

123,561 tons ÷ (123,561 tons + 85,293 tons) x 100 = 59%

(Total waste reduction x 2,000 lbs) ÷ (district population x 365 days) = Per capita waste reduction rate

(123,561 tons x 2,000 lbs) ÷ (102,828 residents x 365 days) = 6.58 lbs/person/day

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

This section of the Plan provides information on the District's revenues and expenditures. The revenues and expenditures presented for 2012 through 2014 are based on actual revenues received and costs expended. The planning period includes cost projections based on these initial years.

Each individual program includes a projection on the funds needed to operate. The District presents each line item in the budget as an estimate and should not be viewed as an absolute budget. The budget presented in this *Plan Update* is a demonstration that the District can implement the initiatives, strategies, programs and facilities detailed in this *Plan Update*. The budget is to be reviewed as a plan budget with anticipation that circumstances on actual revenues and costs may change and adjustments will be made by the District as appropriate. The tables referenced throughout Section VIII of this *Plan Update* are included at the end of the section.

In this section, information submitted to Ohio EPA on the District's Quarterly Fee Reports (QFRs) will not match actual revenue and expenses presented in Tables VIII-3, VIII-5 and VIII-8. The reason for the discrepancy is that revenue and operating expenses from the Miami County Transfer Station were not included in QFRs but were incorporated into the *Plan Update*.

The following table compares the differences in these values from 2012:

Variations Between Quarterly Reports and Plan Schedules in Table VIII-3		
Description	2012	Explanation
Total Revenue Reported in EPA Quarterly Fee Reports	\$129,614.51	The Quarterly Fee Reports did not include the revenue and expenses from the operation of the Miami County Transfer Station.
Total Revenue Presented in Table VIII-3	\$5,279,416	
Total Expenses Reported in EPA Quarterly Reports	\$129,615	
Total District Expenses Reported in Table VIII-5	\$105,119	

### A. Funding Mechanisms

#### 1. District Disposal Fees

Table VIII-1 is not applicable to the District because the District does not currently assess a tiered disposal fee. The District is not proposing to adopt or impose a tiered disposal fee with the ratification of the *Plan Update* or at any juncture during the current planning period.

## 2. **Generation Fee**

The District does not currently assess a generation fee, thus, Table VIII-2 is not applicable to the District. The District is not proposing to adopt or impose a generation fee with the ratification of the *Plan Update* or at any juncture during the current planning period.

The District reserves the right to implement a generation fee at any point in the planning period. Any implementation of a generation fee will require the Policy Committee to follow the requirements in the Ohio Revised Code prior to enacting the generation fee including public comment and ratification of any proposed generation fees.

## 3. **Summary of District Revenues**

Table VIII-3, "Summary of Revenue Generated and Mechanisms Used," presents the District's actual and estimated revenues from 2012 to 2030. Estimated revenues include tipping fees collected at the Miami County Transfer Station, recycling revenue, and miscellaneous revenue. Miscellaneous revenues mainly includes fees collected by the transfer station from municipalities and other sources and reimbursements from Ohio EPA.

The following table summarizes the 2016 District revenue:

Revenue Source	2016 Projected Revenue Total
<b>Transfer Station Tipping Fees</b>	<b>\$4,545,493</b>
Transfer station tipping fees are collected on solid waste delivered to the Miami County Solid Waste Transfer Station. Tipping fee revenue projections from 2016-2030 are calculated by multiplying projected in-district tonnage plus out-of-district tonnage that will be managed at the transfer station by projected per ton tipping fees plus state fees. This line item also includes the Ohio EPA fee of \$4.75 per ton.	
<b>Recycling Revenue</b>	<b>\$58,386</b>
Revenue generated from the sale of secondary commodities collected at the transfer station. Recycling revenue projections from 2016-2030 are projected to increase at 0.5 percent annually. While most commodities are expected to increase at a rate of 1.8 percent annually <sup>1</sup> , a more modest increase was selected	

<sup>1</sup> U.S. Consumer Price Index, June 2013.

Revenue Source	2016 Projected Revenue Total
because of the volatile nature of the secondary commodities market.	
<b>Waiver Fee Revenue</b>	<b>\$11,371</b>
Waiver fees are collected on tonnage from industries that have requested to deliver waste generated in the District to a facility other than the Miami County Transfer Station. Waiver fee revenue projections from 2016-2030 are projected based on the total tons estimated to be sent to other facilities by industries with waivers and the estimated per ton waiver fee.	
<b>Miscellaneous Revenue</b>	<b>\$21,951</b>
Miscellaneous revenue includes revenue collected from vehicle weight surcharges, the sale of products, the sale of bags for the Blue Bag program, refunds, and reimbursements from the State. Miscellaneous revenue projections from 2016-2030 are projected to increase at 1.8 percent annually based on the U.S. Consumer Price Index.	

The Miami County Transfer Station is the only designated facility for all municipal solid waste generated in the District. Tipping fees collected at the transfer station cover its operational costs as well as District programming.

The transfer facility charge on incoming waste was \$57.05 per ton plus an Ohio EPA Fee of \$4.75 per ton, or a total of \$61.80 per ton from the reference year to 2014. The Board of Directors passed a resolution to reduce the tipping fee to \$53.05 per ton plus the \$4.75 per ton fee for Ohio EPA, or a total of \$57.80 per ton effective January 1, 2015. The District relies on the tipping fee approved pursuant to the procedures required by Chapter 343 of the Ohio Revised Code as a rate and charge. The revenue generated from this rate and charge provides the funds necessary to manage and dispose of the waste that is delivered to the transfer facility and implement the Solid Waste Management Plan. Table VIII-3 presents the projected revenue generated by the tipping fee at the Miami County Transfer Station, recycling revenues and miscellaneous revenues. Table VI-4C presents the amount of in-district waste that is anticipated to be managed at the transfer facility during each year of the planning period.

The District Board of Directors reserves its right to determine the most appropriate fee schedule and fee collection mechanism to fund the operation of the transfer station and implementation of the Plan consistent with the statutory authority of Chapter 3734 and

343 of the Ohio Revised Code; and specifically, section 343.08, without amending the Plan.

Tipping fees are based on current and projected economic conditions at the Miami County Transfer Station. The District projects that tipping fees will remain flat throughout the planning period; however, the District reserves the right to increase or decrease the fees as needed, based on current and/or projected future economic conditions for each year of the planning period. The District also reserves the right to create new fees for additional services or eliminate fees and their associated services throughout the planning period. The following table summarizes the tipping fee adjustments from 1985-2015.

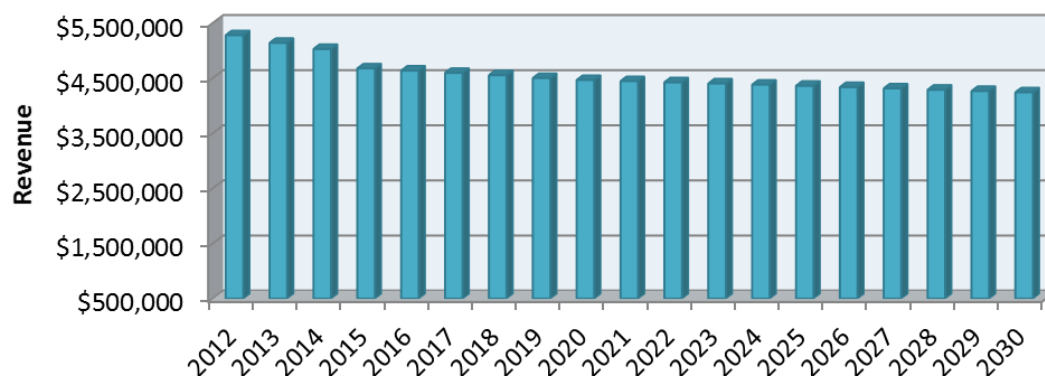
Date	Tipping Fee
July 1, 1985	Increased from \$24.10 to \$25.85
January 1, 1989	Increased from \$25.85 to \$26.85
January 1, 1990	Increased from \$26.85 to \$40.00
January 1, 1992	Increased from \$40.00 to \$47.00
January 1, 1994	Increased from \$47.00 to \$50.00
March 27, 1998	Decreased from \$50.00 to \$44.50
February 1, 2002	Increased from \$44.50 to \$46.50
September 1, 2005	Increased from \$46.50 to \$50.00
March 1, 2006	Increased from \$50.00 to \$51.50*
November 20, 2006	Increased from \$51.50 to \$55.00*
January 22, 2007	Decreased from \$55.00 to \$54.30*
August 1, 2008	Increased from \$54.30 to \$57.80*
July 1, 2009	Increased from \$57.80 to \$59.05**
April 1, 2010	Increased from \$59.05 to \$61.80**
January 1, 2015	Decreased from \$61.80 to \$57.80**

\*Includes \$3.50/ton Ohio EPA Fee

\*\*Includes \$4.50/ton Ohio EPA Fee

Total revenues are projected to be \$4,637,200 in 2016 and \$4,242,630 in 2030.

The following figure presents the District's actual and projected total revenue from 2012 to 2030.

**2012 – 2030 Total District Revenue****B. Cost of Plan Implementation**

Tables VIII-4A and VIII-4B, “Anticipated Loans Secured by the District,” present the status of the District’s bonds to modify the Miami County Transfer Facility. Currently, the District does not anticipate the need for additional debt financing. The bond in Table VIII-4A will be retired in 2017 by making average annual payments on the principal balance and interest of \$34,980. The bond in Table VIII-4B will be retired in 2028 by making average annual payments on the principal balance and interest of \$92,579.

Table VIII-5, “Estimated Cost for Plan Implementation,” includes a detailed breakdown of administration, residential/commercial recycling and collection programs, grant programs, residential/commercial education and awareness program and other programs.

The District Coordinator will allocate these funds with the approval of the Board of Directors.

**District Administration**

District administration costs include the payroll, office overhead, equipment expense, professional services (includes plan preparation, attorney fees and other consulting services) travel and development expenses, and advertising and printing costs for District operations. In 2016, District administration costs are projected to total \$55,524.

The following table provides a brief description of each line item as well as the projected budget for the first year of the planning period, and the factor used to project the line item’s budget.

<b>Program</b>	<b>Program #</b>	<b>2016 Budget</b>	<b>Annual Escalator</b>
<b>Payroll</b>	<b>Admin-1</b>	<b>\$31,611</b>	<b>1.3%</b>
Payroll includes the cost of employing District staff, health care costs, workers compensation, unemployment, Medicare and PERS retirement for the employees of the District. Expenditures are projected to increase 1.3 percent annually, which is slightly less than the Social Security Administration's Cost of Living Adjustment (COLA) (1.8%) published on October 30, 2013.			
<b>Office Overhead</b>	<b>Admin-2</b>	<b>\$5,510</b>	<b>2.0%</b>
Office overhead costs include expenses such as insurance, rent, utilities, taxes, repairs, and office supplies. Office overhead expenditures are projected to increase 2.0 percent, which is slightly higher than the annual rate of inflation (1.8%) from the U.S. Consumer Price Index published in June 2013.			
<b>Equipment Expense</b>	<b>Admin-3</b>	<b>\$12,500</b>	<b>Flat</b>
Equipment expenses include the cost to replace, repair, or maintain equipment. A flat annual amount of \$12,500 is allocated to equipment expenses annually.			
<b>Professional Services</b>	<b>Admin-4</b>	<b>\$1,500</b>	<b>Varies</b>
Expenditures for professional services were based on the District's future Plan Update schedule and anticipated increases in the costs of services.			
<b>Travel and Development</b>	<b>Admin-5</b>	<b>\$151</b>	<b>2.0%</b>
Travel and development costs include expenses related to training, certifications, industry meetings, and conferences. Travel and development expenditures are projected to increase 2.0 percent, which is slightly higher than the annual rate of inflation (1.8%) from the U.S. Consumer Price Index published in June 2013.			
<b>Advertising and Printing</b>	<b>Admin-6</b>	<b>\$252</b>	<b>1.8%</b>
Advertising and printing costs include expenses related to print, radio, or other media advertising and producing copies of District literature, pamphlets, and surveys. Advertising and printing expenditures are projected to increase 2.0 percent, which is slightly higher than the annual rate of inflation (1.8%) from the U.S. Consumer Price Index published in June 2013.			

### **District Residential/Commercial Recycling and Collection Programs**

District residential/commercial recycling and collection programs include the drop-off recycling program, yard waste management, household hazardous waste management, and scrap tire recycling operated by or funded by the District. Overall expenditures for all residential/commercial



recycling and collection programs at the onset of the planning period were projected at \$30,045.

The following table provides a brief description of each line item as well as the projected budget for the first year of the planning period, and the factor used to project the line item's budget.

<b>Program</b>	<b>Program #</b>	<b>2016 Budget</b>	<b>Annual Escalator</b>
<b>Drop-Off Recycling</b>	<b>MC-2</b>	<b>\$677</b>	<b>1.8%</b>
Expenditures for the drop-off program cover collection and processing costs. Drop-off recycling expenditures are projected to increase 1.8% annually based on the annual rate of inflation from the U.S. Consumer Price Index published in June 2013.			
<b>Statewide Glass Initiative</b>	<b>MC-2.4</b>	<b>\$0</b>	<b>N/A</b>
There are no expenditures projected for this program during the planning period. Funding allocated to this program in 2014 was related to a grant awarded to the District by Ohio EPA for the 2014 Statewide Glass Initiative. The money was used to purchase a roll-off container to collect glass recyclables. The availability of future grant funding is not certain and most grant opportunities are competitive. Therefore, the District has not projected the use of future grant funding in this <i>Plan Update</i> . The District may, however, apply for grants and use grant funding during the planning period if a need is identified and funds are awarded.			
<b>Yard Waste Management</b>	<b>MC-3</b>	<b>\$4,767</b>	<b>1.8%</b>
Expenditures for yard waste management cover the cost of processing tree waste collected at the transfer station. Yard waste management expenditures are projected to increase 1.8 percent annually based on the annual rate of inflation from the U.S. Consumer Price Index published in June 2013.			
<b>Household Hazardous Waste Management</b>	<b>MC-4</b>	<b>\$7,507</b>	<b>1.8%</b>
Expenditures for household hazardous waste (HHW) management cover the cost of operating seasonal monthly HHW drop-off events, which includes the cost of contracting a company to properly manage the HHW. HHW management expenditures are projected to increase 1.8 percent annually based on the annual rate of inflation from the U.S. Consumer Price Index published in June 2013.			
<b>Scrap Tire Recycling</b>	<b>MC-5</b>	<b>\$14,094</b>	<b>1.8%</b>
Expenditures for scrap tire recycling cover the cost of transporting tires to a tire recycler, processing fees, and environmental fees. Scrap tire recycling expenditures are projected to increase 1.8 percent annually based on the annual rate of inflation from the U.S. Consumer Price Index published in June 2013.			



Program	Program #	2016 Budget	Annual Escalator
<b>Special Event Recycling</b>	<b>MC-7</b>	<b>\$3,000</b>	<b>Flat</b>
The District allocates a flat amount of \$3,000 annually for Special Event Recycling.			

### District Residential/Commercial/Industrial Grant Programs

Grant programs include the Internal Grant and the School Waste Reduction Grant. In 2016, program costs are expected to total \$23,000.

The following table provides a brief description of each line item as well as the projected budget for the first year of the planning period, and the factor used to project the line item's budget.

Program	Program #	2016 Budget	Annual Escalator
<b>Internal Grant</b>	<b>MC-12</b>	<b>\$20,000</b>	<b>Flat</b>
Expenditures for the Internal Grant program cover the cost of providing materials for litter collection, including bags to source separate litter that is recyclable. A flat \$20,000 is allocated annually for this program.			
<b>School Waste Reduction Grant</b>	<b>MC-15</b>	<b>\$3,000</b>	<b>Flat</b>
Expenditures for the School Waste Reduction Awareness Grant program cover the cost of providing up to six \$500 grants to schools that complete successful grant applications. A flat \$3,000 is allocated annually for this program.			

### District Residential/Commercial Education and Awareness Programs

District Residential/Commercial Education and Awareness Programs consist of education presentations, District displays at County events, publicity and advertising for District programs and events, informational flyers and brochures and industrial sector technical assistance operated or funded by the District.

The following table provides a brief description of each line item as well as the projected budget for the first year of the planning period, and the factor used to project the line item's budget.

Program	Program #	2016 Budget	Annual Escalator
<b>Education and Awareness</b>	<b>MC-16</b>	<b>\$5,929</b>	<b>1.8%</b>
Expenditures cover the cost of materials and supplies. Labor and administrative costs are excluded, as these costs are accounted for in the			

Program	Program #	2016 Budget	Annual Escalator
administrative budget line items. The District does not have a dedicated education specialist on staff; the District Coordinator assumes all responsibilities of managing the education and awareness program. Funding for this program was projected to increase 1.8% annually, based on the annual rate of inflation from the U.S. Consumer Price Index from June 2013.			

### Miami County Transfer Station Expenses

Miami County Transfer Station Expenses includes the Miami County Transfer Facility Pay-Per-Bag program, Miami County Transfer Station operations, and payments on both Transfer Station modification bonds. The overall expenses in 2016 are projected to total \$4,114,049.

The following table provides a brief description of each line item as well as the projected budget for the first year of the planning period, and the factor used to project the line item's budget.

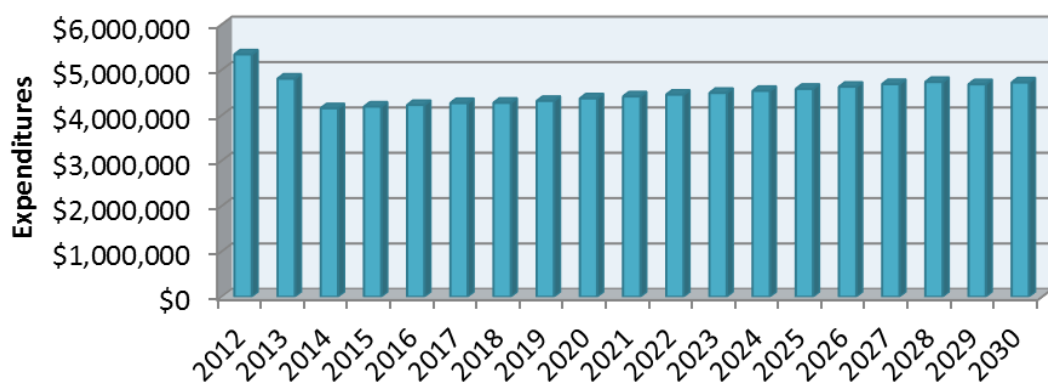
Program	Program #	2016 Budget	Annual Escalator
<b>Miami County Transfer Facility Pay-Per-Bag</b>	<b>MC-17</b>	<b>\$2,195</b>	<b>2.0%</b>
Expenditures for the Miami County Transfer Facility Pay-Per-Bag program cover the cost of purchasing materials (bags). Expenditures are projected to increase 2.0 percent, which is slightly higher than the annual rate of inflation (1.8%) from the U.S. Consumer Price Index published in June 2013.			
<b>Miami County Transfer Station Operations</b>	<b>MC-20</b>	<b>\$3,944,099</b>	<b>1.0%</b>
Expenditures for operating the transfer station include payroll/benefits for transfer station employees, overhead, rent, insurance, taxes, fees, utilities, equipment, and supplies, and other operating expenses. Expenditures are projected to increase at 1.0 percent annually based on the District's historic records of operational costs. This line item includes the payment of the Ohio EPA \$4.75 per ton fee.			
<b>Transfer Station Bond (a)</b>	<b>N/A</b>	<b>\$35,375</b>	<b>Varies</b>
Expenditures for Transfer Station Bond (a) cover the cost of paying on the principal and interest of a bond taken out by the District for transfer station modifications. Transfer Station Bond (a) will be retired in 2017. Annual expenses vary according to the debt retirement schedule between the District and lender.			

Program	Program #	2016 Budget	Annual Escalator
<b>Transfer Station Bond (b)</b>	<b>N/A</b>	<b>\$92,940</b>	<b>Varies</b>
Expenditures for Transfer Station Bond (b) cover the cost of paying on the principal and interest of a bond taken out by the District for transfer station modifications. Transfer Station Bond (b) will be retired in 2028. Annual expenses vary according to the debt retirement schedule between the District and lender.			

Additional programs discussed in previous sections that were not mentioned in Section VIII do not require District funding.

The following chart summarizes the District's actual and projected expenses throughout the planning period.

**2012 – 2030 Projected Expenditures**



These budget projections should not be construed as a binding commitment by the District to spend a specific amount of money on a particular strategy, facility, program and/or activity. The Board, with the advice and assistance of the District Coordinator will review and revise the budget as needed to implement planned strategies, facilities, programs and/or activities as effectively as possible with the funds available. Unanticipated, excess revenues may be applied, to the extent that is practical and allowable, to other *Plan Update* implementation activities. The District reserves the right to revise the budget and reallocate funds as programs change or as otherwise determined to be in the best interest of the District.

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

Table VIII-6, "Revenues and Allocations in Accordance with ORC 3734.57, ORC 3734.572 and ORC 3734.573," presents the District's projected

costs for the ten allowed uses. The District's budget falls into two categories: preparation and monitoring of plan implementation, and implementation of the approved plan. More than 99 percent of the District's expenses fall under plan implementation.

#### **D. Contingent Funding**

The District and Board do not consider funding to be an issue of concern during this planning period. However, the Board would consider increasing the Miami County Transfer Station tipping fee or other funding options, if the District's revenues and/or expenses were creating budgetary shortfalls.

The District does not have a disposal or generation fee. If there were an unforeseen catastrophic event, the District would reevaluate the need for a generation fee. The District does not anticipate there will be any need to change funding mechanisms during the planning period.

Before this contingency would be implemented, the District would re-evaluate the estimated expenditures in Table VIII-5 to determine the minimum annual budget to sustain the District core operations.

In general, the District has confidence that it can adjust to somewhat significant changes in waste flow. District revenues may vary from year-to-year or season-to-season depending on the waste flow through the transfer facility. However, the majority of District expenses are for the operation of the transfer facility and these are variable expenses (i.e., expenses decrease when the waste flow is lower and increase when the waste flow is high). The District Board of Directors has the responsibility for monitoring revenue and expenses and adjusting the fees at the transfer facility if necessary to meet District expenses. Transfer fees will be adjusted accordingly if the cost of hauling and disposal increases or decreases when new contracts are negotiated, or if the cost of programs required in this *Plan Update* change.

The tipping fees charged at the transfer facility may not be adequate to fund District services and programs if operations at the transfer facility are interrupted (for any reason) for a significant period, or the amount of waste received at the facility is significantly reduced over an extended period. The District has not determined it is necessary or appropriate to set a specific number of days or a percentage of decrease in waste flow that will trigger the need to enact the generation fee. The District constantly monitors revenue, expenses, and the fund balance to assist with this determination.

The District will begin the process to set and ratify a generation fee when District projections indicate that it will be required to spend down the reserve funds projected in this Plan and that tipping fees will not be sufficient to fund the required programs in the future. The District will be cognizant of the fact that the time required to enact and begin collecting a generation fee will be at least four months and may be as much as seven months. If the generation fee exceeds \$5.00 per ton, the fee must be ratified by a combination of municipal corporations and townships with a combined population within the borders of the district comprising at least seventy-five percent. Approval by political jurisdictions representing sixty percent of the total population of the District is required if the generation fee is set at \$5.00 or less.

Once the District has decided that generation fees are needed, the District will set the amount of the generation fee and will immediately begin the process to ratify the generation fee in accordance with Section 3734.573 of the Ohio Revised Code. Table VIII-7, "Contingent Funding Sources," shows the amount of revenue that would be anticipated from a \$4.00 generation fee in each year of the planning period.

#### E. Summary of Costs and Revenues

Table VIII-8, "Summary of District Revenues and Expenditures," includes the annual program costs from 2012 to 2030, as well as expenditures for District operations and the Transfer Station. Total expenditures for the first year of the planning period are projected to be \$4,228,547 and will increase over the planning period to \$4,725,868 by 2030. Each year of the planning period has ample funding for each of the programs. The following figure presents the actual and projected revenues and expenses throughout the planning period:

**2012 – 2030 Expenditures vs. Revenues**

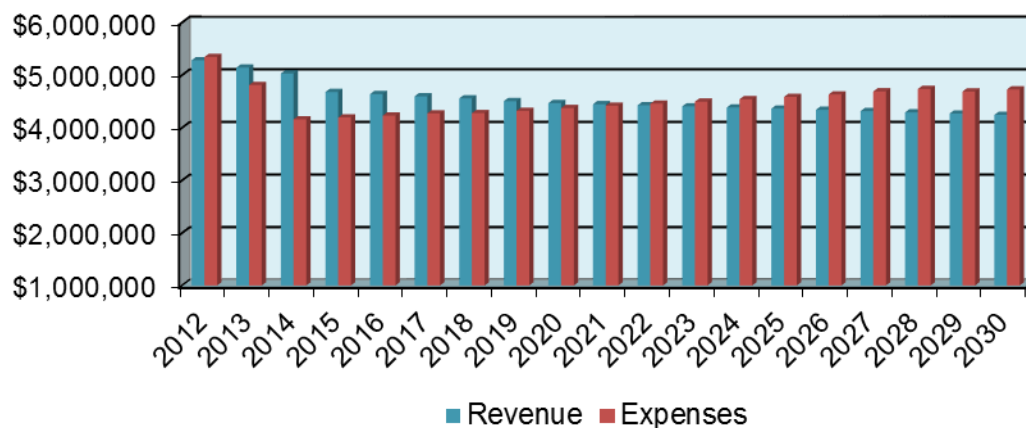


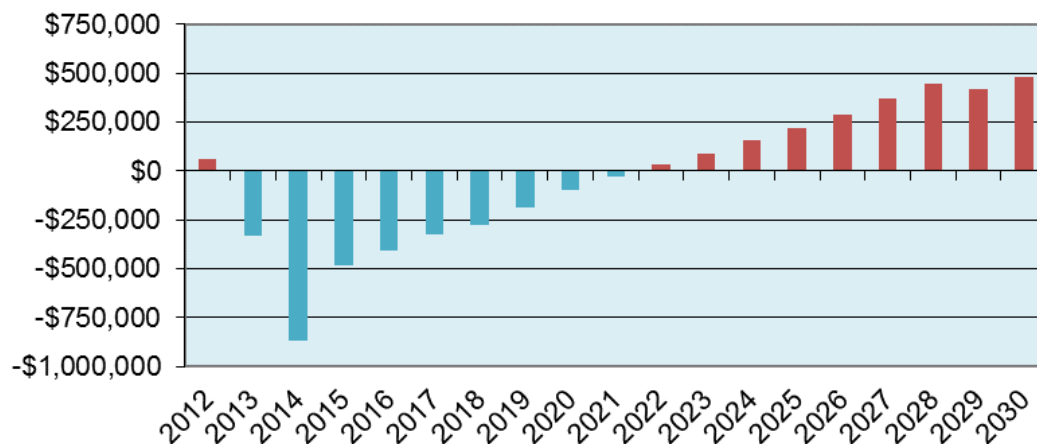
Table VIII-8 also presents a summary of the total expenses broken out by whether the expenses are dedicated to District operations or Transfer Station operations. District operations, which include expenses for District administration, residential/commercial recycling and collection programs, grant programs, and education and awareness, are projected to be \$114,498 in 2016 and \$143,996 in 2030. Transfer Station operations are projected to be \$4,114,049 in 2016 and \$4,581,873 in 2030.

District operations are financed first, and remaining revenue or cumulative fund balance is used toward the Transfer Station. In Table VIII-8, a line titled “Additional Funds Needed for Transfer Station Operations” was included to show the difference in the total revenue generated each year and the funds needed to operate the Transfer Station operations. The values in this line were derived using the following formula:

*Funds Dedicated to Transfer Station Operation + Funds Dedicated to District Operations) – Total Revenue = Additional Funds Needed for Transfer Station Operations.*

A positive balance indicates that funds from the cumulative District budget were used to fund transfer station operations; a negative balance indicates that revenue was contributed to the cumulative District budget because revenue exceeded the cost to manage the transfer station after District operational expenses were covered. The following figure presents the Transfer Station’s operating expenses versus the revenue from the reference year to the end of the planning period.

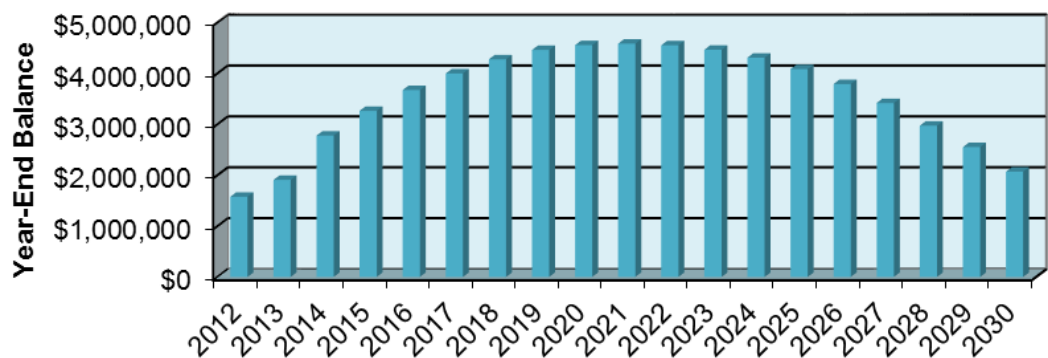
### 2012 – 2030 Transfer Station Operating Expenses Versus Revenue



Revenue was contributed to the District’s cumulative fund balance from 2013 to 2021. Cumulative fund balance was used in 2012 and is projected to be used toward Transfer Station operating expenses from 2022 to 2030.

The District is projected to begin the planning period with a carryover balance of \$3,261,910. The year-end balance is expected to peak in 2021 at \$4,581,791, then decrease annually to have an ending carryover balance of approximately \$2,068,311 in 2030. The following figure presents the actual and projected year-end balance from 2012 to 2030:

**2012 – 2030 Year End Balance**



The District may move funds between programs and activities as costs and revenues may increase or decrease during the planning period.

**Table VIII-3  
Summary of Revenue Generated and Mechanisms Used**

Year	Type of Revenue Mechanism and Amount Used						Total Revenue Generated
	Disposal Fees	Generation Fees	Tipping Fees	Recycling Revenue	Waiver Fee Revenue	Miscellaneous Revenue	
2012	\$0	\$0	\$5,206,006	\$41,416	\$0	\$31,995	\$5,279,416
2013	\$0	\$0	\$5,069,588	\$50,594	\$0	\$19,769	\$5,139,951
2014	\$0	\$0	\$4,944,491	\$57,806	\$5,136	\$21,182	\$5,028,615
2015	\$0	\$0	\$4,587,703	\$58,095	\$10,270	\$21,563	\$4,677,631
2016	\$0	\$0	\$4,545,493	\$58,386	\$11,371	\$21,951	\$4,637,200
2017	\$0	\$0	\$4,503,315	\$58,678	\$11,371	\$22,346	\$4,595,709
2018	\$0	\$0	\$4,462,185	\$58,971	\$10,657	\$22,748	\$4,554,561
2019	\$0	\$0	\$4,409,485	\$59,266	\$10,657	\$23,158	\$4,502,565
2020	\$0	\$0	\$4,373,188	\$59,562	\$10,657	\$23,575	\$4,466,981
2021	\$0	\$0	\$4,351,488	\$59,860	\$10,657	\$23,999	\$4,446,004
2022	\$0	\$0	\$4,329,729	\$60,159	\$10,657	\$24,431	\$4,424,976
2023	\$0	\$0	\$4,307,909	\$60,460	\$10,657	\$24,871	\$4,403,897
2024	\$0	\$0	\$4,286,030	\$60,763	\$10,657	\$25,318	\$4,382,767
2025	\$0	\$0	\$4,264,090	\$61,066	\$10,657	\$25,774	\$4,361,587
2026	\$0	\$0	\$4,239,604	\$61,372	\$10,657	\$26,238	\$4,337,870
2027	\$0	\$0	\$4,215,071	\$61,679	\$10,657	\$26,710	\$4,314,117
2028	\$0	\$0	\$4,190,491	\$61,987	\$10,657	\$27,191	\$4,290,326
2029	\$0	\$0	\$4,165,863	\$62,297	\$10,657	\$27,680	\$4,266,497
2030	\$0	\$0	\$4,141,186	\$62,608	\$10,657	\$28,179	\$4,242,630

**Sample calculation (2012):**

Total Revenue =  
Disposal Fees + Gen. Fees + Tipping Fees + Recycling Revenue + Waiver Fee Revenue + Misc. Revenue

$$\$5,279,416 = \$0 + \$0 + \$5,206,006 + \$41,416 + \$0 + \$31,995$$



**Table VIII-4A**  
**Anticipated Loans Secured by the District**

Year	Loans Obtained by the District (Miami County Transfer Station)			Interest Rate	Interest Paid	Total Principal and Interest
	Lending Institution	Remaining Principal Balance	Principal Paid			
		<b>\$193,653</b>				
2012	Fifth Third Securities	\$163,353	\$30,299	5.250%	\$4,297.90	\$34,597
2013	Fifth Third Securities	\$132,395	\$30,958	5.250%	\$3,691.92	\$34,650
2014	Fifth Third Securities	\$100,778	\$31,617	5.250%	\$3,072.76	\$34,690
2015	Fifth Third Securities	\$67,844	\$32,934	5.250%	\$2,440.42	\$35,375
2016	Fifth Third Securities	\$34,251	\$33,593	5.250%	\$1,781.74	\$35,375
2017	Fifth Third Securities	\$0	\$34,251	5.250%	\$941.92	\$35,193
2018	N/A	N/A	N/A	N/A	N/A	N/A
2019	N/A	N/A	N/A	N/A	N/A	N/A
2020	N/A	N/A	N/A	N/A	N/A	N/A
2021	N/A	N/A	N/A	N/A	N/A	N/A
2022	N/A	N/A	N/A	N/A	N/A	N/A
2023	N/A	N/A	N/A	N/A	N/A	N/A
2024	N/A	N/A	N/A	N/A	N/A	N/A
2025	N/A	N/A	N/A	N/A	N/A	N/A
2026	N/A	N/A	N/A	N/A	N/A	N/A
2027	N/A	N/A	N/A	N/A	N/A	N/A
2028	N/A	N/A	N/A	N/A	N/A	N/A
2029	N/A	N/A	N/A	N/A	N/A	N/A
2030	N/A	N/A	N/A	N/A	N/A	N/A

**Table VIII-4B**  
**Anticipated Loans Secured by the District**

Year	Loans Obtained by the District (Miami County Transfer Station)			Interest Rate	Interest Paid	Total Principal and Interest
	Lending Institution	Remaining Principal Balance	Principal Paid			
		<b>\$1,076,789</b>				
2012	Fifth Third Securities	\$1,030,789	\$46,000	3.250%	\$46,707.00	\$92,707
2013	Fifth Third Securities	\$985,577	\$45,212	3.500%	\$47,000.00	\$92,212
2014	Fifth Third Securities	\$942,000	\$43,577	3.500%	\$49,000.00	\$92,577
2015	Fifth Third Securities	\$891,000	\$51,000	3.750%	\$41,852.00	\$92,852
2016	Fifth Third Securities	\$838,000	\$53,000	4.000%	\$39,939.50	\$92,940
2017	Fifth Third Securities	\$783,000	\$55,000	4.000%	\$37,819.50	\$92,820
2018	Fifth Third Securities	\$726,000	\$57,000	4.250%	\$35,619.50	\$92,620
2019	Fifth Third Securities	\$667,000	\$59,000	4.250%	\$33,197.00	\$92,197
2020	Fifth Third Securities	\$605,000	\$62,000	4.250%	\$30,689.50	\$92,690
2021	Fifth Third Securities	\$540,000	\$65,000	4.375%	\$28,054.50	\$93,055
2022	Fifth Third Securities	\$473,000	\$67,000	4.375%	\$25,210.76	\$92,211
2023	Fifth Third Securities	\$403,000	\$70,000	4.500%	\$22,279.50	\$92,280
2024	Fifth Third Securities	\$329,000	\$74,000	4.500%	\$19,129.50	\$93,130
2025	Fifth Third Securities	\$252,000	\$77,000	4.750%	\$15,799.50	\$92,800
2026	Fifth Third Securities	\$172,000	\$80,000	4.750%	\$12,142.00	\$92,142
2027	Fifth Third Securities	\$88,000	\$84,000	4.850%	\$8,342.00	\$92,342
2028	Fifth Third Securities	\$0	\$88,000	4.850%	\$4,268.00	\$92,268
2029	N/A	N/A	N/A	N/A	N/A	N/A
2030	N/A	N/A	N/A	N/A	N/A	N/A

Table VIII-5  
Estimated Costs for Plan Implementation

Description	Program #	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>District Administration</b>																				
Payroll	Admin-1	\$36,485	\$31,833	\$30,654	\$34,574	\$35,611	\$36,680	\$37,780	\$38,913	\$40,081	\$41,283	\$42,522	\$43,797	\$45,111	\$46,465	\$47,858	\$49,294	\$50,773	\$52,296	\$53,865
Office Overhead	Admin-2	\$4,961	\$5,278	\$5,296	\$5,402	\$5,510	\$5,620	\$5,733	\$5,847	\$5,964	\$6,083	\$6,205	\$6,329	\$6,456	\$6,585	\$6,717	\$6,851	\$6,988	\$7,128	\$7,270
Equipment Expense	Admin-3	\$9,730	\$4,526	\$11,280	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500
Professional Services	Admin-4	\$4,604	\$1,444	\$2,235	\$7,500	\$1,500	\$1,500	\$1,500	\$1,500	\$12,000	\$12,000	\$8,000	\$1,500	\$1,500	\$1,500	\$1,500	\$14,000	\$14,000	\$9,000	\$1,500
Travel and Development	Admin-5	\$66	\$59	\$145	\$148	\$151	\$154	\$157	\$160	\$164	\$167	\$170	\$174	\$177	\$181	\$184	\$188	\$192	\$195	\$199
Advertising and Printing	Admin-6	\$196	\$122	\$242	\$247	\$252	\$257	\$262	\$267	\$272	\$278	\$283	\$289	\$295	\$301	\$307	\$313	\$319	\$325	\$332
<b>Subtotal</b>	<b>Subtotal</b>	<b>\$56,042</b>	<b>\$43,262</b>	<b>\$49,833</b>	<b>\$60,371</b>	<b>\$55,524</b>	<b>\$56,710</b>	<b>\$57,931</b>	<b>\$59,188</b>	<b>\$70,981</b>	<b>\$72,311</b>	<b>\$69,680</b>	<b>\$64,589</b>	<b>\$66,039</b>	<b>\$67,531</b>	<b>\$69,066</b>	<b>\$83,146</b>	<b>\$84,772</b>	<b>\$91,445</b>	<b>\$75,667</b>
<b>District Residential/Commercial Recycling and Collection Programs</b>																				
Drop-Off Recycling	MC-2	\$1,400	\$1,276	\$663	\$665	\$677	\$689	\$701	\$714	\$727	\$740	\$753	\$767	\$781	\$795	\$809	\$823	\$838	\$853	\$869
Statewide Glass Initiative	MC-2.4	\$0	\$0	\$16,445	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Yard Waste Management	MC-3	\$8,509	\$14,152	\$4,600	\$4,683	\$4,767	\$4,853	\$4,940	\$5,029	\$5,120	\$5,212	\$5,306	\$5,401	\$5,498	\$5,597	\$5,698	\$5,801	\$5,905	\$6,011	\$6,120
Household Hazardous Waste Management	MC-4	\$4,417	\$7,116	\$7,244	\$7,374	\$7,507	\$7,642	\$7,780	\$7,920	\$8,063	\$8,208	\$8,355	\$8,506	\$8,659	\$8,815	\$8,973	\$9,135	\$9,299	\$9,467	\$9,637
Scrap Tire Recycling	MC-5	\$7,200	\$8,500	\$13,600	\$13,845	\$14,094	\$14,348	\$14,606	\$14,869	\$15,137	\$15,409	\$15,686	\$15,969	\$16,256	\$16,549	\$16,847	\$17,150	\$17,459	\$17,773	\$18,093
Special Event Recycling	MC-7	\$911	\$1,027	\$1,115	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000
<b>Subtotal</b>	<b>Subtotal</b>	<b>\$22,437</b>	<b>\$32,071</b>	<b>\$43,657</b>	<b>\$29,567</b>	<b>\$30,045</b>	<b>\$30,532</b>	<b>\$31,027</b>	<b>\$31,532</b>	<b>\$32,045</b>	<b>\$32,568</b>	<b>\$33,101</b>	<b>\$33,642</b>	<b>\$34,194</b>	<b>\$34,755</b>	<b>\$35,327</b>	<b>\$35,909</b>	<b>\$36,501</b>	<b>\$37,104</b>	<b>\$37,718</b>
<b>District Residential/Commercial/Industrial Grant Programs</b>																				
Internal Grant	MC-12	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
School Waste Reduction Grant	MC-15	\$500	Included in MC-15	\$3,547	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000
<b>Subtotal</b>	<b>Subtotal</b>	<b>\$20,500</b>	<b>\$20,000</b>	<b>\$23,547</b>	<b>\$23,000</b>	<b>\$23,000</b>	<b>\$23,000</b>	<b>\$23,000</b>	<b>\$23,000</b>	<b>\$23,000</b>	<b>\$23,000</b>	<b>\$23,000</b>	<b>\$23,000</b>	<b>\$23,000</b>	<b>\$23,000</b>	<b>\$23,000</b>	<b>\$23,000</b>	<b>\$23,000</b>	<b>\$23,000</b>	<b>\$23,000</b>
<b>District Residential/Commercial Education and Awareness</b>																				
Education and Awareness	MC-16	\$6,140	\$6,082	\$5,721	\$5,824	\$5,929	\$6,036	\$6,144	\$6,255	\$6,367	\$6,482	\$6,599	\$6,717	\$6,838	\$6,961	\$7,087	\$7,214	\$7,344	\$7,476	\$7,611
<b>Subtotal</b>	<b>Subtotal</b>	<b>\$6,140</b>	<b>\$6,082</b>	<b>\$5,721</b>	<b>\$5,824</b>	<b>\$5,929</b>	<b>\$6,036</b>	<b>\$6,144</b>	<b>\$6,255</b>	<b>\$6,367</b>	<b>\$6,482</b>	<b>\$6,599</b>	<b>\$6,717</b>	<b>\$6,838</b>	<b>\$6,961</b>	<b>\$7,087</b>	<b>\$7,214</b>	<b>\$7,344</b>	<b>\$7,476</b>	<b>\$7,611</b>
<b>Miami County Transfer Station Expenses</b>																				
Miami County Transfer Facility Pay-Per-Bag	MC-17	\$2,462	\$2,068	\$2,109	\$2,152	\$2,195	\$2,238	\$2,283	\$2,329	\$2,375	\$2,423	\$2,471	\$2,521	\$2,571	\$2,623	\$2,675	\$2,729	\$2,783	\$2,839	\$2,896
Miami County Transfer Station Operations	MC-20	\$5,108,219	\$4,579,291	\$3,905,049	\$3,944,099	\$3,983,540	\$4,023,376	\$4,063,610	\$4,104,246	\$4,145,288	\$4,186,741	\$4,228,608	\$4,270,895	\$4,313,604	\$4,356,740	\$4,400,307	\$4,444,310	\$4,488,753	\$4,533,641	\$4,578,977
Transfer Station Bond (a)	N/A	\$34,597	\$34,650	\$34,690	\$35,375	\$35,375	\$35,193	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Transfer Station Bond (b)	N/A	\$92,707	\$92,212	\$92,577	\$92,852	\$92,940	\$92,820	\$92,620	\$92,197	\$92,690	\$93,055	\$92,211	\$92,200	\$93,130	\$92,800	\$92,142	\$92,342	\$92,268	N/A	N/A
<b>Subtotal</b>	<b>Subtotal</b>	<b>\$5,237,985</b>	<b>\$4,708,221</b>	<b>\$4,034,425</b>	<b>\$4,074,478</b>	<b>\$4,114,049</b>	<b>\$4,153,627</b>	<b>\$4,193,512</b>	<b>\$4,233,291</b>	<b>\$4,273,291</b>	<b>\$4,313,604</b>	<b>\$4,353,695</b>	<b>\$4,394,361</b>	<b>\$4,434,717</b>	<b>\$4,474,852</b>	<b>\$4,514,769</b>	<b>\$4,554,471</b>	<b>\$4,593,961</b>	<b>\$4,633,241</b>	<b>\$4,672,311</b>
<b>District Total Expenses</b>	<b>District Total Expenses</b>	<b>\$105,119</b>	<b>\$101,415</b>	<b>\$122,758</b>	<b>\$118,761</b>	<b>\$114,498</b>	<b>\$116,278</b>	<b>\$118,103</b>	<b>\$119,974</b>	<b>\$121,894</b>	<b>\$123,859</b>	<b>\$125,870</b>	<b>\$127,929</b>	<b>\$129,937</b>	<b>\$131,994</b>	<b>\$134,107</b>	<b>\$136,176</b>	<b>\$138,201</b>	<b>\$140,283</b>	<b>\$142,423</b>
<b>Transfer Station Total Expenses</b>	<b>Transfer Station Total Expenses</b>	<b>\$5,237,985</b>	<b>\$4,708,221</b>	<b>\$4,034,425</b>	<b>\$4,074,478</b>	<b>\$4,114,049</b>	<b>\$4,153,627</b>	<b>\$4,193,512</b>	<b>\$4,233,291</b>	<b>\$4,273,291</b>	<b>\$4,313,604</b>	<b>\$4,353,695</b>	<b>\$4,394,361</b>	<b>\$4,434,717</b>	<b>\$4,474,852</b>	<b>\$4,514,769</b>	<b>\$4,554,471</b>	<b>\$4,593,961</b>	<b>\$4,633,241</b>	<b>\$4,672,311</b>
<b>Totals</b>	<b>Totals</b>	<b>\$5,343,104</b>	<b>\$4,809,636</b>	<b>\$4,157,183</b>	<b>\$4,193,239</b>	<b>\$4,228,547</b>	<b>\$4,269,905</b>	<b>\$4,310,615</b>	<b>\$4,351,266</b>	<b>\$4,392,185</b>	<b>\$4,433,214</b>	<b>\$4,474,353</b>	<b>\$4,515,502</b>	<b>\$4,556,661</b>	<b>\$4,597,830</b>	<b>\$4,639,009</b>	<b>\$4,680,198</b>	<b>\$4,721,397</b>	<b>\$4,762,606</b>	<b>\$4,803,825</b>

**Table VIII-6**  
**Revenues and Allocations in Accordance with ORC 3734.57, ORC 3734.5762 and ORC 3734.573**

Year	Total Annual Revenue (\$)	Allocations of ORC 3734.57 and ORC 3734.573 Revenue For the Following Purposes:										Year-End Balance (\$)	
		1	2 (District)	2 (Transfer Station)	3	4	5	6	7	8	9		10
Beginning Balance													
2012	\$5,279,416	\$4,604	\$100,515	\$5,237,985	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,343,104
2013	\$5,139,951	\$1,444	\$99,971	\$4,708,221	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,809,636
2014	\$5,028,615	\$2,235	\$120,522	\$4,034,425	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,157,183
2015	\$4,677,631	\$7,500	\$111,261	\$4,074,478	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,193,239
2016	\$4,637,200	\$1,500	\$112,998	\$4,114,049	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,228,547
2017	\$4,595,709	\$1,500	\$114,778	\$4,153,627	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,269,905
2018	\$4,554,561	\$1,500	\$116,603	\$4,158,512	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,276,615
2019	\$4,502,565	\$1,500	\$118,474	\$4,198,772	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,318,746
2020	\$4,466,981	\$12,000	\$120,394	\$4,240,353	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,372,747
2021	\$4,446,004	\$12,000	\$122,361	\$4,282,219	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,416,580
2022	\$4,424,976	\$8,000	\$124,379	\$4,323,291	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,455,670
2023	\$4,403,897	\$1,500	\$126,449	\$4,365,695	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,493,644
2024	\$4,382,767	\$1,500	\$128,571	\$4,409,304	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,539,375
2025	\$4,361,587	\$1,500	\$130,747	\$4,452,162	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,584,409
2026	\$4,337,870	\$1,500	\$132,980	\$4,495,124	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,629,604
2027	\$4,314,117	\$14,000	\$135,269	\$4,539,381	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,688,650
2028	\$4,290,326	\$14,000	\$137,617	\$4,583,804	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,735,421
2029	\$4,266,497	\$9,000	\$140,025	\$4,536,480	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,685,505
2030	\$4,242,630	\$1,500	\$142,496	\$4,581,873	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,725,868

**Notes:** 1 - Preparation and monitoring of plan implementation.

2 - Implementation of approved plan.

3 - Financial assistance to boards of health for solid waste enforcement.

4 - Financial assistance to defray the costs of maintaining roads and other public services related to the location or operation of solid waste facilities.

5 - Contracts with boards of health for collecting and analyzing samples from water wells adjacent to solid waste facilities.

6 - Out-of-state waste inspection program.

7 - Financial assistance to local boards of health to enforce ORC 3734.03 or to local law enforcement agencies having jurisdiction within the District for anti-littering.

8 - Financial assistance to local boards of health for employees to participate in Ohio EPA's training and certification program for solid waste operators and facility inspectors.

9 - Financial assistance to local municipalities and townships to defray the added cost of roads and services related to the operation of solid waste facilities.

10 - Payment of any expenses that are agreed to awarded or ordered to be paid under section 3734.35 of the Revised Code and any administrative costs incurred pursuant to that section.

**Table VIII-7  
Contingent Funding Sources**

Year	Amount of Contingent Funding for Each Source		Total
	Generation Fee Increase	Tons of In-District Waste	
2012	\$4.00	85,204	\$340,815
2013	\$4.00	83,464	\$333,855
2014	\$4.00	82,010	\$328,040
2015	\$4.00	81,070	\$324,279
2016	\$4.00	80,306	\$321,223
2017	\$4.00	79,545	\$318,179
2018	\$4.00	78,802	\$315,210
2019	\$4.00	77,858	\$311,430
2020	\$4.00	77,200	\$308,801
2021	\$4.00	76,809	\$307,236
2022	\$4.00	76,417	\$305,667
2023	\$4.00	76,023	\$304,093
2024	\$4.00	75,629	\$302,514
2025	\$4.00	75,233	\$300,931
2026	\$4.00	74,792	\$299,169
2027	\$4.00	74,351	\$297,404
2028	\$4.00	73,909	\$295,634
2029	\$4.00	73,465	\$293,861
2030	\$4.00	73,021	\$292,085

Table VIII-8  
Summary of District Revenues and Expenditures

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Revenues</b>																			
Beginning Balance	\$1,639,458	\$1,575,770	\$1,906,086	\$2,777,518	\$3,261,910	\$3,670,564	\$3,996,368	\$4,274,314	\$4,458,133	\$4,552,368	\$4,581,791	\$4,551,097	\$4,461,350	\$4,304,142	\$4,081,920	\$3,790,186	\$3,415,654	\$2,970,558	\$2,551,560
Program #																			
Tipping Fees (Includes EPA fee)	N/A																		
Recycling Revenue	\$5,206,066	\$5,089,888	\$4,944,491	\$4,587,703	\$4,545,463	\$4,503,315	\$4,482,185	\$4,409,485	\$4,373,188	\$4,351,488	\$4,329,729	\$4,307,909	\$4,286,030	\$4,264,090	\$4,239,604	\$4,215,071	\$4,190,491	\$4,165,863	\$4,141,186
Waste Fee Revenue	\$4,416	\$50,594	\$57,806	\$58,095	\$58,386	\$58,678	\$58,971	\$59,266	\$59,562	\$59,860	\$60,159	\$60,460	\$60,763	\$61,066	\$61,372	\$61,679	\$61,987	\$62,297	\$62,608
Waste Fee Revenue	\$0	\$0	\$5,136	\$10,270	\$11,371	\$11,371	\$10,657	\$10,657	\$10,657	\$10,657	\$10,657	\$10,657	\$10,657	\$10,657	\$10,657	\$10,657	\$10,657	\$10,657	\$10,657
Misc. Revenue	\$31,995	\$19,769	\$21,182	\$21,653	\$21,961	\$22,346	\$22,748	\$23,158	\$23,575	\$23,999	\$24,431	\$24,871	\$25,318	\$25,774	\$26,238	\$26,710	\$27,191	\$27,680	\$28,179
Total Revenue	\$5,279,416	\$5,139,951	\$5,028,615	\$4,677,631	\$4,637,200	\$4,595,709	\$4,554,561	\$4,502,565	\$4,466,981	\$4,446,004	\$4,424,976	\$4,403,897	\$4,382,767	\$4,361,587	\$4,340,370	\$4,319,117	\$4,297,826	\$4,276,497	\$4,255,130
Funds Dedicated to District Operations	\$105,119	\$101,415	\$122,758	\$118,761	\$114,498	\$116,278	\$118,103	\$119,974	\$122,994	\$134,361	\$132,379	\$127,949	\$130,071	\$132,247	\$134,480	\$149,269	\$151,617	\$149,025	\$143,966
Funds Dedicated to Transfer Station Operations	\$5,237,985	\$4,708,221	\$4,034,425	\$4,074,478	\$4,114,049	\$4,153,627	\$4,186,512	\$4,198,772	\$4,240,353	\$4,282,219	\$4,323,291	\$4,365,695	\$4,409,304	\$4,452,162	\$4,495,124	\$4,538,381	\$4,581,604	\$4,624,883	\$4,668,173
Additional Funds Needed for Transfer Station Operations*	\$63,688	\$330,316	\$871,432	\$484,392	\$408,654	\$325,804	\$277,946	\$183,819	\$94,235	\$29,424	\$30,694	\$89,747	\$156,608	\$222,822	\$291,733	\$374,533	\$445,096	\$419,008	\$483,238
<b>Expenditures</b>																			
District Administration																			
Payroll	\$36,485	\$31,833	\$30,654	\$34,574	\$35,611	\$36,680	\$37,780	\$38,913	\$40,081	\$41,283	\$42,522	\$43,797	\$45,111	\$46,466	\$47,858	\$49,284	\$50,773	\$52,296	\$53,865
Office Overhead	\$4,961	\$5,278	\$5,296	\$5,402	\$5,510	\$5,620	\$5,733	\$5,847	\$5,964	\$6,083	\$6,205	\$6,329	\$6,456	\$6,585	\$6,717	\$6,851	\$6,988	\$7,128	\$7,270
Equipment Expense	\$9,730	\$4,526	\$11,260	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500
Professional Services	\$4,604	\$1,444	\$2,235	\$7,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
Travel and Development	\$66	\$59	\$146	\$148	\$151	\$154	\$157	\$160	\$164	\$167	\$170	\$174	\$177	\$181	\$184	\$188	\$192	\$195	\$199
Advertising and Printing	\$198	\$122	\$242	\$247	\$252	\$257	\$262	\$267	\$272	\$278	\$283	\$289	\$295	\$301	\$307	\$313	\$319	\$325	\$332
Subtotal	\$56,042	\$43,262	\$49,833	\$60,371	\$65,524	\$67,710	\$70,931	\$75,918	\$81,981	\$88,690	\$95,099	\$101,399	\$107,609	\$113,755	\$119,846	\$125,893	\$131,908	\$137,894	\$143,867
District Residential/Commercial Recycling and Subtotal																			
Collection Programs																			
Drop-Off Recycling	\$1,400	\$1,276	\$653	\$665	\$677	\$688	\$701	\$714	\$727	\$740	\$753	\$767	\$781	\$795	\$809	\$823	\$838	\$853	\$869
MC2-4	\$0	\$0	\$16,445	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Yard Waste Management	\$8,509	\$14,152	\$4,600	\$4,683	\$4,767	\$4,853	\$4,940	\$5,029	\$5,120	\$5,212	\$5,306	\$5,401	\$5,498	\$5,597	\$5,698	\$5,801	\$5,905	\$6,011	\$6,120
Household Hazardous Waste Management	\$4,417	\$7,116	\$7,244	\$7,374	\$7,507	\$7,642	\$7,780	\$7,920	\$8,063	\$8,208	\$8,355	\$8,506	\$8,659	\$8,815	\$8,973	\$9,135	\$9,299	\$9,467	\$9,637
Scrap Tire Recycling	\$7,200	\$8,500	\$15,600	\$13,945	\$14,094	\$14,348	\$14,606	\$14,869	\$15,137	\$15,409	\$15,686	\$15,969	\$16,256	\$16,546	\$16,847	\$17,150	\$17,459	\$17,773	\$18,093
Special Event Recycling	\$911	\$1,027	\$1,115	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000
Subtotal	\$22,437	\$32,071	\$43,657	\$29,567	\$30,045	\$30,532	\$31,027	\$31,532	\$32,045	\$32,568	\$33,101	\$33,642	\$34,194	\$34,755	\$35,327	\$35,909	\$36,501	\$37,104	\$37,718
District Residential/Commercial/Industrial Grant																			
Programs																			
Internal Grant	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
School Waste Reduction Grant	\$500	Included in MC-15	\$3,547	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000
Subtotal	\$20,500	\$20,000	\$23,547	\$23,000	\$23,000	\$23,000	\$23,000	\$23,000	\$23,000	\$23,000	\$23,000	\$23,000	\$23,000	\$23,000	\$23,000	\$23,000	\$23,000	\$23,000	\$23,000
District Residential/Commercial Education and Awareness Programs																			
Education and Awareness																			
MC-16	\$6,140	\$6,082	\$5,721	\$5,824	\$5,929	\$6,036	\$6,144	\$6,255	\$6,367	\$6,482	\$6,599	\$6,717	\$6,838	\$6,961	\$7,087	\$7,214	\$7,344	\$7,476	\$7,611
Subtotal	\$6,140	\$6,082	\$5,721	\$5,824	\$5,929	\$6,036	\$6,144	\$6,255	\$6,367	\$6,482	\$6,599	\$6,717	\$6,838	\$6,961	\$7,087	\$7,214	\$7,344	\$7,476	\$7,611
Miami County Transfer Station Expenses																			
Miami County Transfer Facility Pay-Per-Bag	\$2,462	\$2,068	\$2,109	\$2,152	\$2,195	\$2,238	\$2,283	\$2,329	\$2,375	\$2,423	\$2,471	\$2,521	\$2,571	\$2,623	\$2,675	\$2,729	\$2,783	\$2,839	\$2,896
MC-20	\$5,108,219	\$4,579,291	\$3,995,048	\$3,944,098	\$3,893,540	\$4,023,376	\$4,063,610	\$4,104,246	\$4,145,288	\$4,186,741	\$4,228,608	\$4,270,895	\$4,313,604	\$4,356,740	\$4,400,307	\$4,444,310	\$4,488,753	\$4,533,641	\$4,578,977
Transfer Station Bond (a)	\$34,597	\$34,660	\$34,630	\$35,375	\$35,375	\$35,183	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Transfer Station Bond (b)	\$92,707	\$92,212	\$92,577	\$92,852	\$92,940	\$92,820	\$92,620	\$92,197	\$92,690	\$93,055	\$93,211	\$93,280	\$93,130	\$92,800	\$92,142	\$92,342	\$92,268	N/A	N/A
Subtotal	\$5,237,985	\$4,708,221	\$4,034,425	\$4,074,478	\$4,114,049	\$4,153,627	\$4,186,512	\$4,198,772	\$4,240,353	\$4,282,219	\$4,323,291	\$4,365,695	\$4,409,304	\$4,452,162	\$4,495,124	\$4,538,381	\$4,581,604	\$4,624,883	\$4,668,173
District Total Expenses	\$105,119	\$101,415	\$122,758	\$118,761	\$114,498	\$116,278	\$118,103	\$119,974	\$122,994	\$134,361	\$132,379	\$127,949	\$130,071	\$132,247	\$134,480	\$149,269	\$151,617	\$149,025	\$143,966
Transfer Station Total Expenses	\$5,237,985	\$4,708,221	\$4,034,425	\$4,074,478	\$4,114,049	\$4,153,627	\$4,186,512	\$4,198,772	\$4,240,353	\$4,282,219	\$4,323,291	\$4,365,695	\$4,409,304	\$4,452,162	\$4,495,124	\$4,538,381	\$4,581,604	\$4,624,883	\$4,668,173
Total Expenditures	\$5,343,104	\$4,809,636	\$4,157,183	\$4,193,238	\$4,228,547	\$4,269,905	\$4,276,615	\$4,278,746	\$4,272,747	\$4,241,650	\$4,224,670	\$4,203,644	\$4,182,375	\$4,160,909	\$4,139,604	\$4,117,650	\$4,095,241	\$4,072,888	\$4,050,588
Total Revenue - Total Expenses	\$63,688	\$330,316	\$871,432	\$484,392	\$408,654	\$325,804	\$277,946	\$183,819	\$94,235	\$29,424	\$30,694	\$89,747	\$156,608	\$222,822	\$291,733	\$374,533	\$445,096	\$419,008	\$483,238
Total Ending Balance	\$1,575,770	\$1,906,086	\$2,777,518	\$3,261,910	\$3,670,564	\$3,996,368	\$4,274,314	\$4,458,133	\$4,552,368	\$4,581,791	\$4,551,097	\$4,461,350	\$4,304,142	\$4,081,920	\$3,790,186	\$3,415,654	\$2,970,558	\$2,551,560	\$2,068,311

\*A positive balance indicates that funds from the cumulative District budget were used to fund transfer station operations; a negative balance indicates that revenue was contributed to the cumulative District budget because revenue exceeded the cost to manage the transfer station after expenses were covered.

## **IX. District Rules**

### **[ORC Section 3734.53(C)]**

#### **A. Existing Rules**

According to Ohio Revised Code Section 3734.53(C), “the solid waste management plan of a county or joint district may provide for the adoption of rules under division (G) of section 343.01 of the Revised Code after approval of the plan under section 3734.521 or 3734.55 of the Revised Code.” The District reserves the Authority for the Board to adopt rules under the provision of Ohio Revised Code.

The District plan reserved for the Board of Directors the power to make and enforce rules to the fullest extent authorized by Ohio law. Therefore, under the existing plan, the District is authorized to adopt, publish and enforce rules doing any of the following:

1. Prohibiting or limiting the receipt of solid waste generated outside the district or outside a service area prescribed in the solid waste management plan or amended plan, at facilities covered by the plan.
2. Governing the maintenance, protection, and use of solid waste collection or other solid waste facilities located within the district.
3. Governing the development and implementation of a program for the inspection of solid waste generated outside the boundaries of this state that are disposed of at solid waste facilities included in the district’s solid waste management plan or amended plan.
4. Exempting the owner or operator of any existing or proposed solid waste facility provided for the plan or amended plan from compliance with any amendments to a township zoning resolution.

The current effective rules are for the purpose of governing the maintenance, protection, and use of solid waste collection or other solid waste facilities located in the district. As required by the District Solid Waste Management Plan Format, a brief description of how these rules compliment the District’s strategies and programs is included following the rules contained below:

#### **Rule Number 1-01 – Definitions**

The purpose of this rule is to establish the definitions to be used in the District rules that follow.

### **Rule Number 2-01 – Requirement for Submission and Approval of Plans for Construction of Solid Waste Facilities**

The Miami County Solid Waste Management District Policy Committee and Board of Directors carefully evaluated the present and future facility needs of the Miami County Solid Waste Management District and included all of the facilities that the District needs to effectively and efficiently manage the transfer, disposal, recycling and recovery of solid waste in the District's Solid Waste Management Plan. In order to assure that the District can meet the obligations to which it is committed in the District Plan, the District must determine if any new facility or facility expansion is consistent with the Plan and will not adversely affect the District's ability to finance Plan implementation.

In order to make such a determination, the Board must have the plans and specification for the facility to review. The Board also has an interest in assuring that any facility that is constructed or enlarged is appropriately designed and sited to meet its intended purpose without creating excessive burdens upon the county's facilities and services or the neighboring properties. The rules clearly state that the Board will exclude any criteria that would establish design standards that are addressed by the rules of the Ohio Environmental Protection Agency for the issuing of a Solid Waste facility permit.

### **Rule Number 3-01 – Prohibition on Disposal of Recyclable Material**

In order to meet the recycling goals that are set forth in the District plan, it is important that all recyclable materials that are source separated by residential, business or industrial generators, are appropriately recycled and are not reintroduced into the waste stream for disposal unless there is a compelling reason why the materials cannot be recycled.

### **Rule Number 4-01 – Prohibition of Combining Recyclable Material with Solid Waste**

In order to meet the recycling goals that are set forth in the District plan, it is important that all recyclable materials that are source separated by residential, business or industrial generators, are appropriately recycled and are not reintroduced into the waste stream for disposal unless there is a compelling reason why the materials cannot be recycled.

### **Rule Number 5-01 – Delivery of Solid Waste to Designated Facilities**

Facility designation is essential to the implementation of this plan. Waste is directed to the county-owned transfer facility so that the District can effectively monitor and supervise the solid waste collection system and the



processing of waste for disposal. Maximum feasible utilization of the Miami County Solid Waste and Recycling Facility is necessary to assure that the District can pay outstanding debt obligations and the expenses of operating the facility.

#### **Rule Number 6-01 – Waiver of Designation**

The Ohio Revised Code requires that if a District designates a facility or facilities there be a process for waiving designation. The District had included a waiver process in the District rules.

#### **Rule Number 7-01 – Prohibition of Scavenging**

When residents, commercial businesses and industries separate material for recycling, it is with the expectation that the material will be collected and recycled by the entity that they have selected. No other person may remove the material that has been placed for recycling. This rule protects the privacy of the recycler, reduces the chances that recyclable material will be scattered and become litter, and assures that any monetary value of the recyclable material will go to the intended recipient.

#### **Rule Number 8-01 – Annual Reports to be Submitted by Facility Owners of Operators and Commercial Haulers**

The District must prepare an annual report for the Ohio Environmental Protection Agency which demonstrates the District's progress toward meeting the goals set out in the District's plan. The District must have accurate information regarding waste disposal and recycling in order to provide the required demonstrations. In addition, the District must have complete and accurate information regarding the amount of waste collected, disposed and recycled in order to gauge whether the District's facilities were properly utilized and on which to base future planning decisions. This rule provides a comprehensive and orderly mechanism by which the necessary information will be submitted to the District.

#### **Rule Number 9-01 – Disposal of Separated Unacceptable Yard Waste**

This rule makes it clear that yard waste that is separated from solid waste may not be reintroduced into solid waste for disposal. The prohibition protects the District yard waste management system and helps the District meet waste reduction goals.

### **Rule Number 10-01 – Prohibition Against Tampering or Damaging Facilities**

The purpose of this rule is obvious: to protect public and private investment in solid waste facilities and to help insure that these facilities are available for the intended use.

### **Rule Number 11-01 – Penalties for Violation of Rules**

Provides a clear disincentive for violation of the rules.

## **B. Proposed Rules**

At the time that this *Plan Update* was developed, the District was not proposing any new rules. The District may, as they deem appropriate, amend or rescind the existing rules or may adopt any additional rules that are necessary to implement the ratified and approved Solid Waste Management Plan. Since changes may occur during the planning period, the District reserves for the Board of Directors the power to make and enforce rules to the fullest extent authorized by Ohio law.

The Ohio Revised Code, Section 343.01 (G) gives solid waste districts the authority to adopt, publish, and enforce rules to the extent authorized by the solid waste management plan of the district approved under section 3734.521 or 3734.55 of the Revised Code or subsequent amended plans of the district approved under section 3734.521 or 3734.56 of the Revised Code.

This plan authorizes the Miami County Solid Waste Management District Board of Directors to adopt, publish, and enforce rules.

Any rule promulgated by the District shall be designed to promote the health, safety and welfare of the residents of the District, effective and efficient administration and operation of the District, to comply with state requirements and/or to implement the Solid Waste Management Plan and amended Plan of the District. The District may conduct all reviews, investigations, evaluations, studies and hearings as the District deems necessary and appropriate to determine the character, degree and scope of any proposed rule.

Rule adoption shall follow the procedures listed in Section C before becoming final.

**Rule Making Authority – ORC 343.01**

The solid waste management plan provides the authority to the Board of Directors 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) including the following:

**ORC 343.01(G)(1)**

To the extent authorized by the solid waste management plan of the district approved under section 3734.521 or 3734.55 of the Revised Code or subsequent amended plans of the district approved under section 3734.521 or 3734.56 of the Revised Code, the board of county commissioners of a county district or board of directors of a joint district may adopt, publish, and enforce rules doing any of the following:

- (1) Prohibiting or limiting the receipt of solid wastes generated outside the district or outside a service area prescribed in the solid waste management plan or amended plan, at facilities located within the solid waste management district, consistent with the projections contained in the plan or amended plan under divisions (A)(6) and (7) of section 3734.53 of the Revised Code. However, rules adopted by a board under division (G)(1) of this section may be adopted and enforced with respect to solid waste disposal facilities in the solid waste management district that are not owned by a county or the solid waste management district only if the board submits an application to the director of environmental protection that demonstrates that there is insufficient capacity to dispose of all solid wastes that are generated within the district at the solid waste disposal facilities located within the district and the director approves the application. The demonstration in the application shall be based on projections contained in the plan or amended plan of the district. The director shall establish the form of the application. The approval or disapproval of such an application by the director is an action that is appealable under section 3745.04 of the Revised Code.

In addition, the director of environmental protection may issue an order modifying a rule adopted under division (G)(1) of this section to allow the disposal in the district of solid wastes from another county or joint solid waste management district if all of the following apply:

- (a) The district in which the wastes were generated does not have sufficient capacity to dispose of solid wastes generated within it for six months following the date of the director's order;

- (b) No new solid waste facilities will begin operation during those six months in the district in which the wastes were generated and, despite good faith efforts to do so, it is impossible to site new solid waste facilities within the district because of its high population density;
- (c) The district in which the wastes were generated has made good faith efforts to negotiate with other districts to incorporate its disposal needs within those districts' solid waste management plans, including efforts to develop joint facilities authorized under section 343.02 of the Revised Code, and the efforts have been unsuccessful;
- (d) The district in which the wastes were generated has located a facility willing to accept the district's solid wastes for disposal within the receiving district;
- (e) The district in which the wastes were generated has demonstrated to the director that the conditions specified in divisions (G)(1)(a) to (d) of this section have been met;
- (f) The director finds that the issuance of the order will be consistent with the state solid waste management plan and that receipt of the out-of-district wastes will not limit the capacity of the receiving district to dispose of its in-district wastes to less than eight years.

Any order issued under division (G)(1) of this section shall not become final until thirty days after it has been served by certified mail upon the county or joint solid waste management district that will receive the out-of-district wastes.

**ORC 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 for solid waste facilities 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 or board of directors as complying with the solid waste management plan or amended plan of the district. The construction

of such a facility shall be done under the supervision of the county sanitary engineer or, in the case of a joint district, a county sanitary engineer designated by the board of directors, and any person, municipal corporation, township, or other political subdivision proposing or constructing such improvements shall pay to the county or joint district all expenses incurred by the board in connection therewith. The sanitary engineer may enter upon any public or private property for the purpose of making surveys or examinations necessary for designing solid waste facilities or for supervising the construction, enlargement, modification, or operation of any such facilities. No person, municipal corporation, township, or other political subdivision shall forbid or interfere with the sanitary engineer or his authorized assistants entering upon such property for that purpose. If actual damage is done to property by the making of the surveys and examinations, a board shall pay the reasonable value of that damage to the owner of the property damaged, and the cost shall be included in the financing of the improvement for which the surveys and examinations are made.

#### **ORC 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 solid waste facilities included in the district's solid waste management plan or amended plan. A board of county commissioners or board of directors or its authorized representative may enter upon the premises of any solid waste facility included in the district's solid waste management plan or amended plan for the purpose of conducting the inspections required or authorized by the rules adopted under division (G)(3) of this section. No person, municipal corporation, township, or other political subdivision shall forbid or interfere with a board of county commissioners or directors or its authorized representative entering upon the premises of any such solid waste facility for that purpose.

#### **ORC 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 adopted under section 519.12 of the Revised Code or to a county rural zoning resolution adopted under section 303.12 of the Revised Code that rezoned or redistricted the parcel or parcels upon which the facility is to be constructed or modified and that became effective within two years prior to the filing of an application for a permit required under division (A)(2)(a) of section 3734.05 of the Revised Code to open a new or modify an existing solid waste facility.

### **Rule Making Authority – ORC 3734.53**

The solid waste management plan provides the authority to the Board of Directors to adopt, publish, and enforce all of the rule-making powers authorized by Ohio Revised Code 3734.53, Division (C) including the following:

- (1) Prohibiting or limiting the receipt at facilities covered by the plan of solid wastes generated outside the district or outside a prescribed service area consistent with the projections under divisions (A)(6) and (7) of this section, except that the director of environmental protection may issue an order modifying a rule authorized to be adopted under division (C)(1) of this section to allow the disposal in the district of wastes from another county or joint solid waste management district if all of the following apply:
  - (a) The district in which the wastes were generated does not have sufficient capacity to dispose of solid wastes generated within it for six months following the date of the director's order;
  - (b) No new solid waste facilities will begin operation during those six months in the district in which the wastes were generated and, despite good faith efforts to do so, it is impossible to site new solid waste facilities within the district because of its high population density;
  - (c) The district in which the wastes were generated has made good faith efforts to negotiate with other districts to incorporate its disposal needs within those districts' solid waste management plans, including efforts to develop joint facilities authorized under section 343.02 of the Revised Code, and the efforts have been unsuccessful;
  - (d) The district in which the wastes were generated has located a facility willing to accept the district's solid wastes for disposal within the receiving district;
  - (e) The district in which the wastes were generated has demonstrated to the director that the conditions specified in divisions (C)(1)(a) to (d) of this section have been met;
  - (f) The director finds that the issuance of the order will be consistent with the state solid waste management plan and that receipt of the out-of-district wastes will not limit the capacity of the receiving district to dispose of its in-district wastes to less than eight years. Any order issued under division (C)(1) of this

section shall not become final until thirty days after it has been served by certified mail upon the county or joint solid waste management district that will receive the out-of-district wastes.

- (2) Governing the maintenance, protection, and use of solid waste collection, storage, disposal, transfer, recycling, processing, and resource recovery facilities within the district and requiring the submission of general plans and specifications for the construction, enlargement, or modification of any such facility to the board of county commissioners or board of directors of the district for review and approval as complying with the plan or amended plan of the district;
- (3) Governing development and implementation of a program for the inspection of solid wastes generated outside the boundaries of the state that are being disposed of at solid waste facilities included in the district's plan;
- (4) Exempting the owner or operator of any existing or proposed solid waste facility provided for in the plan from compliance with any amendment to a township zoning resolution adopted under section 519.12 of the Revised Code or to a county rural zoning resolution adopted under section 303.12 of the Revised Code that rezoned or redistricted the parcel or parcels upon which the facility is to be constructed or modified and that became effective within two years prior to the filing of an application for a permit required under division (A)(2)(a) of section 3734.05 of the Revised Code to open a new or modify an existing solid waste facility.

### **C. Rule Approval Process**

Proposed rules shall follow the steps presented below prior to final approval by the Board of Directors.

1. Public Notice of the solid waste management rules in a local newspaper. The District may opt to include the public notice on their website, social media and other publications at their discretion.
2. Thirty-day public comment period of the proposed rules.
3. If requested by public interest in the rules, a public hearing on the proposed rules shall be conducted. Public interest will be determined by the District Coordinator with input from the Policy Committee and Board of Directors.
4. Rule adoption at a Board of Directors meeting.

## **APPENDIX A**

### **Resolutions for District Formation**



RESOLUTION NO. 89-3-277

FORM SOLID WASTE MANAGEMENT DISTRICT

Mr. Clawson introduced the following Resolution and moved it be adopted

Be it resolved the Board of County Commissioners of Miami County, having been granted an exemption from the 120,000 population requirement for a solid waste management district of Ohio, revised H.B. 592, Section 3734.52, by Ohio EPA's letter date February 15, 1989, do hereby form a solid waste management district comprising all municipalities and townships within the said county and further be it resolved also that a solid waste management policy committee consisting of the following members will be created to oversee the preparation of a district-wide comprehensive solid waste management plan:

- Don Hart, President, Miami County Commissioner
- Frank Patrizio, City Manager, Piqua
- A representative of all the townships in Miami County.
- Dr. Richard Breece, Commissioner, Miami County Health Dept.
- A representative of the General Public selected by the above four members

Mr. Westfall seconded the motion and the Board voted as follows upon roll call:

Mr. Hart, yea; Mr. Westfall, yea, Mr. Clawson, yea

Date March 17, 1989

## **APPENDIX B**

### **Public Notices for Public Hearing and Public Comment**

## **APPENDIX C**

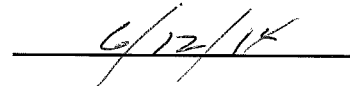
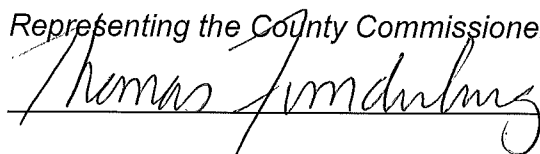
### **Resolutions and Certification Statements**

## CERTIFICATION STATEMENT FOR THE DRAFT PLAN

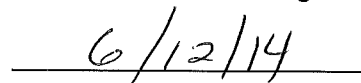
We as representatives of the Solid Waste Management Policy Committee (SWMPC) of the Miami County Solid Waste Management District (District), do hereby certify that to the best of our knowledge and belief, the statements, demonstrations and all accompanying materials that comprise the draft District Solid Waste Management Plan Update, and the availability of and access to sufficient solid waste management facility capacity to meet the solid waste management needs of the District for the fifteen year period covered by the Plan Update are accurate and are in compliance with the requirements in the *District Solid Waste Management Plan Format*, revision 3.0.



Representing the County Commissioners



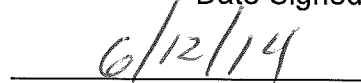
Date Signed



Representing CEO of Largest City



Date Signed



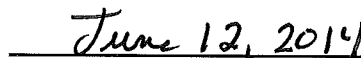
Representing County Health Department

Date Signed


Representing Townships



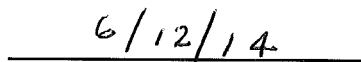
Date Signed




Representing Commercial/Industrial Generators



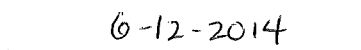
Date Signed



Representing the General Interests of Citizens



Date Signed



Representing the Public

Date Signed

## **APPENDIX D**

### **Identification of Consultants Retained for Plan Preparation**

## Identification of Consultants for Plan Preparation

Consulting Firm: GT Environmental, Inc.  
635 Park Meadow Road  
Suite 112  
Westerville, Ohio 43081

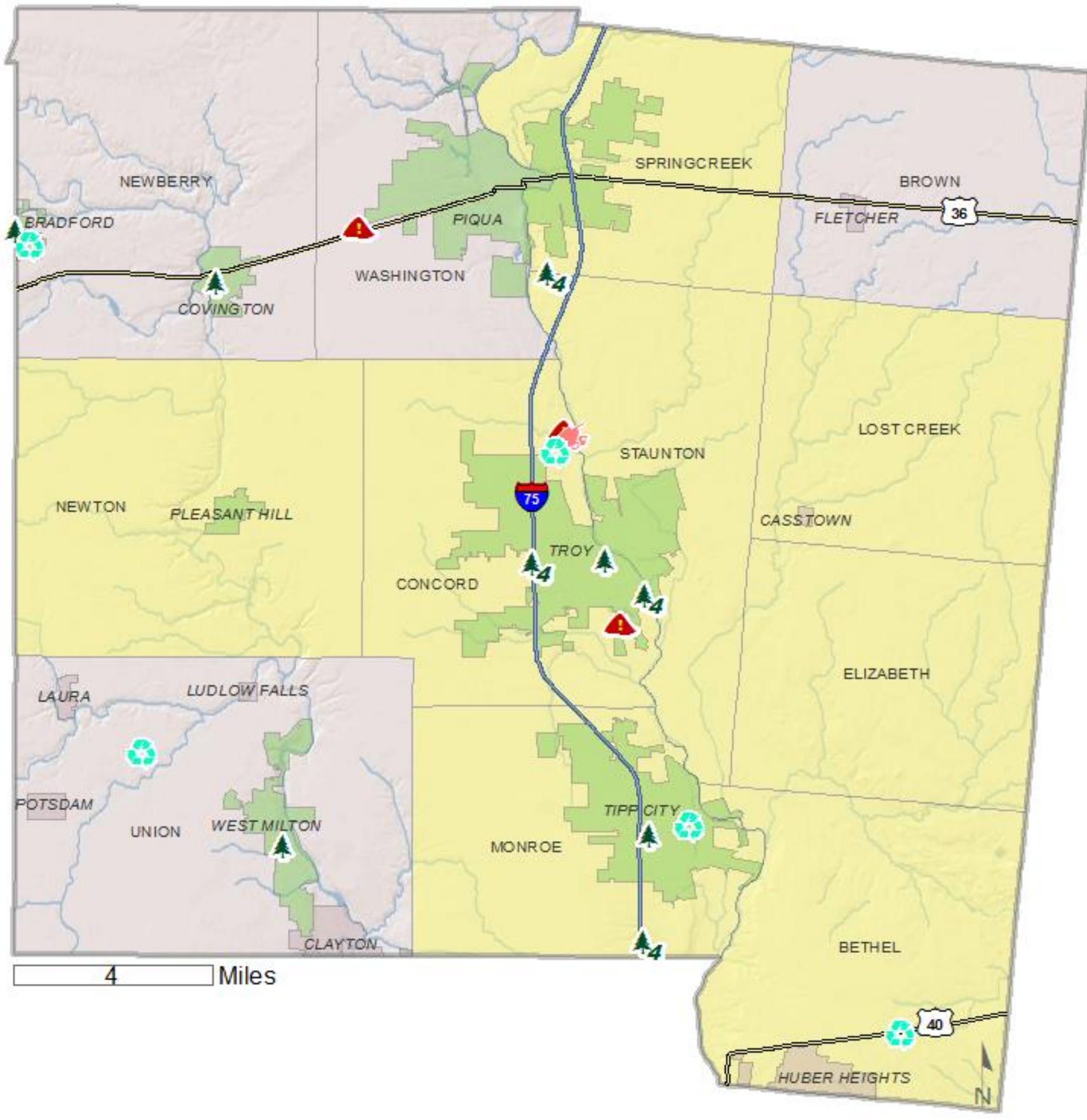
Project Manager: James A. Skora  
Senior Project Manager  
Office: (330) 689-1105  
Fax: (330) 688-6211  
Mobile: (330) 603-0138



## **APPENDIX E**

### **District Map**

# Map of District Facilities



Non-Subscription Curbside	Yard Waste Collection	Drop-Offs
Subscription Curbside	Class IV Compost Facility	Transfer Stations
Illegal Scrap Tire Dumps		



## **APPENDIX F**

### **Residential/Commercial/Industrial Survey Instruments**

# Automotive Questionnaire

Your name and phone # \_\_\_\_\_

Company Name \_\_\_\_\_

Number of lead acid automobile batteries sent for recycling in 2012. \_\_\_\_\_

Other lead-acid batteries sent for recycling (number):

Lawn tractor \_\_\_\_\_

Farm tractor \_\_\_\_\_

Truck \_\_\_\_\_

Gallons of motor oil sent for recycling or blended and used for fuel. \_\_\_\_\_

Do you accept motor oil from do-it-yourselfers for recycling?      YES      NO

Can we list your facility as an oil recycling site?      YES      NO

Number of waste tires shipped from your facility in 2012? \_\_\_\_\_

Were the tires shipped for (circle one)      Disposal      Recycling      Not sure

Facility to which tires were shipped \_\_\_\_\_

Please fax back to 937-335-4208 or email to [cbach@miamicountysed.com](mailto:cbach@miamicountysed.com)

**MIAMI COUNTY SOLID WASTE DISTRICT  
DROP-OFF RECYCLING COLLECTION SURVEY FOR CALENDAR YEAR 2012**

1. Population served by drop-off program \_\_\_\_\_ Number of households? \_\_\_\_\_
2. Is the program:
  - \_\_\_\_\_ periodic collection drives (go to question #3)
  - \_\_\_\_\_ permanent drop-off locations (go to question #4)
  - \_\_\_\_\_ mobile collection (go to question #5)
3. For collection drive: Number of times per year \_\_\_\_\_  
 How is the drive staffed? \_\_\_\_\_  
 Site location(s)? \_\_\_\_\_
4. Permanent locations: Number of sites \_\_\_\_\_  
 Location(s) \_\_\_\_\_  
 Is site staffed? \_\_\_\_\_ What days and hours? \_\_\_\_\_  
 Donation or buy-back? \_\_\_\_\_  
 Customers per week using site? \_\_\_\_\_
5. For mobile collections: What communities are served? \_\_\_\_\_  
 \_\_\_\_\_

<b>Materials included in drop-off program</b>	<b>Tons collected</b> (express as percent of total for commingled programs where material tonnages are not known)
Aluminum cans	
Bimetal cans	
Steel food cans	
Glass containers	
PETE plastic bottles	
HDPE plastic container	
Newspaper	
Corrugated	
Appliances	
Single Stream Container	
Other (Specify)	
<b>TOTAL</b>	

6. What type of containers are used for collection? (i.e., bins, roll-offs, etc.) \_\_\_\_\_
7. How are materials transported to processor? \_\_\_\_\_
8. Name of the recycling facility or scrap dealer where materials are taken for processing \_\_\_\_\_  
 \_\_\_\_\_

**MIAMI COUNTY SOLID WASTE DISTRICT**  
**2013 COMMERCIAL SOLID WASTE SURVEY FOR CALENDAR YEAR 2012**  
**(Please complete and return by FEBRUARY 28, 2013.)**

1. Name of Contact: \_\_\_\_\_
2. Company Name: \_\_\_\_\_
3. Address: \_\_\_\_\_
4. City/State/Zip: \_\_\_\_\_
5. Number of full time equivalent employees: \_\_\_\_\_
6. Name of person completing this survey \_\_\_\_\_  
Phone & e-mail \_\_\_\_\_
7. What percentage of your waste stream (including recyclable materials) was taken to the Miami County Transfer station in 2012?  
100% \_\_\_\_\_ Part (estimate % \_\_\_\_\_) 0% \_\_\_\_\_ Don't know \_\_\_\_\_
8. Waste Hauler's Name \_\_\_\_\_
9. Does your hauler provide recycling services? (circle) Yes No Not sure
10. Have you reduced waste for disposal by waste prevention programs? \_\_\_\_\_  
If yes, please describe program and give estimates of the amount of waste reduced.

\_\_\_\_\_

\_\_\_\_\_

*If necessary, please attach additional sheet to completely answer question 10.*

Waste Prevention, **Question 10:** A waste prevention program reduces the amount of waste material to be recycled or sent for disposal. Example: A supplier replaces corrugated boxes with returnable plastic totes for merchandise distribution. The amount of corrugated waste no longer generated can be reported as prevented waste.

**Waste:** For the purpose of this survey, waste refers to all non-hazardous solid waste and scrap generated by your facility. Please show the amount of material sent to a landfill and the amount sent for recycling. **If possible, please report in tons. If your information is available in a different unit of measure (pounds, cubic yards, bales, etc.), you may report in the units you use -- just cross out tons and write in the unit of measure you are using. We will do the conversion for you.**

We have tried to list the materials commonly found in the waste stream of commercial businesses. However, each business is different. Please add any major waste components under "Other."

## 2013 COMMERCIAL WASTE SURVEY FOR CALENDAR YEAR 2012

Please report trash or recycling amounts in number of trash bags, cubic yards or tons.

Waste type		Size of RECYCLING Dumpster	How often emptied ?	Did the material go to the Miami County Transfer Station? If yes, check.	Amount of TRASH/week or month?
Single Stream Recycling Dumpster					
Paper of all types					
Corrugated cardboard					
Aluminum cans					
Glass containers					
Steel food cans					
PETE Plastic bottles					
HDPE Plastic bottles					
Other Plastic (list) Mixed?					
Wood pallets					
Food (including fats, fryer grease and oils)					
Other (please list)					
<b>TOTAL</b>					

MAY WE CONTACT YOU ABOUT A FREE, CONFIDENTIAL WASTE AUDIT? (See survey instructions on the other side of this form for more information.)

Yes      No      (Circle your answer)

Thank you for completing this survey. Your help is deeply appreciated. For your convenience, we have enclosed a pre-addressed envelope to return this survey to: Cindy Bach; Miami County Sanitary Engineering; 2200 N. County Road 25A; Troy, OH 45373. If you prefer, you can fax the form to Sanitary Engineering at 937-335-4208.

# MIAMI COUNTY SOLID WASTE DISTRICT

1. 

Programs in place in 2012	Number of years in operation
Curbside recycling	_____
Recycling drop off sites	_____
Recycling in government facilities	_____
Separate residential yard waste collection	_____
Fall leaf collection	_____
2. 

If you have a recycling program in government facilities, please indicate the following:

Material recycled	Recycler: hauler and/or processor	Amount recycled in 2012 (cu.yds, lbs., tons)
_____		
_____		
_____		
3. 

If you have a separate residential yard waste collection:

Who collects the material (municipal crew or name of private hauler): \_\_\_\_\_

Is there a fee?      Yes                  No

How much and how is the fee collected? \_\_\_\_\_

Where is the material taken for processing and/or composting? \_\_\_\_\_

How much material was diverted from disposal by this program in 2012 (indicate if cu.yd. or tons)? \_\_\_\_\_

\_\_\_\_\_ Measured or estimated amount? \_\_\_\_\_
4. 

If you have a separate fall leaf collection, are the leaves composted or field spread? \_\_\_\_\_

Where are the leaves taken? \_\_\_\_\_

Estimated amount of leaves collected \_\_\_\_\_

If you have a curbside recycling program, please continue to page 2. If you have a recycling drop-off program, please go to page 3.

**For your convenience, we have enclosed a pre-addressed envelope to return this survey to Sanitary Engineering, 2200 N. County Road 25-A, Troy, OH 45373. Or fax to 335-4208. Thank you!**

**MIAMI COUNTY SOLID WASTE DISTRICT  
CURBSIDE COLLECTION SURVEY FOR CALENDAR YEAR 2012**

1. Population of area being served by curbside recycling program \_\_\_\_\_ Households? \_\_\_\_\_
  2. Number of tons of municipal solid waste annually disposed of by residents in the area being provided curbside collection: \_\_\_\_\_
  3. Number of tons of recyclables collected: \_\_\_\_\_
  4. Who picks up the materials at curbside?  
If a private hauler, provide name. \_\_\_\_\_
  5. How often are materials collected (weekly, bi-weekly, etc.) \_\_\_\_\_
  6. Who provides residential waste collection? \_\_\_\_\_
  7. How is waste collection paid for? (general revenue, per household fee, pay per bag, etc.) \_\_\_\_\_
- 
8. Are residents paying a fee for curbside recycling collection? \_\_\_\_\_  
If so, how much per month? \_\_\_\_\_ How is cost assessed to residents? \_\_\_\_\_

<b>Materials included in curbside program</b>	<b>Tons collected</b> (express as percent of total for commingled programs where material tonnages are not known)
Aluminum cans	
Bimetal cans	
Steel food cans	
Glass containers	
PETE plastic bottles	
HDPE plastic container	
Newspaper	
Corrugated	
Appliances	
Single Stream Recycling	
Other (Specify)	
TOTAL	

9. How are materials processed/marketed? Please check one  
☐ By private company that collects the materials  
☐ By local government that collects recyclables  
☐ By private scrap recycling company
10. Location of facility where materials are processed \_\_\_\_\_

**2013 MIAMI COUNTY SOLID WASTE DISTRICT  
SOLID WASTE HAULER SURVEY FOR CALENDAR YEAR 2012**

Company: \_\_\_\_\_

Address \_\_\_\_\_

Person completing form \_\_\_\_\_

Telephone \_\_\_\_\_

Please use the table below to enter the requested information.

**Collection route** -- may be listed as city, village or township. If a route includes more than one political unit, please describe by listing all townships covered or by listing the roads that mark the boundaries of the area served.

**Route type** -- Please indicate if the route is a subscription route or if the route is serviced under a contract or franchise agreement.

**Amount collected** -- if you supply the information in cubic yards instead of tons please indicate clearly.

**Commercial** -- if you collect from commercial customers on the same route as residential collection, please include the commercial amounts on the residential table and indicate that commercial is included. Otherwise use the commercial/industrial chart on the back.

**NA** -- if information requested is not available enter NA.

**RESIDENTIAL COLLECTION ROUTES**

Collection Route	Subscription or contract route	Disposal facility used	Tons waste collected for disposal	Recycling facility used	Tons recyclables collected	Yard waste collected for composting
Use second sheet if needed.						

*If you operate a curbside recycling collection program, please list the materials collected (i.e. newspaper, glass, etc.); (over)*



## COMMERCIAL AND INDUSTRIAL COLLECTION ROUTES

Collection Route	Disposal facility used	Tons waste collected for disposal	Recycling facility used	Tons recyclables collected	Yard waste collected for composting
Use second sheet if needed.					

List the types of recyclables collected from commercial and/or industrial sources:

---

Do you collect appliances?      Is there an added fee for this service?      Where are appliances taken?

---

Do you collect tires?      Is there a fee?      Where are tires taken?

---

**TOTAL TONS OF WASTE FOR DISPOSAL COLLECTED IN 2012 FROM ALL SOURCES**

---

**TOTAL TONS OF RECYCLABLES COLLECTED IN 2012 FROM ALL SOURCES**

---

**TOTAL TONS OF YARD WASTE COLLECTED IN 2012 FOR COMPOSTING**

Thank you for your help.

**Please fax this survey to Cindy Bach at Miami County Sanitary Engineering at 937-335-4208. Voice number: 937-440-3488 x8705**

**MIAMI COUNTY SOLID WASTE DISTRICT  
2013 INDUSTRIAL SOLID WASTE SURVEY FOR CALENDAR YEAR 2012  
(Please complete and return by February 28, 2013)**

Person completing survey (Name and title): \_\_\_\_\_

Alternate Contact: \_\_\_\_\_

Phone (      ) \_\_\_\_\_ e-mail : \_\_\_\_\_

Company: \_\_\_\_\_ Address: \_\_\_\_\_

City/Zip \_\_\_\_\_ Number of Employees: \_\_\_\_\_

Standard Industrial Classification (SIC) or NAICS code: \_\_\_\_\_

1. What percentage of your waste stream (Including recyclable materials) was taken to the Miami County Transfer station in 2012?

100% \_\_\_\_\_ Part (estimated %): \_\_\_\_\_ Don't know: \_\_\_\_\_ 0% \_\_\_\_\_

2. Waste Hauler's Name: \_\_\_\_\_

3. Does your hauler provide recycling services? (circle)      Yes      No      Not sure

4. Have you reduced waste for disposal by waste prevention or reuse programs or by recycling waste materials back into production on-site? See the explanation in the box below. Please describe the program, the type of waste reduced and give an estimate of the amount of waste reduced:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

*Attach an additional sheet if necessary.*

**Waste Reduction/Source Reduction** refers to any effort to reduce, at the source, the quantity of waste generated. For the purposes of this survey, please report only reductions in solid waste, not hazardous or liquid waste. Waste reduction could result from process modifications, feedstock purity, better operating and management practices, and increasing the efficiency of machinery. Example: ABC Corp. purchased new manufacturing equipment. As a result of using the new equipment, the number of rejected plastic widgets requiring disposal was reduced by 50%. If ABC Corp. had been disposing of 40 tons of widgets each year, the ABC Corp. can report 20 tons of plastic waste reduced.

**Reuse** refers to reusing material that was previously thrown away. Example: LMN Corp. began sorting and using corrugated boxes and wood pallets from incoming shipments to pack and ship out product. If LMN Corp. reused 2 tons of boxes and 15 tons of pallets, LMN Corp. can report 17 tons of waste reduction.

**Recycling on-site** refers to putting process waste or rejected product back into the manufacturing process. Example: XYZ Corp. remelts rejected glass product back into the manufacturing process. Example: XYZ remelts rejected glass product with new batches of glass thus removing the rejected product from the waste stream.

**Please complete this survey by entering information regarding waste disposal and recycling on the other side of this page.** For the purpose of this survey, the solid waste stream refers to all nonhazardous solid waste and scrap generated at your facility. Please show the amount sent to a landfill for disposal (shaded column), recycled back into a process in your facility. Please show the amount sent to a landfill for disposal (shaded column), recycled back into a process in your facility (Tons Recycled On-site), or recycled (Tons Recycled Off-site). *If possible report in tons. If your information is in another unit of measure (pounds or cubic yards) you may report in the unit you use- just cross out tons and write in the unit of measure you are using. We will do the conversion for you.*

**ANNUAL WASTE STREAM (circle one)    Actual    Estimated**  
Fill in the blanks with annual tons. Your hauler can help answer some questions.

<b>Waste type:</b>	<b>Tons sent for DISPOSAL</b>	<b>Tons Recycled On-site</b>	<b>Tons Recycled Off-site</b>	<b>Recycler for Off-site tons recycled</b>	<b>Did the material go to the Miami County Transfer Station? If yes, check.</b>	<b>Total tons of this material type</b>
WOOD SCRAP						
SHIPPING PALLETS						
ALUMINUM SCRAP						
NON-FERROUS METALS						
FERROUS METALS						
PAPER SCRAP						
CARDBOARD						
NEWSPAPER						
TEXTILES/FABRIC						
GLASS						
PLASTICS						
RUBBER						
STONE/CLAY/SAND						
FOUNDRY SAND						
CONCRETE						
ASH						
SLUDGE						
FOOD						
COMPOSITES						
NON-HAZARDOUS CHEMICALS (SOLID ONLY)						
WASTE TIRES						
LEAD-ACID BATTERIES						
YARD WASTE						
OTHER						
OTHER						
GRAND TOTALS:						

*MAY WE CONTACT YOU ABOUT A FREE, CONFIDENTIAL WASTE AUDIT?*

Yes\_\_\_\_\_No\_\_\_\_\_

For your convenience, we have enclosed a pre-addressed envelope to return this survey to Miami County Sanitary Eng., 2200 N. County Rd. 25A, Troy, OH 45373. Or, you can also fax to **937-335-4208** or email to **cbach@miamicountysed.com**.

**MIAMI COUNTY SOLID WASTE DISTRICT  
RECYCLERS SURVEY FOR CALENDAR YEAR 2012**

Name of Contact: \_\_\_\_\_  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
City/Zip: \_\_\_\_\_  
Email: \_\_\_\_\_

The following information is specifically requested to assist the District in updating the recycling opportunities information we distribute to the public:

1. Please indicate the days and hours your facility is open to the public:

\_\_\_\_\_

2. Please list the materials that are accepted and/or purchased by your facility:

\_\_\_\_\_  
\_\_\_\_\_

3. What is the nature of your business and services? Please mark all that apply.

\_\_\_\_\_ Scrap yard      \_\_\_\_\_ CFC Removal      \_\_\_\_\_ Yard waste composting

\_\_\_\_\_ Curbside collection      \_\_\_\_\_ Drop-off collection for residential recycling

\_\_\_\_\_ Office paper recycling      \_\_\_\_\_ Resale of useable or refurbished goods

\_\_\_\_\_ Educational outreach      \_\_\_\_\_ Other, please describe: \_\_\_\_\_

4. Please estimate (or if possible, provide actual figures) the amount of solid waste (general trash) you generated at your facility in 2012: \_\_\_\_\_

Are these figures      \_\_\_\_\_ actual?      \_\_\_\_\_ estimated?

**Thank you for your help.**

**When completed, please mail completed survey to:**

**Cindy Bach  
Miami County Sanitary Engineering  
2200 N. County Road 25-A  
Troy, OH 45373**

**A pre-addressed envelope is enclosed for your convenience.**

**If you prefer, the survey may be faxed to Sanitary Engineering at 937-335-4208.**

# ANNUAL RECYCLERS SURVEY FOR CALENDAR YEAR 2012

## ANNUAL RECYCLING INFORMATION (check)

These figures are (check one): Actual \_\_\_\_\_ Estimated \_\_\_\_\_

**Please list only the amount received from Miami County.**

**DO NOT INCLUDE SCRAP FROM AUTOMOBILES OR DEMOLITION**

Material Type:	TONS Received from in-District (Miami County)	Estimated percent of this material that came from <b>Industrial Sources</b>	Estimated percent of this material that came from <b>Residential and Commercial Sources</b>
ALUMINUM CANS			
NON-FERROUS SCRAP METAL			
FOOD CANS			
FERROUS METALS			
NEWSPAPER			
CARDBOARD			
OTHER PAPER			
TEXTILES/FABRICS			
GLASS			
PLASTIC #1			
PLASTIC #2			
PLASTIC #3			
PLASTIC #4			
PLASTIC #5			
PLASTIC #6			
PLASTIC #7			
WASTE TIRES			
LEAD ACID BATTERIES			
WOOD SCRAP			
SHIPPING PALLETS			
YARD WASTE			
OTHER: please list			
1.			
2.			
3.			
TOTAL			

## **APPENDIX G**

### **Industrial Survey Results**

Appendix G  
Miami County Solid Waste District  
Amount of Industrial Waste Recycled by Standard Industrial Classification (SIC) Category (Tons) as Reported on Industrial Surveys

Type of Waste	20	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	Total
Aluminum	1.0	0.3				1.3	0.7	1.0	101.7	3.5		3.5	41.0	72.3	75.7	31.6	735.0			1,069
Ash																				0
Batteries								0.1		1.0		0.5				0.2	0.1		12.3	14
Cardboard	923.3			15.5		42.5	5.5	102.0	17.0	306.3		187.7	4.0	325.6	162.6	15.8	37.9		567.1	2,713
Commingled						110.0								43.5	180.0					334
Composites																				0
Concrete												8,050.0	400.0							8,450
Electronics																1.6	2.0		0.7	4
Ferrous	17.9			5.8		34.0		183.7	30.4	29.0		18.0	5.0	5,369.9	1,384.8	18,584.3	934.6		38.2	26,636
Food	8,837.0																			8,837
Glass								47.0				0.5								48
Newsprint												2.0	0.5		4.1		1.4			8
Non-Ferrous Metals	11.4			18.0				1.0	1.5	2.8		2.0	26.0	10.9	142.2	60.4	33.5			310
Non-Hazardous Chemicals (Solid Only)						1.0						0.5	241.9							243
Pallets	614.2			782.0		362.0		956.8	24.0	226.0		7.1	62.5	132.2	98.5	42.0	91.3		20.7	3,419
Paper	6.5	0.5				431.5	41.0	42.9		8.5		1.5	1.5	25.1	32.2	58.0	8.8		2.0	660
Plastics	26.5			2.0		76.5		844.4		3,503.0		0.5		35.6	68.0	2.2	23.3		308.5	4,891
Rubber/Tires	4.5								7.0	17.3		2.0		4.0	5.0					40
Sludge	386.0																			386
Stone/Clay/Sand												100.0	851.0							951
Textiles												0.5								1
Wood	0.4	1.0		2,218.5						35.0		2.0		81.7	101.4	66.0	1.1		7.4	2,515
Yard Waste															5.0					5
Other								0.1		52.0							5.1		20.5	78
Total	10,829	2	0	3,042	0	1,059	47	2,179	182	4,184	0	8,378	1,633	6,101	2,260	18,862	1,874	0	977	61,609

Source(s) of information: District Industrial Survey results

Appendix G  
Miami County Solid Waste District  
Amount of Industrial Waste Disposed by Standard Industrial Classification (SIC) Category (Tons) as Reported on Industrial Surveys

Type of Waste	20	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	Total
Aluminum		0.5						0.0	1.0					0.9	0.5				0.5	3
Ash				238.3										0.4			15.7			254
Batteries																				0
Cardboard	411.4	2.5		4.0		6.0	0.3	17.1	0.3	10.5		21.1		25.5	10.1	21.0	7.0		18.0	555
Commingled																				0
Composites				4.0				2.0		1.0				0.2			5.2			12
Concrete	2.0							0.0									12.9			15
Electronics																				0
Ferrous	5.0	0.5				41.0		0.0		3.0		1.0		0.4	7.3		3.1			61
Food	401.7			2.0		3.0		11.0	0.3	10.0		2.5		0.1	8.5	0.3	0.5		8.0	448
Glass	2.0	1.0		4.0				5.0		26.0		1.0		41.2	2.0		1.9		0.5	85
Mixed Solid Waste	200.9					455.0		36.0		140.5		152.3	46.3	962.7	1,021.0	16.6				3,031
Newsprint	1.0							10.0	0.3	1.0		0.3		0.0	4.7		0.8		2.0	20
Non-Ferrous Metals	5.0	0.5		5.0		1.0		0.0		1.0		1.0			0.1				1.0	15
Non-Hazardous Chemicals (Solid Only)						1.0		4.0	2.0					397.3	1.5	1.0				407
Pallets	15.7									4.5				2.4	4.0					27
Paper	339.9	1.0		17.5		1,593.0		65.2	1.0	18.5		32.6		0.3	61.3	75.0	5.7		73.0	2,284
Plastics	211.4	0.5		5.0		241.0		38.7		113.5		3.0		1.4	18.5		8.8		52.1	694
Rubber/Tires				4.0				48.0	2.0					0.0	1.0		4.7			60
Sludge	274.0									1.0				59.1	3.0					337
Stone/Clay/Sand				3.0				42.7				5.0	4.0		120.2		12.8			188
Textiles				9.0			0.004			1.0							10.8		14.0	35
Wood	25.7	1.5		228.2		3.0		5.1		2.5		12.1		4.2	6.1		2.9		5.0	296
Yard Waste				1,172.4				0.1		2.0		0.5		0.2					1.5	1,177
Other								6.0		12.0							0.5			19
Total	1,896	8	0	1,696	0	2,344	0	291	7	348	0	232	50	1,496	1,270	114	93	0	176	10,022

Source(s) of information: District Industrial Survey results



Appendix G  
Miami County Solid Waste District  
Amount of Industrial Waste Generated by Standard Industrial Classification (SIC) Category (Tons) as Reported on Industrial Surveys

Type of Waste	20	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	Total
Aluminum	1.0	0.8	0.0	0.0	0.0	1.3	0.7	1.0	102.7	3.5	0.0	3.5	41.0	73.2	76.2	31.6	735.0	0.0	0.5	1,072
Ash	0.0	0.0	0.0	238.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	15.7	0.0	0.0	254
Batteries	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	1.0	0.0	0.5	0.0	0.0	0.0	0.2	0.1	0.0	12.3	14
Cardboard	1,334.7	2.5	0.0	19.5	0.0	48.5	5.8	119.1	17.3	316.8	0.0	208.8	4.0	351.1	172.7	36.8	44.9	0.0	585.1	3,267
Commingled	0.0	0.0	0.0	0.0	0.0	110.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.5	180.0	0.0	0.0	0.0	0.0	334
Composites	0.0	0.0	0.0	4.0	0.0	0.0	0.0	2.0	0.0	1.0	0.0	0.0	0.0	0.2	0.0	0.0	5.2	0.0	0.0	12
Concrete	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8,050.0	400.0	0.0	0.0	0.0	12.9	0.0	0.0	8,465
Electronics	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	2.0	0.0	0.7	4
Ferrous	22.9	0.5	0.0	5.8	0.0	75.0	0.0	183.7	30.4	32.0	0.0	19.0	5.0	5,370.3	1,392.1	18,584.3	937.7	0.0	38.2	26,697
Food	9,238.7	0.0	0.0	2.0	0.0	3.0	0.0	11.0	0.3	10.0	0.0	2.5	0.0	0.1	8.5	0.3	0.5	0.0	8.0	9,285
Glass	2.0	1.0	0.0	4.0	0.0	0.0	0.0	52.0	0.0	26.0	0.0	1.5	0.0	41.2	2.0	0.0	1.9	0.0	0.5	132
Mixed Solid Waste	200.9	0.0	0.0	0.0	0.0	455.0	0.0	36.0	0.0	140.5	0.0	152.3	46.3	962.7	1,021.0	16.6	0.0	0.0	0.0	3,031
Newsprint	1.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.3	1.0	0.0	2.3	0.5	0.0	8.8	0.0	2.2	0.0	2.0	28
Non-Ferrous Metals	16.4	0.5	0.0	23.0	0.0	1.0	0.0	1.0	1.5	3.8	0.0	3.0	26.0	10.9	142.3	60.4	33.5	0.0	1.0	324
Non-Hazardous Chemicals (Solid Only)	0.0	0.0	0.0	0.0	0.0	2.0	0.0	4.0	2.0	0.0	0.0	0.5	241.9	397.3	1.5	1.0	0.0	0.0	0.0	650
Pallets	629.9	0.0	0.0	782.0	0.0	362.0	0.0	956.8	24.0	230.5	0.0	7.1	62.5	134.6	102.5	42.0	91.3	0.0	20.7	3,446
Paper	346.4	1.5	0.0	17.5	0.0	2,024.5	41.0	108.1	1.0	27.0	0.0	34.1	1.5	25.4	93.5	133.0	14.5	0.0	75.0	2,944
Plastics	237.9	0.5	0.0	7.0	0.0	317.5	0.0	883.1	0.0	3,616.5	0.0	3.5	0.0	37.0	86.5	2.2	32.1	0.0	360.6	5,584
Rubber/Tires	4.5	0.0	0.0	4.0	0.0	0.0	0.0	48.0	9.0	17.3	0.0	2.0	0.0	4.0	6.0	0.0	4.7	0.0	0.0	100
Sludge	660.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	59.1	3.0	0.0	0.0	0.0	0.0	723
Stone/Clay/Sand	0.0	0.0	0.0	3.0	0.0	0.0	0.0	42.7	0.0	0.0	0.0	105.0	855.0	0.0	120.2	0.0	12.8	0.0	0.0	1,139
Textiles	0.0	0.0	0.0	9.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.5	0.0	0.0	0.0	0.0	10.8	0.0	14.0	35
Wood	26.1	2.5	0.0	2,446.7	0.0	3.0	0.0	5.1	0.0	37.5	0.0	14.1	0.0	85.9	107.5	66.0	4.0	0.0	12.4	2,811
Yard Waste	0.0	0.0	0.0	1,172.4	0.0	0.0	0.0	0.1	0.0	2.0	0.0	0.5	0.0	0.2	5.0	0.0	0.0	0.0	1.5	1,182
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.1	0.0	64.0	0.0	0.0	0.0	0.0	0.0	0.0	5.6	0.0	20.5	96
Total	12,724	10	0	4,738	0	3,403	47	2,470	188	4,532	0	8,611	1,684	7,597	3,529	18,976	1,967	0	1,153	71,631

Source(s) of information: District Industrial Survey results

## **APPENDIX H**

### **Miami County Debris Management Plan**

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# **Miami County Debris Management Guide**

## **ACKNOWLEDGEMENTS**

The *Miami County Debris Management Guide* was developed with the cooperation of numerous agencies from throughout Miami County. This includes the Miami County Solid Waste District, the Miami County Emergency Management Agency, the Miami County Health District and the OEPA Southwest District Office.

This response guide incorporates best practices from debris management plans produced by local, state and Federal agencies. We wish to thank all of the professionals whose invaluable contributions made this response guide possible.

The committee that worked on this plan includes:

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## **UPDATING THE PLAN**

It is the recommendation of the committee that this plan be updated and reviewed each year as it pertains to Miami County.

## **I. INTRODUCTION**

### **Purpose**

The Miami County Debris Management Guide is intended to serve as a guidance document for use by Miami County personnel. All jurisdictions within the County are part of this plan should a disaster occur and would use this also as a guidance document.

The purpose of this Guide is to:

- provide guidance to the communities of Miami County regarding the development of plans for the removal and disposition of debris caused by a major disaster.
- facilitate and coordinate the management of debris following a disaster in order to mitigate against any potential threat to the lives, health, safety, and welfare of the impacted citizens, expedite recovery efforts in the impacted area, and address any threat of significant damage to improved public or private property.

## **II. SITUATION AND ASSUMPTIONS**

### **A. SITUATION**

1. Natural and manmade disasters precipitate a variety of debris that include, but are not limited to, such things as trees, sand, gravel, building construction material, vehicles, personal property and hazardous materials.
2. The quantity and type of debris generated from any particular disaster will be a function of the location and kind of event experienced, as well as its magnitude, duration and intensity.
3. The quantity and type of debris generated, its location, and the size of the area over which it is dispersed will have a direct impact on the type of collection and disposal methods utilized to address the debris problem, associated costs incurred and how quickly the problem can be addressed.
4. In a major or catastrophic disaster, many state agencies and local governments will have difficulty in locating staff, equipment, and funds to devote to debris removal, in the short-term as well as long term.

## B. ASSUMPTIONS

1. A natural disaster that requires the removal of debris from public or private lands and waters could occur at any time.
2. The amount of debris resulting from an event or disaster could exceed the local government's ability to dispose of it.
3. If the natural disaster requires, the Governor would declare a state of emergency that authorizes the use of State resources to assist in the removal and disposal of debris. In the event Federal resources are required, the Governor would request through FEMA a Presidential Disaster Declaration.
4. Private contractors will play a significant role in the debris removal, collection, reduction and disposal process.
5. The debris management program implemented by the local government will be based on the waste management approach of reduction, reuse, reclamation, resource recovery, incineration and landfilling.
6. Asbestos Containing Materials (ACM) and Hazardous Materials will be segregated and handled in accordance with federal, state and local regulations.

## Events and Assumptions Composition of Disaster Debris

### Typical Debris Streams

Types of Disasters		Vegetative	Construction Demolition	Personal Property	Hazardous Waste	Soil, Mud, Sand	Vehicles, Vessels	White Goods
	Hurricanes	X	X	X	X	X	X	X
	Tornadoes	X	X	X	X		X	X
	Floods	X	X	X	X	X	X	X
	Earthquakes		X	X	X	X		
	Ice Storms	X		X	X			
	Wild Fires	X		X		X	X	

Different handling and disposal methods are required for particular debris types and this impacts the scope of work for the debris management plan. Managing debris containing hazardous, household hazardous, medical and infectious materials require the various specialized handling and disposal methods.

Jurisdictional representatives should familiarize themselves with what hazards are located within their districts including hazardous chemical storage and amounts, and all other potential hazards.

Evaluating the accessibility and terrain of various locations within a jurisdiction is critical to determining the types of debris collection programs that should be undertaken should a disaster occur.

### **III. Organization**

Prior to an emergency/disaster the county, townships, cities, and villages will each designate a debris manager (DM). Each debris manager will be responsible for reviewing and updating his or her jurisdiction's debris management plan as needed. After a debris-generating disaster, the DM will oversee and coordinate debris management operations in his or her jurisdiction along with assistance from Miami County Solid Waste District (DM). The DM'S will coordinate jurisdictional assets; volunteers; County, State, and Federal assistance; and private contractors.

### **IV. Concept of Operations**

The following information details the means by which the Jurisdiction and Miami County DM'S will manage and coordinate the debris clearance, removal, and disposal operations.

#### **Debris Management Cycle**

The model for debris management operations is a four-phase cycle. The four phases of the debris management cycle are:

- ◆ normal operations — Routine actions necessary to develop or update the debris management plan.
- ◆ increased readiness — Pre-disaster actions taken if a disaster is threatening the local area.
- ◆ response — Procedures that focus on support of life safety operations in the immediate aftermath of a debris-generating disaster.
- ◆ recovery — Actions necessary to complete the debris removal, reduction, and disposal activities, based on damage assessment of the disaster.

#### **Emergency Operations Center (EOC) – (Miami County Emergency Management Agency)**

An EOC is a protected facility established by a political entity to coordinate efforts to support disaster response and recovery. In support of debris management operations, the EOC coordinates the acquisition and delivery of resources and technical expertise as requested by the Debris Manager.



The typical organizational structure of an EOC is organized around five main components:

- Executive Cell (Elected officials, EOC Director, and EOC Manager; support personnel includes PIO, Liaison, and Safety Officer)
  - Planning and Intelligence Section
- Operations Section
- Logistics Section
- Finance Section

EOCs exist on the local, County, State and Federal levels. If one echelon of government's resources is overwhelmed by a disaster, a "state of emergency" is declared by the appropriate chief elected official. Then, the EOC at the next echelon of government is activated.

The EOC provides operational, logistical, planning, and financial support for debris management operations. Organizationally, the Debris Manager is placed under the Operations Section. The DM coordinates debris management operations taking place in the field. In support of those operations the:

- Logistics Section - provides and tracks resources.
- Finance Section - provides and records funding.
- Planning and Intelligence Section - develops strategic plans and achieves documentation.
- Public Information Officer (PIO) - communicates information and instructions to the public regarding debris disposal and debris operations. The PIO would do this through any means possible depending upon the infrastructure that is available after a disaster event.

For more information regarding a specific jurisdiction's EOC, see that jurisdiction's Emergency Operations Plan (EOP). For more information regarding the Miami County EOC see the *Miami County Emergency Operations Plan* under separate cover.

#### Debris Management Team and Debris Management Working Group (Miami County Solid Waste District and Miami County EMA)

The Miami County Sanitary Engineering Office will be utilized as the centralized Command Post for all Debris Managers in case of a large scale debris gathering event occurs within the boundaries of Miami County. This facility is equipped with an emergency backup generator in case of a large power outage throughout Miami County.

The Debris Manager in each jurisdiction should organize a *Debris Management Team* consisting of key personnel in each jurisdictional department responsible for aspects of the debris management mission. Ensure that each department is fully prepared to fulfill its duties under the Debris Management Plan. The team should meet periodically to review and update procedures.

The County-level *Debris Management Working Group* is made up of State and County officials who deal with debris management issues. The Working Group meets periodically to review debris management policies and procedures. Members of the Working Group assist jurisdictions by reviewing debris management plans and providing technical assistance. The Group is made up of representatives from Ohio EPA, RAPCA, Miami County Engineer's Office, Miami County Solid Waste District, Miami County Public Health, and Miami County Office of Emergency Management.

In the immediate aftermath of a debris-generating disaster, members of the Working Group along with the jurisdiction's Debris Manager and Debris Management Team will act as an Assessment Team. The Assessment Team will review the jurisdiction's debris management plan, offer technical advice if needed, and monitor debris management procedures.

By reviewing plans and procedures at the outset of a debris management operation, the Team can address any questions or issues before they become problematic.

### Debris Estimating

The determination of quantity and type of debris is critical to debris management. Debris contracting, the management of Temporary Debris Management sites, (DMS) and the possible need for State and Federal resources will require reasonably accurate estimates of debris quantities.

For reimbursement of funds, contractor **must** submit quantities of materials handled. For information on debris estimating formulas and techniques, see Attachment B5.

### Contracts

§ 307.86 of the Ohio Revised Code requires, with a limited exception, that anything that is purchased, leased, leased with an option or agreement to purchase, or constructed by or on behalf of the public authority must be obtained through competitive bidding. R.C. 307.86. H.B. 509 raises the threshold from \$25,000 to \$50,000 above which amount competitive bidding procedures must be used.

Ohio House Bill 509 also raises the dollar thresholds for the exception to competitive bidding in emergency situations. Competitive bidding is not required if there is an emergency situation and the estimated cost is less than \$50,000. This amount is raised to \$100,000.

Ohio House Bill 509 also raises the minimum threshold for soliciting at least three informal estimates for emergency procurement of services from \$25,000 to \$50,000.

Ohio House Bill 509 raises the minimum threshold from \$25,000 to \$50,000 when notice of competitive bidding is required.

Following a major debris- generating event, contracting for services, equipment and labor may be necessary. The magnitude of the debris clearance, removal, and disposal operation could easily overwhelm jurisdictional, mutual aid, volunteer, county and state resources. The Jurisdictional Debris Manager should be prepared to contract with private entities for services as needed or even before a disaster event, if possible.

Examples of private contracts for services

- Wood waste grinding contracts
- Debris hauling contracts
- Tree removal contracts
- Equipment rental contracts
- Temporary labor contracts
- Hazardous waste removal contracts

Each jurisdiction will be responsible to contract and fund these services, individually through their own financial means.

- Types of Contracts, see Attachment A1.
- Sample Contracts, see Attachment A2.
- List of Qualified Contractors, see Attachment A3.
- List of Standing Contracts, see Attachment A4.

Standing contracts are contracts with companies that make the company available for assistance in the event of a debris-generating event. The standing contracts are in place before a disaster occurs. Develop a list of standing contracts that are reached between the community or county and contractors.

**Contract Monitoring:** In the event contracts are in place for debris removal, monitoring of contractors is a very important issue. Designate a person or persons for contract monitoring. Contract monitoring verifies that the following actions are taking place:

- Debris being picked up is a direct result of the disaster.
- Trucks hauling debris are fully loaded.
- Debris pick-up areas are being managed properly.
- Trucks are sticking to debris routes.
- Inspection of temporary DMS storage sites to ensure operations are being carried out according to contract.
- Verification of security and control for temporary DMS storage and reduction sites.

**General Monitoring:**

Debris Management Sites (DMS) Jurisdiction Debris Manager will appoint selected members to monitor operations of sorting and loading of material. All loads will be issued load tickets before leaving the load out area. All trucks must be filled to capacity. Woody type waste will be chipped up as mulch on site.

Temporary Debris Management Sites (DMS) Jurisdiction Debris Manager will appoint selected members to monitor ongoing operations of these sites. All loads of material that enter site must have in possession an issued load ticket from the Debris Management Site inspector before being permitted to unload.

## Temporary Debris Management Sites.

Each jurisdiction Debris Manager will be responsible to locate, operate and staff their Temporary Debris Management Site (DMS). All loads that enter a site must have in possession an issued load ticket from the Debris Management Site inspector before being permitted to unload. Any citizen that hauls their own waste into the site will be required to show proof of residence.

Temporary Debris Management Sites must be secured at the end of each day of operation, to eliminate illegal dumping. This can be accomplished by posting a guard at the entrance of the site or a secured fence and gate will need to be installed. There are multiple security companies that would service Miami County if the need arose.

(DMS) sites are essential to major debris clearance, removal and disposal operations. The DM should work closely with local and State officials to develop and maintain current listings of potential DMS sites.

Pre-disaster Site Selection Teams should be formed. These teams should include local officials who are familiar with the area. Also, the teams should consult and coordinate with local residents and environmental groups to identify in advance any potential problems with a site.

For more information on DMS sites see the following attachments:

- List of Pre-selected DMS Site Locations —Attachment B1
- Criteria for the location of DMS sites— Attachment B2
- List of questions that will assist in identifying suitable sites— Attachment B3
- DMS site Baseline Data Collection—Attachment B4
- Debris Estimating Techniques—Attachment B5
- Debris Reduction Information—Attachment B6
- DMS site closeout issues— Attachment B7
- DMS site closeout checklist— Attachment B8
- DMS site sample layout map—Attachment B9

## Landfills and Related Facilities

It is important to maintain and update a list of facilities that accept various types of debris. This list might include landfills, transfer facilities, infectious waste treatment facilities, scrap tire storage and recovery facilities, composting facilities, and recycling facilities. Also, list companies authorized to transport scrap tires and infectious waste. Identify alternative facilities if those used during normal operations have been impacted by the disaster. Listing of facilities can be found at [www.epa.state.oh.us/dsiwm/pages/general](http://www.epa.state.oh.us/dsiwm/pages/general) on Ohio EPA's website. See Attachments D1–D3.

## Debris Removal Priorities and Operations

When a debris-generating event occurs there is an immediate need for prioritization of actions. Debris will include fallen trees, limbs, trash, furniture, food waste, scrap tires, utility poles and wires, vehicles, building materials, hazardous materials, infectious materials, animal carcasses, silt and mud, etc. Develop and implement a priority system for debris removal.

Major debris removal operations are divided into two phases:

### **HEALTH AND SAFETY**

All debris removal activities shall comply with all health and safety requirements. Each jurisdiction will be responsible to appoint their own safety officer to oversee all debris removal operations within their effected area.

Debris operations involve the use of heavy equipment to move and process various types of debris. Many of these actions can pose safety hazards. In addition to those safety hazards, exposure to certain types of debris, such as building materials that contain asbestos and mixed debris that contain hazardous materials, can pose potential health risks.

Miami County Public Health will work with all jurisdiction safety officers to address all health related issues.

The Miami County Engineer along with the Miami County Building and Zoning Inspector will work with local jurisdiction personnel to inspect all damaged structures affected from the event to make the decision if a building is declared a total loss and will need to be demolished.

All structures with historical preservation must be identified and evaluated before demolition can be considered. The jurisdiction will work with the state historic preservation office initially to determine if there are regulations that need to be followed. The Ohio State Preservation phone number is 614-297-2300. Per the Preservation office, under the National Preservation Act of 1966, if there is a Federal Undertaking, there is a Project for 106 Review. The Ohio EPA will do a review in 30 days after notification in an emergency situation.

### **PERMITTING**

Debris removal and processing must comply with all federal, state, and local regulations. Several agencies may be involved in issuing permits. Please see Appendix for contact information

♦ **Phase I - Clearance of debris that hinders immediate life saving actions** in the disaster area and clearance of debris that poses an immediate threat to public health and safety. The first priority is given to removal of debris from roadways and locations that block access and egress to critical facilities or essential operations.

Critical facilities include: fire stations, police stations and hospitals. Essential, but not critical, facilities include: schools, municipal buildings, water treatment plants, wastewater treatment plants, power generation units, airports, and temporary shelters

for disaster victims. The jurisdiction will need to prioritize debris removal from roadways that allow access to these facilities.

During Phase I, debris is usually not removed but pushed to the side of the road to provide at least one clear lane to allow for:

- Movement of emergency vehicles.
- Resumption of critical services.
- Damage assessment of critical public facilities and utilities.

♦ **Phase II - Removal and disposal of debris to ensure the orderly recovery of the community** and to eliminate less immediate threats to public health and safety.

The use of Force Account Labor for work with companies that trim trees, grind wood waste or the clearing of debris would be dependent on each jurisdiction along with mutual aid from other parties.

The initial roadside piles of debris created during Phase I will become the dumping locations for additional yard waste and other disaster-generated debris such as construction material; personal property; trash; white metals (washers, dryers, hot water heaters, etc.); roofing material; and household, commercial and agricultural chemicals.

In general, debris that is on **public property** must be removed to allow continued safe operations of governmental functions. Therefore, most debris-removal from public property is eligible for FEMA Public Assistance (PA) funds.

Debris removal from **private property** is the responsibility of the individual property owner, aided by insurance settlements and assistance from volunteer agencies. FEMA reimbursement is not available for the cost of removing debris from private property. Government departments or their contractors *may* pick up and dispose of disaster-related debris placed at the curb by private individuals. The extent and duration of this type of work is carefully controlled. FEMA, State, County, and local officials will agree on a time period during which curbside pick-up will be eligible for PA funding.

For more information on PA eligibility, see *Public Assistance Guide (FEMA 322)* and *Debris Management Guide (FEMA 325)* at [www.fema.gov](http://www.fema.gov).

### Hazardous Materials

The Debris Manager will work with the Ohio Environmental Protection Agency Emergency Response Group, Solid Waste District and hazardous waste vendors to coordinate the removal of hazardous waste from commercial operations as well as from private property. Household Hazardous Waste (HHW) and Asbestos Containing Materials (ACM) should be segregated at curbside or brought to designated drop-off sites.

The Dayton Regional Hazardous Materials Response Team is available to identify/classify and mitigate hazardous-materials exposures that present acute life safety and public health threats.

The county, township, city, or village will work closely with Federal and State environmental protection agencies to ensure proper removal and disposal of hazardous waste.

**IMPORTANT NOTE:** Temporary storage areas for hazardous waste must include a *lining with an impermeable material* so chemicals do not leak into the groundwater and soil.

### Terrorism

Terrorist acts may require that some debris be treated as potential evidence in a criminal investigation. Law enforcement officials may seek to control the handling and removal of debris pending criminal investigation. Some debris may be marked and temporarily stored in a secure area pending the completion of judicial actions including civil lawsuits.

### Debris Classifications

For debris classifications, see Attachment C.

### *Documentation and Forms*

Documentation of debris management activities is important for potential reimbursement of costs. In addition, documentation is important to record activities performed and authorizations granted, and to develop a historical record for updating plans. Documentation of activities is the responsibility of those performing work as well as those who provide oversight and direction. At a minimum, documentation procedures and the *forms to support them* need to be created to address the following:

- ◆ Labor, equipment, rental fees and material costs
- ◆ Mutual-aid agreement expenses
- ◆ Use of volunteered resources, including labor
- ◆ Administrative expenses
- ◆ Disposal costs
- ◆ Types of debris collected and amounts of each type

## **V. Organization and Assignment of Responsibilities**

The purpose of this section is to give an overview of the roles and responsibilities for operations before, during, and after a debris-generating event.

Because of differences in each jurisdiction, development of exact roles and responsibilities should be dealt with at the local level. Therefore, duties of specific departments and an organization's involvement in the debris removal process are not discussed.

## ***Normal Operations***

During normal operations (before a disaster), the jurisdiction must be aware that the following issues must be addressed to ensure preparedness for debris generating events. The Solid Waste District will do all it can to aid in the disposal of materials, but normal operations do need to be first and foremost during a tragedy. The responsibilities for normal operations include but are not limited to:

### **The Jurisdiction's Debris Manager (DM) will:**

- Create a Debris Management Plan for the jurisdiction. The DM will coordinate the creation of the Plan with each jurisdictional department responsible for aspects of the debris management mission.
- Identify forms to support documentation of debris management activities. See **IV. Concept of Operations, Documentation and Forms.**
- In coordination with the Solid Waste District DM, compile and keep current a list of facilities that accept various types of debris. Identify alternative facilities in case those used during normal operations have been impacted by the disaster. See Attachments D1–D3.
- Develop agreements with landfills and recycling facilities to accept disaster-related debris.
- Coordinate with Solid Waste District DM to review, evaluate, and designate locations or potential DMS sites. See Attachments B1–B9 for more information on DMS sites.
- Develop and update maps indicating potential: routes for debris pickup/hauling, temporary debris storage and reduction (DMS) sites, equipment staging areas, and drop-off sites.
- Review, evaluate, and designate locations as potential equipment staging areas. Each Debris Manager will have the responsibility to monitor their sites along with other designees especially for contaminated material. This activity should be coordinated with the jurisdictional departments responsible for clearing and disposal of debris from streets.
- It is better to have several staging areas evenly distributed throughout the impacted area as opposed to a single large area. This approach allows for a quicker response and prevents the trucks from wasting time as they drive from one end of the damage area to the other.
- Organize a Debris Management Team consisting of key personnel in each jurisdictional department responsible for aspects of the debris management mission. The Solid Waste District will attempt to head up this team. Ensure that each department is fully prepared to fulfill its duties under the Debris



Management Plan. The team should meet periodically to review and update procedures.

- Participate in County-level Debris Management Working Group when appropriate.
- Attempts will be made to have a yearly exercise to refresh all key players in their roles.
- Coordinate hazardous materials awareness training for public employees who will be involved in debris management operations. Employees should learn:
  - ◆ to spot possible hazardous materials/waste and ACM among post-disaster debris.
  - ◆ the procedures for reporting possible hazardous materials/waste and ACM to proper authorities.
- Coordinate, with the appropriate jurisdictional departments, the development of **standing contracts for**:
  - ◆ disaster-related debris hauling.
  - ◆ dumpsters to accept:
    - ◇ spoiled food. NOTE—This need can arise from a debris-generating disaster that results in an extended power outage (in excess of 12 hours), or from an extended power outage without an associated disaster.
    - ◇ household hazardous waste (HHW).
    - ◇ tires.
  - ◆ tire repair
  - ◆ asbestos containing materials (ACM)
  - ◆ chipping and grinding operations. Contract with companies to turn vegetative matter into mulch and haul it away. NOTE—It is important to consult with the contractor to pre-identify sites large enough for chipping and grinding operations.
- Develop volunteer assets to assist in debris management operations, including monitoring drop-off sites. NOTE—Consider Citizen Corps/Community Emergency Response Team (CERT) volunteers.
- Coordinate with appropriate County, State, and Federal agencies to insure compliance with applicable environmental protection and historic preservation laws and regulations.

- Develop Right-of-Entry/Hold Harmless Agreements. Disaster response operations will require entering private property to remove debris that is a threat to health and safety of occupants, see Attachment A-4.

**Purchasing** (County Auditor's office or equivalent) will:

- Develop a list of contractors to include current information on name, address, phone numbers (office, home, cell, fax) and email address. For more information on contractors, see Attachments D1–D3.

**Legal** (County Prosecutor's office or equivalent) will:

- Review Right-of-Entry/Hold Harmless Agreements.
- Review contracts developed by Debris Manager and jurisdictional departments.

**Solid Waste** (Miami County Transfer Station) will:

- Coordinate with the Debris Manager to establish a process for debris removal from public and private properties to be incorporated into the Debris Management Plan.
- Evaluate options for recycling/reducing/disposing of debris. Each debris-reduction method must comply with local ordinances and State and Federal environmental regulations. See Attachment B6—Debris Reduction Information.
- In coordination with Debris Manager, compile and keep current a list of facilities that accept various types of debris. Identify alternative facilities in case those used during normal operations have been impacted by the disaster. See Attachments D1–D3.
- In coordination with Debris Manager, select locations for DMS sites. Procedures should be developed to address the following DMS site issues:
  - ♦ Location: Care should be taken in selection of DMS sites. Land use, proximity to housing, and other factors should be taken into account. Preference should be given to public property rather than private. Included in the attachments to this document are criteria for suitable DMS site locations.
  - ♦ Operations: Monitoring receipt of debris and verifying types of debris received are critical functions for successful DMS site operations. Included in the attachments to this document is a sample DMS site layout map.
  - ♦ Closeout: In closing out a DMS site, care should be taken to restore the site to its original condition in an environmentally sound and timely manner. Included in the attachments to this document is a DMS site closeout checklist.

**IMPORTANT NOTE:** Temporary storage areas for hazardous waste must include a *lining with an impermeable material* so chemicals do not leak into the groundwater and soil.

See Attachments B1–B9 for more information on DMS sites.

**Public Works Department** (County Engineer’s office or equivalent) will:

- Coordinate with the Debris Manager to establish a process for debris removal from roads to allow access to emergency responders. This process will be incorporated into the Debris Management Plan

**Finance** (County Auditor’s office or equivalent) will:

- Develop documentation process for potential reimbursement.

## ***Increased Readiness***

In some instances there is a warning that a disaster may occur. This section covers actions to be taken by the jurisdiction’s Debris Manager (DM) in the event of a potential debris-generating event.

**The Jurisdiction’s Debris Manager (DM)** will:

- Alert personnel. The DM should implement established procedures for alerting the Debris Management Team.
- Review and update Debris Management Plan. Ensure personnel understand roles and responsibilities for plan implementation. Review right of entry/hold-harmless agreements, existing contracts, list of qualified contractors, sample contracts, and other contracts necessary to conduct debris management activities.
- Review waste management options.
  - ♦ The DM should ensure pre-selected temporary DMS storage and reduction sites are currently available for use. Identify alternative locations if necessary. See Attachment B1.
  - ♦ Ensure authorized waste transfer or disposal facilities are currently operational. Identify alternative facilities if those used during normal operations have been impacted by the disaster. See Attachments D1–D3.
- Consider establishing communications with the Miami County Emergency Operations Center Assessment Room.

- Appoint a Safety officer to oversee all collection operations for their own Jurisdiction to assure personnel health and safety and to assess and to anticipate hazardous and unsafe situations.

**The Jurisdiction's Debris Management Team will:**

- Alert personnel. Team Members should implement established procedures for alerting personnel in their respective departments that have debris management responsibilities.
- Review and update departmental Debris Management procedures. Ensure personnel understand their department's roles and responsibilities in debris management plan implementation.

## ***Response***

The Response phase focuses on support of life safety operations in the immediate aftermath of a debris-generating disaster.

**The Jurisdiction's Debris Manager (DM) will:**

- Activate Debris Management Plan to coordinate and manage debris removal operations.
- Meet with jurisdictional Debris Management Team to implement the Debris Management Plan.
- Meet with Debris Management Working Group to review policies and procedures.
- Make debris removal assignments based on debris removal priorities.
- Activate standing contracts.
- Coordinate with jurisdictional Emergency Operations Center Logistics Branch to deploy and track resources.
- Participate in EOC meetings and provide briefings as necessary to EOC staff on current and future debris management activities.
- Based on assessments and strategic plans, estimate resource needs. Communicate this information to the EOC Logistics Branch, Debris Management Team, and other appropriate parties.
- Work with EOC Planning Section to develop 12-hour debris management strategic plan.
- Evaluate Damage Assessment reports in terms of debris-management-relevant information.

- Coordinate the removal of debris from “Priority One” areas. NOTE: This is a Phase One debris removal operation. Debris is pushed to the curbside to clear the roadway and allow emergency responders access to impacted areas.
- Work with Debris Management Team to develop cost estimates and scopes of work for public employees and contractors.
- Authorize pre-designated DMS sites to be activated or new sites to be established.

**Jurisdiction and County Safety Officers Will:**

- The Debris Manager will assign a Safety Manager to oversee the safety and health operations of all debris removal and collection sites.
- Will make sure all personnel are equipped with proper safety hats, gloves and footwear.
- Conducts daily safety briefings at the start of each day.
- Advises Incident Commander on issues regarding incident safety.
- Will conduct risk analyses and implement safety measures.
- To minimize other employee risks by promoting safe driving habits, eliminating tripping hazards, ensuring safe food handling, etc. in the field

**Public Works Department (County Engineer’s office or equivalent) will:**

- Consult with Debris Manager and emergency response officials to designate “Priority One” routes and areas for immediate debris removal.
- Remove debris from “Priority One” routes and areas. NOTE: This is a Phase One debris removal operation. Debris is pushed to the curbside to clear the roadway and allow emergency responders access to impacted areas.

**Public Information Officer (PIO) (County Commissioner’s office or County EMA office) will:**

- Give the public information about:
  - ◆ Segregating hazardous waste
  - ◆ Placing debris at the curbside
  - ◆ Keeping debris piles away from fire hydrants and valves
  - ◆ Reporting illegal dumping
  - ◆ Segregating recyclable materials
  - ◆ Debris pick-up schedules

- ◆ Location of DMS sites
- ◆ Disposal methods and compliance with Environmental Protection Agency regulations
- ◆ Restrictions and penalties for illegal dumping
- Address questions such as:
  - ◆ What if I cannot pay for debris removal from my property?
  - ◆ What if I am unable to bring the debris to the curb for pickup?

**Solid Waste** (Miami County Transfer station) will:

- Based on damage assessments, review map of potential DMS site(s). Determine which sites should be activated. Determine if new sites need to be established.
- Evaluate options for recycling/reducing/disposing of debris. Each debris- reduction method must comply with local ordinances and State and Federal environmental regulations. See Attachment B6—Debris Reduction Information.
- Prepare to activate DMS sites.
- Notify landfills and recycling facilities of need to increase volume of debris.
- Contact Ohio EPA and request variances for landfills to accept increased volume of debris.

**Purchasing** (Miami County Auditor's office or equivalent) will:

- Develop new contracts as needed.
- Track and record expenditures for possible reimbursement.

**Legal** (Prosecutor's office or equivalent) will:

- Review all standing and new contracts.
- Secure all authorities necessary for debris removal operations.
- Review any actions that EPA or Ohio Historic Preservation Office indicates might be in violation of historic preservation or environmental laws/regulations/policies.
- Maintain environmental compliance records for submission to EOC Documentation Branch.
- Review right-of-entry and hold harmless agreements to ensure they are current.

**Finance** (County Auditor's office or equivalent) will:

- Keep records of financial transactions for possible reimbursement of debris removal operations.
- Coordinate funding of debris removal operations.

## ***Recovery***

This phase of the debris management cycle covers actions necessary to complete the debris removal, reduction, and disposal activities, based on damage assessment of the disaster.

### **The Jurisdiction's Debris Manager (DM) will:**

- Supervise implementation of Debris Management Plan.
- Coordinate with Ohio EPA and Ohio Historic Preservation Office on compliance issues.
- Coordinate Hazardous Waste removal operations with Miami County Solid Waste District **DM**
- Coordinate the closeout of DMS sites. See Attachments B7 & B8.
- At the conclusion of Debris Management Operations, conduct an After Action Review. Evaluate when and why decisions were made to perform certain actions. Examples: TDSR site selections, debris removal priorities, and demolition of public/private structures. Document lessons learned from review.

### **Miami County Solid Waste DM (Transfer Station) will:**

- Designate best options for recycling/reducing/disposing of debris. Each debris-reduction method must comply with local ordinances and State and Federal environmental regulations. See Attachment B6—Debris Reduction Information.
- Establish drop-off sites to accept: spoiled food, household hazardous waste (HHW), ACM and tires.
- Activate DMS sites as needed.
- Assist Jurisdiction's DM to manage and monitor operations at DMS site(s).
- Ensure DMS sites are environmentally compliant.
- Maintain environmental compliance records for submission to EOC Documentation Branch.
- Supervise removal of Hazardous Waste.

- Coordinate and monitor transportation of debris to appropriate DMS site or regulated waste facility.
- Coordinate and monitor transportation of debris from DMS sites to appropriate landfill, transfer station, or recycling facility.
- Monitor debris removal contracts with private contractors. Verify that the following actions are taking place:
  - ◆ Debris being picked up is a direct result of the disaster
  - ◆ Trucks hauling debris are fully loaded
  - ◆ Debris pick-up areas are being managed properly
  - ◆ Trucks are sticking to debris routes
  - ◆ Inspection of DMS sites to ensure operations are being carried out according to contract
  - ◆ Verification of security and control for temporary DMS sites

**Legal (County Prosecutor's office or equivalent) will:**

- Review private property insurance information and other assets to ensure benefits and resources are fully utilized.

**Purchasing (Miami County Commissioner's office or equivalent) will:**

- Set bidding requirements.
- Advertise for bids.
- Instruct bidders.
- Develop contracts.
- Document all costs for debris removal activities.

**Finance (Miami County Auditor's office or equivalent) will:**

- Keep records of financial transactions for reimbursement of debris removal operations.
- Coordinate funding of debris removal operations.

**Public Information Officer (PIO) (Miami County Commissioner's office or County EMA office) will:**

- Give the public information about:
  - ◆ Segregating hazardous waste
  - ◆ Placing debris at the curbside
  - ◆ Keeping debris piles away from fire hydrants and valves



- ◆ Reporting illegal dumping
- ◆ Segregating recyclable materials
- ◆ Debris pick-up schedules
- ◆ Location of DMS sites
- ◆ Disposal methods and compliance with Environmental Protection Agency regulations
- ◆ Restrictions and penalties for illegal dumping

## Attachment A1—Types of Contracts

Types of Contracts: The following types of contracts may be used when conducting debris management operations.

- ◆ Time and Material: Under a time and material contract, the contractor is paid on the basis of time spent and resources utilized in accomplishing debris management tasks. The Federal Emergency Management Agency recommends, for reimbursement purposes, that the use of time and material contracts be *limited to the first 70 work hours* following a disaster event.
- ◆ Unit Price: A unit price contract is based on weight (tons) or volume (cubic yards) of debris hauled, and should be used when the scope of work is not well defined. It requires close monitoring of collection, transportation, and disposal to ensure that quantities are accurate. A unit price contract may be complicated by the need to segregate debris for disposal.
- ◆ Lump Sum: A lump sum contract establishes a total price using a one item bid from a contractor. It should be used only when a scope of work is clearly defined, with areas of work and quantities of material clearly identified. Lump sum contracts can be defined in one of two ways:

**Area Method**— the scope of work is based on a one time clearance of a specified area.

**Pass Method**— the scope of work is based on a certain number of passes through a specified area, such as a given distance along a right of way.

## **Attachment A2—List of Contracts and Agreements**

The attached documents are samples only and may not address all issues affecting an individual jurisdiction's situation. All official documents should be reviewed and approved by the appropriate legal authority prior to use.

Sample Mutual Aid Agreement —Attachment A3

Sample Right of Entry Agreement— Attachment A4

Sample Time and Materials Contract— Attachment A5

Sample Lump Sum Contract for Debris Removal— Attachment A6

Sample Unit Price Contract for Debris Removal— Attachment A7

Debris Fact Sheet for Local Officials – Attachment A-7A

## **Attachment A3- Mutual Aid Agreement**

THIS AGREEMENT, entered into this day of by the participating parties hereto:

WHEREAS, each of the parties hereto desires to furnish mutual aid to each other in the event of a disaster, for which neither party might have sufficient equipment or personnel to cope, and,

WHEREAS, such a mutual aid agreements are authorized by (Site Statutory Agency).

NOW THEREFORE, the parties do mutually agree as follows:

### **ARTICLE I TERM**

This agreement shall commence at 12:01 a.m. on\_\_\_\_\_, and continue through\_\_\_\_\_, subject to the right of each party to terminate sooner as provided herein.

### **ARTICLE II SERVICES**

A. In the event of a disaster that requires aid of equipment and personnel beyond that which each party is able to provide for itself, all parties hereto agree that at the request of any party Hereto the others will loan such equipment and personnel as the respective officials of the lending jurisdiction, in their discretion, shall determine can be reasonably spared at the time without placing their own community in jeopardy.

B. Since time is of the essence during emergencies as herein referred to, the authority to dispatch equipment and personnel or call for in accordance with the terms and conditions of this agreement shall be delegated specifically to the chief official or acting chief official of the parties hereto.

C. The lending party shall be responsible for the delivery of said equipment and personnel to the location specified by requesting party.

D. Upon arrival at said location, the officer in charge of the said equipment and personnel shall report to the officer in charge at the location of the disaster, who shall assume full charge of all operations at a disaster or emergency location.

E. All equipment and personnel loaned hereunder shall be returned upon demand of the lending party or when released by the requesting party upon the cessation of the emergency.

### **ARTICLE III PAYMENT**

No charge shall be assessed for services rendered by any party hereto.

#### ARTICLE IV WAIVER OF CLAIMS

Each party hereto hereby waives all claims against the other for compensation for any loss, damage, personal injury, or death occurring in consequence of the performance of either party, their agents, or employees hereunder.

#### ARTICLE V TERMINATION

This Agreement may be terminated by either party upon at least thirty days prior written notice to the other.

#### ARTICLE VI INTEGRATION

This Agreement contains the entire understanding between the parties, and there are no understandings or representations not set forth or incorporated by reference herein. No subsequent modifications of this Agreement shall be of any force or effect unless in writing signed by the parties.

#### ARTICLE VII COMPLIANCE WITH LAWS

In the performance of this Agreement, each party shall comply with all applicable Federal, State, and Local laws, rules, and regulations.

#### SIGNATURES OF AGREEING OFFICIALS

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**ATTACHMENT A4**  
**Authorization To Enter Property and To Remove Debris**

I, the undersigned, am an owner/lessee of the real property located at:

\_\_\_\_\_  
Miami County, Ohio, (the "Property"); and I hereby freely give and grant the right of access and entry onto said property for the purpose of removing and clearing storm-generated debris from the Property to any Federal, state, or local governmental agency, contractor, subcontractor, or employee.

I understand that this authorization does not obligate any governmental agency, employee, contractor, or subcontractor to perform any removal of debris from the Property.

In the event that any governmental agency, employee, contractor, or subcontractor does perform debris removal on the Property, I shall not apply for, or accept any compensation for debris removal from any private entity or any other third party source, or any form of public assistance. If I am compensated from any source for the cost of the removal of debris from the Property, I will report said compensation or settlement to the Miami County Emergency Management Agency.

I hereby release, discharge, and agree to hold harmless the United States of America, the State of Ohio, Miami County and its Board of Commissioners, the County Risk Sharing Authority, and all of their current and former agencies, employees, officers, agents, successors, assigns, contractors, and subcontractors from any claimed injury, damage, harm, or loss to any person or property that may arise from the activities conducted by any or all of the same in removing debris from the property.

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 2\_\_\_\_\_.

\_\_\_\_\_  
Owner/Lessee


\_\_\_\_\_  
Telephone Number

\_\_\_\_\_  
Owner/Lessee

\_\_\_\_\_  
Telephone Number

Witnessed By: \_\_\_\_\_  
\_\_\_\_\_

APPROVED AS TO FORM ONLY.



\_\_\_\_\_  
Miami County Prosecutor's Office

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**Attachment A5**

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# Time and Materials Contract

\*Note: Please see contract attachments E1, E2, E3

## ARTICLE 1: Agreement Between Parties

This contract is entered into on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by and between the city/county of \_\_\_\_\_, hereinafter called the ENTITY and \_\_\_\_\_, hereinafter called the CONTRACTOR.

## ARTICLE 2: Scope of Work

This contract is issued pursuant to the Solicitation and Procurement on \_\_\_\_\_, 20\_\_\_\_, for the removal of debris caused by the sudden natural or man-made disaster of \_\_\_\_\_ to \_\_\_\_\_, 20\_\_\_\_. It is the intent of this contract to provide equipment and manpower to remove all hazards to life and property in the affected communities. Clean up, demolition, and removal will be limited to 1) that which is determined to be in the interest of public safety and 2) that which is considered essential to the economic recovery of the affected area.

## ARTICLE 3: Schedule of Work

Time is of the essence for this debris removal contract.

Notice to proceed with Work: The work under this contract will commence on \_\_\_\_\_, 20\_\_\_\_ and end on \_\_\_\_\_, 20\_\_\_\_. The equipment shall be used for (recommended not to exceed 70) hours, unless the ENTITY initiates additions or deletions by written change order. Based upon unit prices of equipment and labor, no minimum or maximum number of hours is guaranteed.

## ARTICLE 4: Contract Price

The hourly rates for performing the work stipulated in the contract, documents, which have been transposed from the low bidder's bid schedule, are as follows:

Equipment/Machine/Operator	Mobilization/ De-mobilization Cost	Hourly Rate
Manufacturer, Model		Total unit rate shall be given which includes maintenance, fuel, overhead, profit, and other associated cost with the equipment.

		Estimated Cost per unit of material. Only actual invoice amounts will be paid.
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Labor Man-hours		Protective clothing, fringe benefits, hand tools, supervision, transportation and any other costs.
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## ARTICLE 5: Payment

The ENTITY shall pay the Contractor for mobilization and demobilization if the Notice to Proceed is issued and will pay for only the Time that the equipment and manpower is actually being used in accomplishing the work. The Contractor shall be paid within \_\_\_\_\_ days of the receipt of a pay estimate and verification of work by the inspector.

## ARTICLE 6: Claims

Not Applicable

## ARTICLE 7: Contractor's Obligations

The Contractor shall supervise accomplishment of the work effort directed by labor and proper equipment for all tasks. Safety of the Contractor's personnel and equipment is the responsibility of the Contractor. Additionally, the Contractor shall pay for all materials, personnel, liability insurance, taxes, and fees necessary to perform under the terms of the contract. Caution and care must be exercised by the Contractor not to cause any additional damage to sidewalks, roads, buildings, and other permanent fixtures.

## ARTICLE 8: Insurance and Indemnification

The successful BIDDER shall provide, as part of its BID package and proposal, evidence of the maintenance of insurance, as set forth herein below, and as part of the contract awarded pursuant hereto, and as condition of said contract, continually shall maintain such coverage's, and, upon request of the OWNER provide evidence of the existence and viability of the same.

Limits shall be not less than:

- a) For liability for bodily injury, including accidental deaths, \$1,000,000.00 for any one person and, subject to the same limit for each person, \$5,000,000.00 on account of one occurrence.
- b) For liability for property damage other than that caused by operation of motor vehicles, \$1,000,000.00 on account of one occurrence and \$5,000,000.00 on account of all occurrences.



- c) For property covering the operation of motor vehicles, not less than \$5,000,000.00.
- d) For contractual liability, the amounts required under a and b above.
- e) For the Worker's Compensation, as required by the State of Ohio.

The BIDDER shall furnish evidence with its bid that the bidder can obtain and maintain the insurance specified in this Bid Manual.

To the fullest extent permitted by law, CONTRACTOR shall indemnify and hold harmless COUNTY and their general fund, agents, employees, and consultants from and against all claims, damages, losses and expenses including, but not limited to attorney's fees arising out of or resulting from the performance of the Work, provided that any such claim, damage, loss or expense (1) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including the loss of use resulting there from and (2) is caused in whole or in part by any negligent act of omission of CONTRACTOR, its Subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable regardless of whether it is caused in part by a party indemnified hereunder.

The CONTRACTOR shall indemnify the COUNTY, its general fund, employees, agents and consultants from any environmental liabilities or claims that result from the supply of any services resulting from this specification and bid.

In any and all claims against the COUNTY or any of its agents, employees or consultants, by any employee of CONTRACTOR or its Subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation under the paragraph above shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for CONTRACTOR or any Subcontractor under Worker's or Workmen's compensation acts, disability benefit acts, or other employee benefit acts.

#### ARTICLE 9: Contractor Qualifications

The Contractor must be duly licensed in the State per statutory requirements.

THIS CONTRACT IS DULY SIGNED BY ALL PARTIES HERETO:

Entity (City, County, Town, Etc)

By \_\_\_\_\_ Seal    by \_\_\_\_\_ Seal  
Principal of the firm

\_\_\_\_\_  
Contractor (Include address, City, State)

## **Attachment A6**

# **Lump Sum Contract for Debris Removal**

\*Note: Please see contract attachments E1, E2, E3

### ARTICLE 1: Agreement Between Parties

This contract is made and entered into on this \_\_\_\_\_ day of, 20\_\_\_\_\_, by and between the city/county of \_\_\_\_\_, hereinafter called the ENTITY and \_\_\_\_\_, hereinafter called the CONTRACTOR.

### ARTICLE 2: Scope of Work

This contract is issued pursuant to the Solicitation and Procurement on \_\_\_\_\_, 20\_\_\_\_\_, for the removal of debris caused by the sudden natural or manmade disaster of \_\_\_\_\_ to \_\_\_\_\_, 20\_\_\_\_\_. It is the intent of this contract to provide equipment and manpower to remove all hazards to life and property in the affected communities. Clean up, demolition, and removal will be limited to 1) that which is determined to be in the interest of public safety and 2) that which is considered essential to the economic recovery of the affected area.

### ARTICLE 3: Schedule of Work

Time is of the essence for this debris removal contract.

Notice to proceed with the Work: The Work under this contract will commence on \_\_\_\_\_, 20\_\_\_\_\_ and end on \_\_\_\_\_, 20\_\_\_\_\_. Maximum allowable time for completion will be \_\_\_\_\_ Calendar days, unless the Entity initiates additions or deletions by written change order. If the Contractor does not complete Work within the allotted time, liquidated damages will be assessed in the amount of \_\_\_\_\_ per day.

### ARTICLE 4: Contract Price

The lump sum price for performing the work stipulated in the contract document is. \$ \_\_\_\_\_ .

### ARTICLE 5: Payment

The Contractor shall submit certified pay requests for completed work. The Entity shall have 10 calendar days to approve or disapprove the pay request. The Entity shall pay the Contractor for his/her performance under the contract within \_\_\_\_\_ days of approval of the pay estimate. On contracts over 30 days in duration, the Entity shall pay the Con-

tractor a pro-rata percentage of the contract amount on a monthly basis, based on the amount of work completed and approved in that month. The Entity will remunerate the Contractor within 30 days of the approved application for payment, after which interest will be added at a rate of \_\_\_\_\_ on each payment. Retainer shall be released upon substantial completion of the work.

Funding for this contract is authorized pursuant to Public Law of the State of Ohio \_\_\_\_\_, And \_\_\_\_\_ . Local Statute or ordinance

#### ARTICLE 6: Change Orders

If the scope of work is changed by the Entity, the change in price and contract time will be promptly negotiated by the parties, prior to commencement of work.

#### ARTICLE 7: Contractor's Obligations

The Contractor shall supervise and direct the Work, using skillful labor and proper equipment for all tasks. Safety of the Contractor's personnel and equipment is the responsibility of the Contractor. Additionally, the Contractor shall pay for all materials, equipment, personnel, taxes, and fees necessary to perform under the terms of the contract.

Any unusual, concealed, or changed conditions are to be immediately reported to the Entity. The Contractor shall be responsible for the protection of existing utilities, sidewalks, roads, building, and other permanent fixtures. Any unnecessary damage will be repaired at the Contractor's expense.

#### ARTICLE 8: Entity's Obligations

The Entity's representative(s) shall furnish all information, documents, and utility locations, necessary for commencement of Work. Costs of construction permits and authority approvals will be borne by the Entity. A representative will be designated by the Entity for inspecting the work and answering on-site questions.

The Entity shall designate the public and private property areas where the disaster mitigation work is to be performed. Copies of complete "Right of Entry" forms, where they are required by the State and local law for private property, shall be furnished to the Contractor by the Entity. The Entity shall hold harmless and indemnify the Contractor judgments and awards alleged to have been caused by services rendered under this contract for disaster relief work unless such claims are caused by the gross negligence of the Contractor, his subcontractors or his employees.

#### ARTICLE 9: Claims

If the Contractor wishes to make a claim for additional compensation, for work or materials is not clearly covered in the contract, or nor ordered by the Entity as a modification to the contract, he/she shall notify the Entity in writing. The Contractor and the Entity

will negotiate the amount of adjustment promptly; however, if no agreement is reached, a binding settlement will be determined by a third party acceptable to both Entity and Contractor under the sections of applicable State law.

## ARTICLE 10: Insurance and Indemnification

The successful BIDDER shall provide, as part of its BID package and proposal, evidence of the maintenance of insurance, as set forth herein below, and as part of the contract awarded pursuant hereto, and as condition of said contract, continually shall maintain such coverage's, and, upon request of the OWNER provide evidence of the existence and viability of the same.

Limits shall be not less than:

1. For liability for bodily injury, including accidental deaths, \$1,000,000.00 for any one person and, subject to the same limit for each person, \$5,000,000.00 on account of one occurrence.
2. For liability for property damage other than that caused by operation of motor vehicles, \$1,000,000.00 on account of one occurrence and \$5,000,000.00 on account of all occurrences.
3. For property covering the operation of motor vehicles, not less than \$5,000,000.00.
4. For contractual liability, the amounts required under **a** and **b** above.
5. For the Worker's Compensation, as required by the State of Ohio.

The BIDDER shall furnish evidence with its bid that the bidder can obtain and maintain the insurance specified in this Bid Manual.

To the fullest extent permitted by law, CONTRACTOR shall indemnify and hold harmless COUNTY and their general fund, agents, employees, and consultants from and against all claims, damages, losses and expenses including, but not limited to attorney's fees arising out of or resulting from the performance of the Work, provided that any such claim, damage, loss or expense (1) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including the loss of use resulting there from and (2) is caused in whole or in part by any negligent act or omission of CONTRACTOR, its Subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable regardless of whether it is caused in part by a party indemnified hereunder.

The CONTRACTOR shall indemnify the COUNTY, its general fund, employees, agents and consultants from any environmental liabilities or claims that result from the supply of any services resulting from this specification and bid.

In any and all claims against the COUNTY or any of its agents, employees or consultants, by any employee of CONTRACTOR or its Subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation under the paragraph above shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for CONTRACTOR or any Subcontractor under Worker's or Workmen's compensation acts, disability benefit acts, or other employee benefit acts.

ARTICLE 11:  
Contractor Qualifications

The Contractor must be duly licensed in the State per statutory requirements.

THIS CONTRACT IS DULY SIGNED BY ALL PARTIES HERETO:

\_\_\_\_\_  
Entity (City, County, Town, Etc.)

By \_\_\_\_\_ Seal

\_\_\_\_\_  
Contractor (Include Address, City, State)

By \_\_\_\_\_ Seal  
Principal of the Firm

## Attachment A7— Unit Price Contract for Debris Removal

\*Note: Please see contract attachments E1, E2, E3

### ARTICLE 1: Agreement Between Parties

This contract is made and entered into on this the \_\_\_\_\_, 20\_\_\_\_, by and between the city/county of \_\_\_\_\_, hereinafter called the ENTITY and \_\_\_\_\_, hereinafter called the CONTRACTOR.

### ARTICLE 2: Scope of Work

This contract is issued pursuant to the Solicitation and Procurement on \_\_\_\_\_, 20\_\_\_\_, for the removal of debris caused by the sudden natural or man-made-disaster of \_\_\_\_\_ to \_\_\_\_\_, 20\_\_\_\_. It is the intent of this contract to provide equipment and manpower to remove all hazards to life and property in the affected communities. Clean up, demolition, and removal will be limited to 1) that which is determined to be in the interest of public safety and 2) that which is considered essential to the economic recovery of the affected area.

### ARTICLE 3: Schedule of Work

Time is of the essence for this debris removal contract.

Notice to proceed with the Work: The work under this contract will commence on \_\_\_\_\_, 20\_\_\_\_ and end on \_\_\_\_\_, 20\_\_\_\_. Maximum allowable time for the completion will be \_\_\_\_\_ Calendar days unless the Entity initiates additions or deletions by written charge order. Subsequent changes in cost and completion time will be equitably negotiated by both pursuant to applicable State law. Liquidated damages shall be assessed at \$\_\_\_\_\_/calendar day for any days over the approved contract amount.

### ARTICLE 4: Contract Price

The unit prices for performing the work stipulated in the contract documents, which have been transposed from the low bidder's bid schedule are as follows:

Quantity	Unit of Measure	Description	Unit Cost	Total
----------	-----------------	-------------	-----------	-------

Subtotal	_____
Cost of Bond	_____
Grand Total	_____

\*Debris shall be classified as one of the following units: cubic yards, each, square foot, linear foot, gallon, or an approved unit measure applicable to the specific material to be removed.

#### ARTICLE 5:

##### Payment

The Contractor shall submit a certified pay request for completed work. The Entity shall have 10 calendar days to approve or disapprove the pay request. The Entity shall pay the Contractor for his performance under the contract within 20 days of approval of the pay estimate. On contracts over 30 days in duration, the Entity shall pay the Contractor a pro-rata percentage of the contract amount on a monthly basis based on the amount of work completed and approved in the month. The Entity will remunerate the Contractor within 30 days of the approved application for payment. After which interest will be added at a rate of \_\_\_\_\_per annum. Payments shall be subject to a retainage of \_\_\_\_\_on each payment. Retainage shall be released upon substantial completion of the work.

Funding for this contract is authorized pursuant to Public Law of the State of Ohio\_\_\_\_\_, and \_\_\_\_\_ (Local statute or ordinance)

#### ARTICLE 6:

##### Claims

If the Contractor wishes to make a claim for additional compensation, for work or materials not clearly covered in the contract, or not ordered by the Entity as a modification to the contract, he/she shall notify the Entity in writing. The Contractor and the Entity will negotiate the amount of adjustment promptly; however, if no agreement is reached a binding settlement will be determined by a third party acceptable for both Entity and Contractor under the auspices of applicable State law.

#### ARTICLE 7:

##### Contractors Obligations

The Contractor shall supervise and direct the Work, using skillful labor and proper equipment for all tasks. Safety of the Contractor's personnel and equipment is the responsibility of the Contractor. Additionally, the Contractor shall pay for all materials, equipment, personnel, taxes, and fees necessary to perform under the terms of the contract.

Any unusual, concealed, or changed conditions are to be immediately reported to the Entity. The Contractor shall be responsible for the protection of existing utilities, sidewalks, roads, buildings, and other permanent fixtures. Any unnecessary damage will be repaired at the Contractor's expense.

#### ARTICLE 8:

Hauling Contractors must be registered with the Miami County Health Department.



## ARTICLE 9: Entity's Obligations

The Entity's representative(s) shall furnish all information, documents, and utility locations for necessary for commencement of Work. Costs of construction permits and authority approvals will be borne by the Entity. A representative will be designated by the Entity for inspecting the work and answering any on-site questions.

The Entity shall designate the public and private property areas where the disaster mitigation work is to be performed. Copies of "Right of Entry" forms, as required by State laws for private property, shall be furnished to the Contractor by the Entity. The Entity shall hold harmless and indemnify the Contractor judgments and awards alleged to have been caused by services rendered under this contract for disaster relief work unless such claims are caused by the gross negligence of the Contractor, his/her subcontractors, or his/her employees.

The Entity will terminate this contract for failure to perform as specified, or for default by the Contractor.

## ARTICLE 10: Insurance and Indemnification

The successful BIDDER shall provide, as part of its BID package and proposal, evidence of the maintenance of insurance, as set forth herein below, and as part of the contract awarded pursuant hereto, and as condition of said contract, continually shall maintain such coverage's, and, upon request of the OWNER provide evidence of the existence and viability of the same.

Limits shall be not less than:

1. For liability for bodily injury, including accidental deaths, \$1,000,000.00 for any one person and, subject to the same limit for each person, \$5,000,000.00 on account of one occurrence.
2. For liability for property damage other than that caused by operation of motor vehicles, \$1,000,000.00 on account of one occurrence and \$5,000,000.00 on account of all occurrences.
3. For property covering the operation of motor vehicles, not less than \$5,000,000.00.
4. For contractual liability, the amounts required under a and b above.
5. For the Worker's Compensation, as required by the State of Ohio.

The BIDDER shall furnish evidence with its bid that the bidder can obtain and maintain the insurance specified in this Bid Manual.

To the fullest extent permitted by law, CONTRACTOR shall indemnify and hold harmless COUNTY and their general fund, agents, employees, and consultants from and against all claims, damages, losses and expenses including, but not limited to attorney's fees arising out of or resulting from the performance of the Work, provided that any such claim, damage, loss or expense (1) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including the loss of use resulting therefrom and (2) is caused in whole or in part by any negligent act or omission of CONTRACTOR, its Subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable regardless of whether it is caused in part by a party indemnified hereunder.

The CONTRACTOR shall indemnify the COUNTY, its general fund, employees, agents and consultants from any environmental liabilities or claims that result from the supply of any services resulting from this specification and bid.

In any and all claims against the COUNTY or any of its agents, employees or consultants, by any employee of CONTRACTOR or its Subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation under the paragraph above shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for CONTRACTOR or any Subcontractor under Worker's or Workmen's compensation acts, disability benefit acts, or other employee benefit acts.

#### ARTICLE 11: Contractor Qualifications

The contractor must be fully licensed in the State of Ohio.

THIS CONTRACT IS DULY SIGNED BY ALL PARTIES HERETO:

\_\_\_\_\_  
Entity(City, County, Township, Village, etc.)

by \_\_\_\_\_ Seal  
Contractor, Address, City, State

by \_\_\_\_\_ Seal  
Principal of the firm

## Attachment A-7A

### DEBRIS FACT SHEET FOR LOCAL OFFICIALS



The information contained within this document is intended to assist local officials responsible for all or a portion of the issues relating to managing all types of waste (“debris”) resulting from a disaster or significant emergency. Removal, reduction, recycling, temporary sites, contracting and disposal data as well as points of contact are included in the following pages.

The Ohio Environmental Protection Agency (EPA) and Ohio Emergency Management Agency (EMA) are two state agencies that have primary responsibilities to respond to disasters. Disasters can generate a significant amount of debris and can disrupt local government operations in general. Their roles and day-to-day points of contact are detailed below.

#### **Local Governments**

Local health departments may be able to provide technical assistance regarding debris management and public health issues. Local health departments may also have primary responsibility during a disaster in the regulatory oversight for proper management of debris. Of particular concern for public health and safety is the management and proper disposal of debris created by a disaster or by demolition, yard waste, household hazardous waste, food stuffs, and spoiled food.

#### **Ohio Environmental Protection Agency** ([www.epa.state.oh.us/dmwm](http://www.epa.state.oh.us/dmwm))

Division of Materials and Waste Management, Central Office  
50 West Town Street, Suite 700, Columbus, OH 43215  
Phone (614) 644-2621 Fax (614) 728-5315

Primary responsibility during a disaster is regulatory oversight for proper management of debris. This is accomplished by providing rule interpretations (regulatory requirements), technical assistance/coordination regarding temporary staging, collection, removal and disposal of debris, and resource lists.

#### **Ohio Emergency Management Agency** ([www.ema.ohio.gov](http://www.ema.ohio.gov))

Disaster Recovery Branch  
2855 West Dublin Granville Road, Columbus, OH 43235  
Phone (614) 799-3665 Fax (614) 791-0018

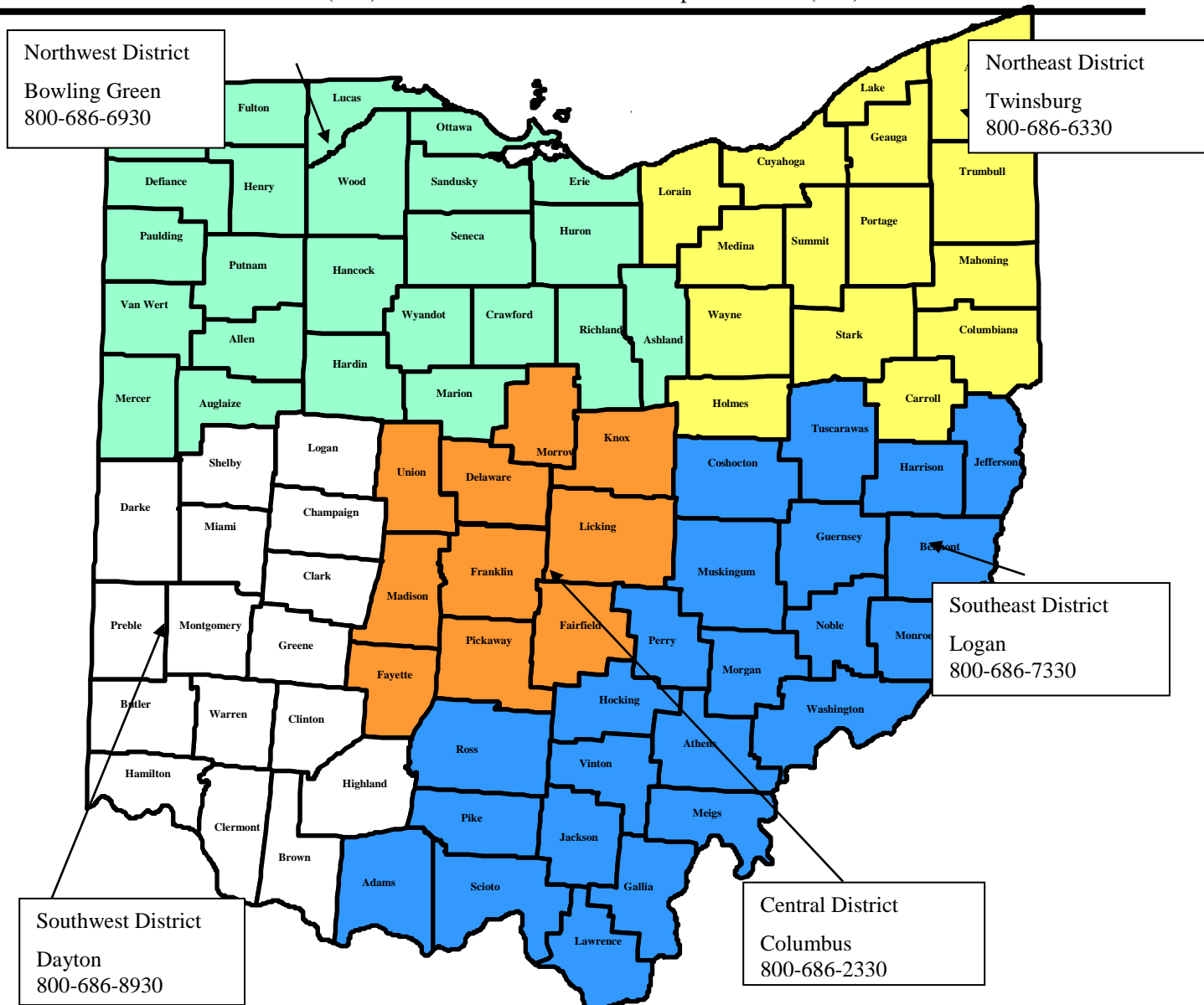
Primary responsibility is coordination of state assistance, through County Emergency Management Agency offices, to support the efforts of local officials following disasters. The Disaster Recovery Branch administers reimbursement programs for costs associated with local response/recovery actions, including debris operations.

Page 2	Contact List	Page 5	Ohio EPA Resources
Page 3	Management Options Chart	Page 6	Contracting and FEMA Eligibility
Page 4	Temporary Debris Sites		

## DEBRIS MANAGEMENT CONTACTS

### OHIO ENVIRONMENTAL PROTECTION AGENCY

Div. Materials & Waste Management (includes solid, infectious, & hazardous)	(614) 644-2621
Public Drinking Water	(614) 644-2752
Waste Water Treatment	(614) 644-2001
Burn Permits	(614) 644-2270
Chemical Spills	(800) 282-9378



### ADDITIONAL CONTACTS

Local Solid Waste Mgmt District (Recycling)	See Local Listing
Local Department of Health	See Local Listing
Ohio Department of Health (Private Drinking Water)	(614) 466-1390
Ohio Department of Agriculture (Dead Animals)	(614) 728-6200
U.S. Corp of Engineer (Regulatory-Great Lakes Division)	(513) 684-3002

Ohio EMA (Response and Recovery)	(877) 644-6362
Ohio Historic Preservation Off (Environmental/Historic)	(614) 298-2000
Attorney General (Consumer Protection)	(800) 282-0515
Ohio Dept. Natural Resources (Recycling, Floodplain Mgmt.)	(614) 265-6565

## Ohio Environmental Protection Agency – Management Options for Disaster Related Wastes

Type of Waste	Description of Waste	Management Options
General Solid Waste  (aka Municipal Solid Waste)	Food, packaging, clothing, appliances, furniture, machinery, electronic equipment, garbage, plastic, paper, bottles, cans, loose carpeting, paper products, scrap tires, street dirt, dead animals, vehicles  Sand Bag Note: Sand from sand bags used to control flooding may be emptied from the bags and reused. The empty bags, if not reused, are considered solid waste. Sand contaminated with other materials (hazardous, etc.) should be handled appropriately.	<ul style="list-style-type: none"> <li>• <b>Recycling: segregate / recycle as much as possible (preferred)</b></li> <li>• MSW Landfill Disposal</li> <li>• MSW Transfer Facility Disposal</li> <li>• Scrap Tires: licensed tire recovery / recycling facility</li> <li>• Appliances: remove refrigerants prior to disposal</li> <li>• Vehicles: auto salvage yards</li> <li>• Dead Animals: landfill, compost, burn / bury / render (per Ohio Dept. of Ag. Guidelines)</li> </ul>
Agricultural Waste & Vegetative Waste (aka Solid Waste)	Vegetative or woody waste, tree limbs, brush, shrubs (does not include buildings, other structures, dead animals, or vehicles)	<ul style="list-style-type: none"> <li>• <b>Recycling: drying, chipping, grinding for use in landscaping, mulching, and as a fuel supplement (preferred)</b></li> <li>• MSW Landfills Disposal</li> <li>• MSW Transfer Facility Disposal</li> <li>• Appropriate Composting Facilities</li> <li>• Controlled Burning – for use in declared disaster areas only; air curtain destructor use and <b>Ohio EPA approval required</b></li> </ul>
Construction & Demolition Debris (CDD)	Brick, stone, mortar, asphalt, lumber, wallboard, glass, roofing, metal, piping, fixtures, electrical wiring, heating equipment, insulation, carpeting attached to structures, railroad ties, utility poles, mobile homes	<ul style="list-style-type: none"> <li>• <b>Recycling: segregate and reuse as much materials as possible</b></li> <li>• CDD Landfill Disposal</li> <li>• MSW Landfill Disposal</li> <li>• MSW Transfer Facility Disposal</li> <li>• Mobile Homes: take to salvage company or CDD landfill</li> </ul>
Clean Hard Fill (a subset of CDD)	CDD which consists only of reinforced or non-reinforced concrete, asphalt concrete, brick, block, tile, and stone which can be reused as construction or fill material	<ul style="list-style-type: none"> <li>• Segregate and reuse materials as appropriate. Notify local health district of intent to use clean hard fill in filling operations</li> </ul>
Infectious Waste	Needles and medical related glass (“sharps”), syringes, blood containing or saturated items including tubing, clothing, bandages, etc.	<ul style="list-style-type: none"> <li>• Contact local health district or Ohio EPA District Office for guidance</li> </ul>
Hazardous Wastes & Household Hazardous Wastes	Flammable materials (fuels, gasoline, kerosene, propane tanks, oxygen bottles, etc.), explosives, batteries, common household chemicals, industrial and agricultural chemicals, cleaners, solvents, fertilizers, etc.	<ul style="list-style-type: none"> <li>• Segregate materials as practical and dispose of at an approved hazardous waste facility. Contact appropriate Ohio EPA District Office for guidance.</li> <li>• <b>Household hazardous waste</b> disposal is permitted at MSW facilities. However, <u>strongly</u> consider segregation from waste stream, where practical, and dispose of with other hazardous materials.</li> </ul>
Radiological Wastes	Nuclear medicine materials and associated patient wastes, certain monitoring equipment	<ul style="list-style-type: none"> <li>• Contact Ohio Department of Health for regulatory requirements and management options. Not regulated by Ohio EPA.</li> </ul>

**Variances / Exemptions:** All regulated disposal facilities in Ohio have operational requirements / restrictions regarding the types and volume of waste that can be accepted for disposal. During emergency events, a facility may seek authorization from the Director of Ohio EPA to temporarily accept different waste streams or an increased volume of waste. Before taking disaster-related debris to a disposal facility, please make sure that the facility is willing and properly authorized to accept the material.

**Stream Cleanup Activities:** Prior to removing debris from streams and waterways, please make sure you have the appropriate authorizations, if necessary (permits from COE and/or Ohio EPA, property owner permission, etc.). Once debris is removed from the streams / waterways segregate the debris as much as possible and manage according to the above outlined options.

# Temporary Debris Sites

## Things to Consider

- Site Ownership – Use public lands whenever possible to avoid potentially costly and complicated leasing arrangements, and to lessen potential trespassing allegations. Use privately owned land only if no public sites are available. If using private lands, be sure to obtain proper, detailed usage agreements with all parties having an ownership interest.
- Site Location
  - Consider impact of noise, dust, traffic
  - Consider pre-existing site conditions
  - Look for good ingress/egress at site
  - Consider paved versus unpaved areas
  - Consider potential impact on ground water
  - Determine whether any existing drains need to be sealed
  - Consider site size based on:
    - Expected volume of debris to be collected
    - Planned volume reduction and debris processing activities
  - Avoid environmentally sensitive areas, such as:
    - Wetlands
    - Rare and critical animals or plant species
    - Well fields and surface water supplies
    - Historical / archaeological sites
    - Sites near residential areas, schools, churches, hospitals, and other sensitive areas
    - Record detailed conditions of chosen site (pictures, video, etc.)
- Site Operations
  - Use portable containers
  - Ensure portable containers are emptied/replaced when necessary
  - Separate types of waste as operations continue
  - Monitor site at all times
  - Perform on-going volume reduction (on site or removal for disposal / reduction)
  - Provide nuisance management (dust, noise, etc.)
  - Provide vector controls (rats, insects, etc.)
  - Provide special handling for regulated hazardous materials
  - If household hazardous waste is segregated, ensure disposal options exist
  - Provide security (limit access to site)
  - Ensure appropriate equipment is available for site operations
- Site Closeout
  - Remove all remaining debris to authorized locations
  - Restore site to pre-use conditions
  - Record detailed conditions of site after closeout is complete (pictures, video, etc.)

## **Ohio Environmental Protection Agency Resources**

The following documents are available for download from the Ohio EPA Website or by contacting the appropriate Ohio EPA division.

- Ohio EPA Registered and/or Licensed Debris Disposal Facility and Company Listings - DMWM
  - Composting Facilities
  - Construction and Demolition Debris Landfills
  - Infectious Waste Transporters
  - Municipal Solid Waste Landfills
  - Municipal Solid Waste Transfer Facilities
  - Scrap Tire Storage and Disposal Facilities
  - Scrap Tire Transporters
  - Solid Waste Management District Contacts
- Emergency Response Contractors - DERR
- Orphan Drum Program – DERR
- Open Burning Regulations – DAPC
- Ohio EPA District Office Map and Contact Numbers (included with this fact sheet)

### **Ohio EPA Division of Materials & Waste Management (DMWM)**

[www.epa.state.oh.us/dmwm](http://www.epa.state.oh.us/dmwm)

(614) 644-2621

### **Ohio EPA Division of Emergency & Remedial Response (DERR)**

[www.epa.state.oh.us/derr](http://www.epa.state.oh.us/derr)

(614) 644-2924

### **Ohio EPA Division of Air Pollution Control**

[www.epa.state.oh.us/dapc](http://www.epa.state.oh.us/dapc)

(614) 644-2270

## **CONTRACTING AND FEMA ELIGIBILITY**

### **GENERAL WORK ELIGIBILITY**

Under a presidential disaster declaration for the state of Ohio, the Federal Emergency Management Agency (FEMA) may provide assistance to state and local governments for costs associated with debris removal operations. Debris removal operations include collection; pick up, hauling, and storage at a temporary site, segregation, reduction, and final disposal. This document provides information on the eligibility of debris removal operations for Public Assistance (PA) funding.

Determination of eligibility is a FEMA responsibility. Removal and disposal of debris that is a result of the disaster, is within a declared county and is on public property, is eligible for federal assistance. Public property includes roads and publicly-owned facilities. Removal of debris from parks and recreation areas is eligible when it affects improved facilities (i.e. trails), affects public health and safety or limits the use of those facilities.

**Debris Removal from Private Property:** Costs incurred by local governments to remove debris from private property may be reimbursed by FEMA if it is pre-approved by the Federal Disaster Recovery Manager, is a public health and safety hazard, and if the work is performed by an eligible PA applicant, such as a municipal or county government. The cost of debris removal by private individuals is not eligible under the Public Assistance Program; however, during a specific time period, a private property owner may move disaster-related debris to the curbside for pick up by an eligible PA applicant. Applicants should set the specific period of time to ensure curbside debris does not include non-event related or reconstruction debris (ineligible).

**Eligible Costs:** If an applicant uses force account (their own) personnel and equipment, the cost of the equipment and overtime costs for personnel are eligible for federal funding. If an applicant chooses to award a contract(s) for debris operations, the costs of the contracts are also eligible for federal funding, as long as the contract is reasonable.

**Documentation:** To ensure that processing of federal funding is done as quickly as possible, applicants should maintain the following information: debris estimates, procurement information (bid requests, bid tabulations, etc.), contracts, invoices, and monitoring information (load tickets, scale records, etc). If an applicant performs debris removal, the payroll and equipment hours must be kept. All records should be maintained in the manner prescribed by the local government with consideration of state and federal record retention guidelines.

### **CONTRACTING FOR DEBRIS REMOVAL**

#### **Procurement**

- Determine the type of contracting needed to satisfy specific debris clearance, removal and disposal requirements of an unusual and compelling urgency;
- Ensure adherence to state and local procurement guidance;
- Determine if any purchasing and contracting requirements are waived as a result of the disaster and subsequent declarations of emergency (see Ohio Revised Code 125.023 and/or 44 CFR 13.36(d)(4));



- To ensure federal reimbursement, applicants should follow FEMA requirements for procurement, 44 CFR Part 13.36. FEMA requires that the procurement process allow for competition and reasonable cost. To show competition, applicants should at a minimum solicit three quotes (projects under \$100,000) or formally bid (advertise) the work. Reasonable costs are those that are fair and equitable for the type of work performed in the affected area. To show reasonable cost, the applicants should be able to document a base amount to which they compared the awarded bid;
- Solicit bids, evaluate offers, award contracts, and issue notices to proceed with all contract assignments. (See pg 8 of this document for debarred/suspended contractor information);
- Supervise the full acquisition process for service and supply contracts and the oversight of contract actions to ensure conformance to regulatory requirements;
- Coordinate with the local Department of Public Works and Department of Solid Waste Management staffs and consult with legal counsel. The contracting office must take care to avoid the solicitation of assistance from the general public and giving the impression that compensation will be provided for such assistance. In general, this would be considered as volunteer actions. In addition, there are a number of other issues involved with such a solicitation, including licensing, bonding, insurance, the potential for the communities to incur liability in the event of injury or fatality, supervision and certification of work done;
- Please see the Ohio Revised Code, Sections 125.023, 307.86.92, 153.54, 153.57, 2921.01, and 2921.42 and supplementary rules and local ordinances for additional information pertaining to competitive bidding.
- FEMA recommends use of pre-drafted contracts or pre-event contracts so long as they follow procurements requirements as outlined in 44 CFR Part 13.36 and also recommends pre-qualifying contractors to expedite the bid process.

### **Unit Price Contracts**

- Based on weights (tons) or volume (cubic yards) of debris hauled, and should be used when the scope of work is not well defined;
- They require close monitoring of pick up, hauling and dumping to ensure that quantities are accurate;
- Unit price contracts may be complicated by the need to segregate debris for disposal.

### **Lump Sum Contracts**

- Establishes the total contract price using a one-item bid from the contractor;
- Should only be used when the scope of work is clearly defined, with areas of work and quantities of material clearly identified;
- These contracts can be defined in one of two ways: Area Method where the scope of work is based on a one-time clearance of a specified area and Pass Method where the scope of work is based on a certain number of passes through a specified area, such as a given distance along a right-of-way.

### **Time and Materials Contracts (T/M)**

- This is a administratively labor intensive type of contract and should only be used if the applicant has the administrative resources to successfully accomplish and document the monitoring aspect;
- May be used for short periods of time immediately after the disaster to mobilize contractors for emergency removal efforts (generally FEMA accepts these contracts for the first 70 hours). Applicants should move towards either Unit Price or Lump Sum contract as soon as possible after the beginning of debris removal operations;

- If T/M contracts are determined by the applicant to be the most cost-effective and well-suited to the type of work, they may be continued beyond the initial 70 hour period if the following applies:
  - A determination was made and documented that no other contract was suitable and a ceiling price was included;
  - The applicant can document monitoring of contractor activities. This includes but is not limited to monitoring load tickets or completion of daily reporting forms and requesting backup to contractor invoices (i.e. time cards, etc.).
- T/M contracts must have a dollar ceiling or a not-to-exceed limit for hours (or both), and should be terminated immediately when this limit is reached;
- The contract should (a) detail labor costs to include job classification, skill level and hourly rate, (b) the price for labor and equipment applies only when in operation, (c) cost for equipment includes fuel and maintenance, (d) the community reserves the right to terminate the contract at its convenience, and (e) the community does not guarantee a minimum number of hours.

### **Contract Monitoring**

An employee or contractor should monitor the contractor's activities to ensure satisfactory performance. Monitoring includes: verification that all debris picked up is a direct result of the disaster; measurement and inspection of trucks to ensure they are fully loaded; on-site inspection of pick up areas, debris traffic routes, temporary storage sites, and disposal areas; verification that the contractor is working in its assigned contract areas; verification that all debris reduction and disposal sites have access control and security.

**Contracting Do-Nots:** FEMA does not recommend, pre-approve, or certify any debris contractor. FEMA does not certify or credential personnel other than official employees and Technical Assistance Contract personnel assigned to the disaster by FEMA. Additional, only FEMA has the authority to make eligibility determinations, not contractors. Finally, do not accept contractor-provided contracts without close review. FEMA /Ohio EMA can provide technical assistance on contracts and contract procedures, if requested to do so by local officials.

**Ineligible Contracts:** FEMA will not provide funding for cost-plus-percentage of cost contracts (including markups), contracts contingent upon receipt of state or federal disaster assistance funding, or contracts awarded to debarred or suspended contractors.

See [www.epls.gov](http://www.epls.gov) (federal-list) and <http://www.sos.state.oh.us/SOS/recordsindexes.aspx> (state-list) for debarred contractor information. A second site for suspended contractors is <http://www.auditor.state.oh.us/resources/findings/default.htm>.

### **ENVIRONMENTAL CONSIDERATIONS**

Federal, State and local regulations, laws and ordinances need to be addressed and followed for all environmental and historic preservation issues. Examples of how these considerations could affect reimbursement for debris removal operations:

- Executive Order 11988, Floodplain Management: Temporary storage sites should not be in the floodplain;
- Executive Order 12898, Environmental Justice: Do not purposefully choose routes to disposal sites that avoid more affluent neighborhoods over minority or low-income neighborhoods;

- Clean Water Act: Temporary storage sites not located within ¼ mile from ground or surface water supply.
- Ohio EPA: There was no burning of debris unless expressly authorized by the Director of Ohio EPA.

### **OTHER FEDERAL AGENCIES**

Debris removal on federal highways is not eligible under the FEMA Public Assistance Program except in very limited circumstances.

### **DEBRIS REMOVAL FROM WATERWAYS**

If an applicant has debris (obstructions to include sunken vessels) generated by an event within waterways, FEMA has very specific eligibility criteria. Please see FEMA policy [http://www.fema.gov/government/grant/pa/9523\\_5.shtm](http://www.fema.gov/government/grant/pa/9523_5.shtm) for additional information or contact Ohio EMA directly.

## **Attachment A8—List of Qualified Contractors**

Develop a list of contractors eligible to conduct business with government entities. Include type of work each contractor can perform with availability of equipment; type of collection, removal, and reduction of debris.

### **Waste Hauling Company's must be registered with the Miami County Public Health Department (\*)**

Dempsey Waste (Allied Waste)	1577 W. River Rd	Dayton	Ohio	268-8110
Etherington Hauling				
E-Z Dumpster	1015 McKaig Ave.	Troy	Ohio	335-9508
Roberts Hauling	406 E. Peterson	Troy	Ohio	773-3237
Rumpke	5474 Jaysville-St. Johns Rd.	Greenville	Ohio	548-1939
Smith's	2855 Oletha	Springfield	Ohio	325-9646
Terry's Hauling	PO Box 215	Troy	Ohio	339-4706
Waste Management	3795 Wagoner Ford Rd.	Dayton	Ohio	604-0354
Winston Roberts	655 W. Loy Rd.	Piqua	Ohio	778-0006

(\*) List obtained from Miami County Public Health. These companies are used for obtaining a container for debris and hauling of solid waste to the Transfer Station

## Attachment A8

<b>Wood Waste Grinding Contractors (*)</b>	<b>Waste Tire Contractors (**)</b>
Kurtz Bros. Inc 6415 Granger Rd Independence, Ohio 44131 (216) 986-9000	Rumpke 10795 Hughes Rd. Cincinnati, Ohio (513) 851-0122
R.B. Jergens 11418 N Dixie Dr. Vandalia, Ohio 45337 (937) 669-9799	Liberty Tire Services of Ohio 3041 Jackson Pike Grove City, OH 43123 (614) 871-8097
Rumpke 10795 Hughes Rd. Cincinnati, Ohio (513) 851-0122	Kelbley Transportation Inc. 2876 W. Twp Rd 18 Tiffin, Ohio 44883 (419) 937-0786
C&S Tree Recycling 2551 Dayton Rd. Springfield, Ohio 45506 (937) 323-4273	
National Pallet and Wood Recycling 3550 Inter City Drive Dayton, Ohio 45424 (937) 237-1643	

(\*) Wood Waste Contractors for jurisdictions to call for chipping limbs, etc. for events such as tornadoes, wind events, etc.

(\*\*) Tire Disposal company information found on Ohio EPA website.

### Attachment A8– Area Scrap Metal Dealers

Franklin Iron and Metal	1939 East First Street	Dayton, Ohio	(937) 253-8184
Cohen Metal Recycling	3655 W. St. Rt. 571	Troy, Ohio	(800)-227-0227
Omni Source	4575 County Rd. 33 A	St. Mary's Ohio	(419) 394-3351
Polings	2226 N County Road 25A	Troy, Ohio	(937) 335-7855
River Metals Recycling	840 Jasper Rd.	Xenia, Ohio	(937) 372-3533
Urban Elsass & Son	600 East Statler Rd.	Piqua, Ohio	(937) 773-3337

These companies can be contacted if there is a disaster and metal can be recycled. List obtained from the internet.

### Attachment A9—List of Standing Contracts

The DM, working with other officials, should develop standing contracts with private companies for equipment and labor. A schedule should be created for the periodic review of each contract's terms by the parties involved.

## **Attachment B1—List of Pre-selected DMS Site Locations**

DMS sites are essential to major debris clearance, removal, and disposal operations. The DM should work closely with local and State officials to develop and maintain a *current listings of potential DMS sites*.

Pre-disaster site selection teams should be formed. These teams should include local officials who are familiar with the area. Also, the teams should consult and coordinate with local residents and environmental groups to identify in advance any potential problems with a site.

### Locations in Miami County for DMS sites **Tentative**

These sites are would need to be secure and manned.

Miami County Transfer Station – Troy, Ohio  
Miami County Fairgrounds – Troy, Ohio  
BR Mulch – Tipp City, Ohio

## Attachment B2—DMS Site Location Criteria

### Criteria for the location of DMS sites:

- ◆ Ownership status:     1<sup>st</sup> Priority — Pre-selected DMS site on public property  
                                      2<sup>nd</sup> Priority — Public property in or near impacted area  
                                      Last Priority — Private property
- ◆ Large enough to accommodate storage area, sorting area, and volume reduction operations. Sites should range in size between 50 and 100 acres, depending on anticipated needs.
- ◆ Good road access.
- ◆ As removed as possible from residential areas, schools, churches, or other facilities with high population concentrations.
- ◆ Not in environmentally sensitive areas, such as wetlands or water well fields. Jurisdictions that have dwellings in historic preservation areas will be subject to rules that apply to each location.

### **IMPORTANT NOTE:**

When planning site preparation, take steps to make site closure and restoration easier. For example, if the local soils are very thin, the topsoil can be scraped to the bedrock and stockpiled in the perimeter berms. Upon site closeout, the uncontaminated soil can be re-spread to preserve the integrity of the tillable soils.

Temporary storage areas for hazardous waste must include a *lining with an impermeable material* so chemicals do not leak into the groundwater and soil. A separate storage area for household hazardous waste (HHW) materials, contaminated soils, and contaminated debris should be established at each site. Lined temporary storage areas should be established for ash, household hazardous waste (HHW), fuels and other materials that may contaminate soils and groundwater. The HHW storage site should be lined with an impermeable material and bermed to prevent contamination of the groundwater and surrounding area. Plastic liners should be placed under stationary equipment such as generators and mobile lighting plants.

If the site is also an equipment storage area, fueling and equipment repair should be monitored to prevent and mitigate spills of petroleum products and hydraulic fluids.

## **Attachment B3—DMS Site Questions**

### **Questions that will assist in identifying and prioritizing suitable sites**

#### **Potential Site Ownership**

- Are public lands available?
- Are private land lease terms long enough?
- Are private land lease terms automatically renewable?
- Does the private land lease include a landscape restoration agreement?

#### **Potential Site Size**

- Is the site large enough to accommodate the planned debris storage and/or reduction methods?
- Will the site configuration allow for an efficient layout?

#### **Potential Site Location**

- Does site have good ingress/egress?
- Does site have good transportation arteries?
- Does site have open, flat topography?
- Does site have wetlands? If unavoidable, require the contractor to flag the area and establish buffers and/or sediment barriers.
- Does site have public water supplies, including well fields and surface waters?
- Does site have threatened and endangered animal and plant species?
- Does site have threatened and endangered species' critical habitats?
- Does site have rare ecosystems?
- Does site have historic sites?
- Does site have archaeological sites?
- Does site have sensitive surrounding land use, such as residential, school, and church?



## Attachment B4—DMS Site Baseline Data Collection

Private land and public land used as temporary debris storage and reduction sites should be returned to its original condition following site closeout. Baseline data are essential to document the condition of the land before it is used as a DMS site. As soon as a site is selected, the designated debris manager and debris management team should work with local, County, and State officials to develop baseline data.

Document contractor operations that will have a bearing on site closeout, such as petroleum spills at fueling sites, hydraulic fluid spills at equipment breakdowns, contractor installation of water wells for stock pile cooling or dust control, discovery of household hazardous waste (HHW) in debris. Also, document details on any commercial, agricultural, or industrial hazardous and toxic waste storage and disposal.

Final restoration of the landscape must be acceptable to the landowner. Therefore, plan the landscape restoration as early as possible, preferably incorporating a basic plan in the lease. Come to an agreement with the landowner prior to occupancy to establish reasonable expectations of site conditions upon site closeout.

The following is a suggested **baseline data checklist**:

### ***Before activities begin***

- Take ground or aerial video/photographs.
- Note important features, such as structures, fences, culverts, and landscapes.
- Check with the State Historic Preservation Officer to determine if any structures identified are listed on or eligible for the National Register of Historic Places.
- Take random soil samples.
- Take water samples from existing wells.
- Check the site for volatile organic compounds.

### ***After activities begin***

- Establish groundwater monitoring wells.
- Take groundwater samples.
- Take spot soil samples at household hazardous waste (HHW), ash, and fuel storage areas.

### ***Progressive updates***

- Update videos and photographs.
- Update maps and sketches of site layout.
- Update quality assurance reports and fuel spill reports.

## Attachment B5—Debris Estimating and Forecasting Techniques

The following information will assist in determining the amount of debris from destroyed buildings, homes, and debris piles:

⇒ **One-story building** formula:

$$\frac{L' \times W' \times H'}{27} = \text{CY} \times .33 = \text{CY (of debris)}$$

⇒ **One-story house** formula:

$$\frac{L' \times W' \times 8}{27} = \text{CY} \times .33 = \text{CY (of debris)}$$

⇒ **Mobile home** formula:

$$\frac{L' \times W' \times H'}{27} = \text{CY (of debris)}$$

⇒ **Debris pile** formula:

$$\frac{L' \times W' \times H'}{27} = \text{CY (of debris)}$$

NOTE: CY = cubic yards

NOTE: The .33 factor accounts for “air space” in the structure.

NOTE: The .33 factor is not applied to mobile home calculations because of their compact construction.

Reminders to assist in performing debris estimates:

- Look beyond the curb into side and backyards and at condition of the homes. Most debris in these areas will eventually move to the curb.
- Wet storms will produce more personal property debris (household furnishings, clothing, rugs, etc.) if roofs are blown away.
- Look for hanging debris such as broken limbs after an ice storm.
- Flood-deposited sediments may be compacted in place. Volume may increase as debris is picked up and moved.
- Using aerial photographs in combination with ground measurements will help determine if there are any voids in the middle of large debris piles.
- Treat debris piles as cubes, not a cone, when performing estimates.

## Forecasting Modeling for Debris Volumes

### Vegetative Cover Multiplier (yard waste)

Typical House (square feet)	None	Light	Medium	Heavy
1000 SF.	98 cy	107 cy	127 cy	147 cy
1200 SF.	118 cy	129 cy	153 cy	177 cy
1400SF.	137 cy	150 cy	178 cy	205 cy
1600 SF.	155 cy	170 cy	201 cy	232 cy
1800 SF.	175 cy	192 cy	228 cy	263 cy
2000SF.	195 cy	215 cy	254 cy	293 cy
2200 SF.	215 cy	237 cy	280 cy	323 cy
2400SF.	235 cy	259 cy	306 cy	353 cy
2600SF.	255 cy	280 cy	332 cy	383 cy

- Single wide mobile home = 290 cy of debris
- Double wide mobile home = 415 cy of debris
- Personal property (as debris) from average flooded residence w/basement 25-30 cy
- Personal property (as debris) from average flooded residence with basement 45-50 cy

### Rule of Thumb:

- 15 trees @ 8 inches in diameter = 40 cy average
- To convert cubic yards of Construction & Demolition debris (C&D) debris to tons, divided by 2
- To convert tons of C&D debris to cubic yards, multiply by 2.
- To convert yards of woody debris to tons, divide by 4.
- To convert tons of woody debris to cubic yards, multiply by 4.

## Attachment B6—Debris Reduction Information

### Reduction by burning

The “Reduction by Burning” section is presented for reference purposes. Burning should *not* be considered a viable debris-reduction option in Miami County. Because of the population density in Miami County, it is **highly unlikely** that the Ohio Environmental Protection Agency (OEPA) or Regional Air Pollution Control Agency (RAPCA) would issue a variance that would allow burning disaster-generated debris. A variance would only be considered under catastrophic conditions that *far exceed* what is expected in the aftermath of a tornado.

**Uncontrolled open burning** is the least desirable method of debris reduction because of the lack of environmental control. In some cases this method may be used if a Department of Natural Resources gives a permit.

**Controlled open burning** is a cost-effective way of reducing debris. Controlled open burning is used when there is clean wood tree debris. The controlled burning allows the remaining ash left over to be a soil additive if the Department of Agriculture or applicable local agency determines it can be recycled. However, if there is any treated lumber, poles, nails, bolts, tin, aluminum sheeting, or other building materials that enter the burning material operations must stop because the of the possible hazards associated with the burning of materials.

**Air curtain pit burning** reduces environmental concerns open burning has by using a system that produces high temperatures and reduces pollutants released into the atmosphere. However, someone who is familiar with the operation of the system should use it. Experience has shown many contractors are not familiar with the operation of it.

**Refractor lined pit-burning** uses a pre manufactured lined pit. A refractor-lined pit operates under the same principal as the air curtain operating at high temperatures. The system allows for the reduction of debris by 95%. Manufacturers claim that 25 tons per hour of reduction is possible.

### Environmental Controls

- Maintain at least 1000 feet between the burn pile and the debris piles. Also, maintain at least 1000 feet between burn piles and buildings.
- Extinguish the fire 2 hours before removal of ashes. Remove the ashes when they reach two inches below the top of the burn pit.
- Establish a burn area of no wider than eight feet and between nine and fourteen feet deep.

- Construct burn-pit with limestone and reinforce them with anchors or wire mesh to support loaders. Seal the bottom of the pit with limestone or clay to keep ash out of aquifers.
- Seal the ends of the pits with dirt or ash to 4 feet tall.
- Construct a twelve-inch dirt seal on the lip of the pit to seal the blower nozzle. Place the nozzle three to six inches from the end of the pit.
- Construct one-foot high, unburnable stops along the edge of the pit to prevent the loaders from damaging the pit.
- Never place any hazardous chemicals or materials within the incineration pit.
- Place the airflow so it hits two feet below the top edge of the pit and don't allow the debris to break airflow except for loading.
- Construct the pit to no longer than the length of the blower system.

### **Reduction by grinding and chipping**

- Strong winds and tornadoes present opportunity for a big grinding and chipping operations as the method of debris reduction. The resulting product of the chipping and grinding operation may be used as a landfill product, used as topsoil, or used for residential applications.
- Chipping operations are suitable in areas where streets are narrow or in groves of trees where it is cheaper to reduce the vegetation to mulch and then return it to affected areas.
- The debris management task force should work with local environmental and agricultural groups to see if there is any market for mulch.
- When contracting a mulching project the most important consideration is the specification of the size of the mulch. The mulch also must remain free of paper and plastic if used for agricultural purposes. The following information is for the use of mulch as a agricultural product:

**Size:** Average size of wood chips is not to exceed four inches in length and one half inch in diameter. The debris reduction rate for moderately contaminated debris is 100 to 150 cubic yards per hour and when the debris is relatively clean it is 200 to 250 cubic yards per hour.

**Contaminants:** The contamination rate for material other than wood products should be less than ten percent of the mulch. Eliminate plastics completely. Use rake loaders to pick up

debris because normal loaders pick up earth, which is part of the contaminant list and harms the chipper.

- Chippers are best used in residential areas, orchards, or groves. Trees present a problem if they are pushed to the side of the public right-of-way because of cost associated with transportation.
- Grinders are ideal for use at debris staging and reduction sites due to high volume capacity. Due to high capacity of debris a large storage area is needed for a large grinding operation. Sound protection also becomes a very important issue.

### **Reduction by recycling**

- Recycling offers an option to reduce debris before it is hauled to the landfill. Recycling is a publicly supported function that has economic values for the recovered materials. Metals, wood, and soils are commonly recyclable. A drawback is the impact of recycling on the environment. In areas of agriculture there may be a large amount of fertilizer use. Therefore, use of soil may be limited due to contamination.
- Recycling, when chosen, should be by a contractor who specializes in sorting debris. Contract monitoring is a part of a recycling operation because the contractors must comply with local, state and federal environmental regulations.
- Recycling should be given consideration early in a disaster because it may reduce cost of debris removal. The materials capable of being recycled include:

**Metals-** Most metals are able to be recycled and do not contain iron. However, trailer frames and other iron containing metals may be included in the recyclable materials. The metals are separated by the use of an electromagnet. The resulting materials can be sold to metal recycling firms.

**Soil-** Soil recycling operations use large pieces of equipment to pick up soil. The soil is transported to a staging area and reduction sites where it is combined with organic material that will decompose. Large amounts of soil can be recovered if the material is put through a screen system. The resulting soil can be given back to the agricultural community. The soil also may be used for local landfills as cover materials.

**Wood-** Wood debris can be ground or chipped into mulch.

**Construction material-** Concrete or other building materials can be used for other purposes if there is a need for them. The materials also may be shred to reduce volume then used as a cover for landfills.

**Residue material-** Residue material that cannot be recycled, such as cloth, rugs, and trash, can be sent to landfills for disposal.

## Attachment B7—DMS Site Closeout Issues

**Environmental Restoration** Stockpiled debris will be a mix of woody vegetation, construction material, household items, and yard waste. Household hazardous waste, ACM and medical wastes should be segregated and removed prior to being stockpiled. Activities done at the temporary debris storage and reduction site will include stockpiling, sorting, recycling, incineration, grinding, and chipping. Incineration operations will occur in air curtain pits and only woody debris will be incinerated. Because of TDSR site operations, contamination from petroleum spills or runoff from incineration and debris piles may occur. Therefore close monitoring of the environmental conditions is a coordinated effort.

**IMPORTANT NOTE:** Temporary storage areas for hazardous waste must include a *lining with an impermeable material* so chemicals do not leak into the groundwater and soil.

**Site Remediation** During the debris removal process and after the material is removed from the debris site; environmental monitoring will need to be conducted. This is to ensure no long-term environmental effects occur. Environmental monitoring is needed for the following areas:

- Ash- Monitoring consists of chemical testing to determine suitability of material for landfill placement.
- Soils- Monitoring consists of using portable meters to determine if soils are contaminated by volatile hydrocarbons. Contractors do monitoring if there has been a determination that chemicals such as oil or diesel has spilled on site.
- Groundwater- Monitoring is done on selected sites to determine effects of rainfall leaching (leaking) through ash areas or stockpile areas.
  - Develop a checklist for site close out procedures. A sample checklist is included in this document.

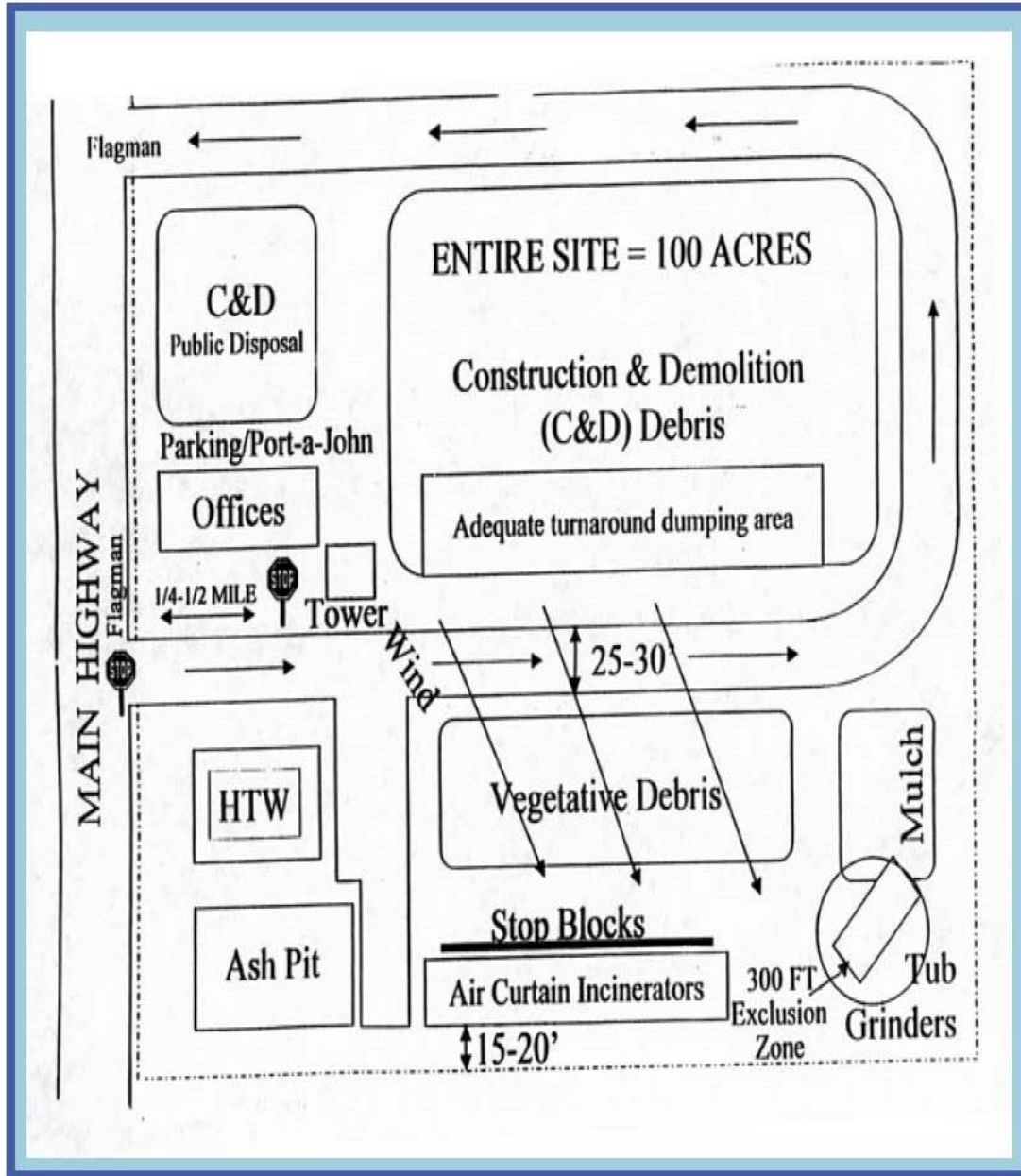


## **Attachment B8—DMS Site Closeout Checklist**

The following is a recommended TDSR site closeout checklist.

- ☐ Site Number and Location
- ☐ Date closure complete
- ☐ Household Hazardous Waste removed
- ☐ Contractor equipment removed
- ☐ Contractor petroleum and other toxic spills cleaned up
- ☐ Ash piles removed
- ☐ Compare baseline information of the temporary site conditions after the contractor vacates the site.

### Attachment B9—Sample Layout of DMS Site



## Attachment C1—Debris Classifications

**Note:** Every effort will be made to recycle the materials listed below that would be feasible to recycle.

♦ **General Solid Waste (Municipal Solid Waste)** — appliances (including white metals), food, packaging, clothing, furniture, machinery, electronic equipment, garbage, plastic, paper, bottles, cans, loose carpeting, paper products, scrap tires, street dirt, dead animals

♦ **Agricultural Waste/Vegetative Waste** — vegetative or woody waste, tree limbs, brush, shrubs  
NOTE: this category does *not* include buildings, dead animals, or vehicles

♦ **Asbestos Containing Material (ACM)** — is any material(s) containing asbestos. All structures (residential, commercial and industrial) built before 1975 may contain significant amounts of asbestos. In particular large structures built before 1975 typically contain asbestos pipe wrap, siding, ceiling tiles, and other building materials high in asbestos content. Additionally, structures built after 1975 may also contain asbestos.

♦ **Construction and Demolition Debris (C&DD)** — brick, stone, mortar, asphalt, lumber, wallboard, glass, roofing, metal, piping, fixtures, electrical wiring, heating equipment, insulation, carpeting attached to structures, railroad ties, utility poles, mobile homes

♦ **Clean hard-fill:** C&DD which consists only of reinforced or non-reinforced concrete, asphalt concrete, brick, block, tile, and/or stone which can be reused as construction or fill material

♦ **Infectious Waste** — sharps (needles, medical related glass, etc.), syringes, blood-containing items such as tubing, clothing, bandages, etc.

♦ **Hazardous Waste (including Household Hazardous Waste [HHW])** — flammable materials (fuels, gasoline, kerosene, propane tanks, oxygen bottles, etc.), explosives, batteries, common household chemicals, industrial and agricultural chemicals, cleaners, solvents, fertilizers, etc.

♦ **Tires** — any type of tires, including passenger, truck or farm tires.

## Attachment D1—Landfills and Related Facilities

### Sanitary Landfills

	Phone
Stony Hollow Landfill 2450 South Gettysburg Rd. Dayton, OH 45418 POC: Frank Dockery	937-268-1133
Rumpke Sanitary Landfill Inc 10795 Hughes Rd. Cincinnati, OH 45251 POC: Kyle Aughe (Dayton contact) Mike Bramkamp (Dayton contact) (Cincinnati Contact)	937-461-0004 x 7803 937-461-0004 x 7810 513-851-0122
Rumpke Brown County Landfill 9427 Beyers Rd. Georgetown, Ohio 45121	937-378-4126
Cherokee Sanitary Landfill 2946 US Highway 68 N Bellefontaine, OH 43311	937-593-3566
<b>Licensed Transfer Station</b>	
Miami County Solid Waste & Recycling Facility 2200 N County Rd. 25-A Troy, Ohio 45373 POA: Scott Pence	937-440-3488

### Hardfill Disposal Locations

(clean dirt, concrete, asphalt, steel reinforced concrete, brick, block & tile ONLY)

AJMS Hardfill	6250 Webster St.	Dayton	890-3061
Broadway Sand & Gravel	2979 Sandridge Rd.	Moraine	299-1166
Henry Jergens	1280 Brandt Pike	Dayton	233-1830
Jergens HF #2	Valley Street	Dayton	233-1830
K West	11230 N. Dixie Dr.	Vandalia	890-9378
McMahan's Dump	~2400 Valley Street	Dayton	233-3750
Montgomery County	Webster Street	Dayton	781-2662
Partin Hardfill	4321 Taylorsville Rd.	Huber Heights	237-6553
Red Oak Construction	6050-6192 Webster St.	Dayton	274-2892
Stark Wrecking	7081 Germantown Pike	Miamisburg	866-5032
Taylorsville Hardfill	4252 Taylorsville	Huber Heights	233-7500
Team Industrial HF	51 S. Elm St.	West Carrollton	270-1251

Team Machinery	4641 Valley St.	Dayton	270-1251
Tipp Stone	8172 Meeker Rd.	Dayton	890-4051

### **Licensed Demolition Disposal Sites Construction and Demolition Debris (C&DD)**

Eckhart Road CDD Facility	9330 Eckhart Road	Germantown	855-2227	Scott Weidle
S.R.I Incorporated	1550 Soldiers Home-West Carrollton Rd.	Dayton	268-8991	Steve Rauch
Taylorville Road Hardfill	4252 Taylorville Road	Huber Heights	233-7500	Jim MacDon- ald
Vance Environ- mental Limited	2101 Vance Rd.	Dayton	263-1011	Jason Willis

### **Registered Composting Facilities**

BR Mulch	620 Ginghamburg Rd	Tipp City	667-8288
Broadway Sand and Gravel, Inc.	2000 Sandridge Dr.	Dayton	299-1166
Chaney's Nursery	1610 McKaig	Troy	337-1193
City of Piqua Facility	6030 N. Piqua-Troy Rd.	Piqua	778-2095
Dye Mill Rd. (Troy)	1200 Dye Mill Rd.	Troy	339-2641
Greenline Products	4595 Infirmary Rd	West Carroll- ton	866-5370
Paygro	11000 Huntington Rd	South Charleston	462-8350

### **Scrap Tire Collection Facilities**

Miami County Solid Waste & Recycling Facility  
 2200 N County Road 25-A  
 Troy, Ohio 45373  
 POA: Scott Pence      937-440-3488

S.R.I. Incorporated  
 1550 Soldiers Home-West Carrollton Rd.  
 Dayton, OH 45418  
 POC: Roger Cowden 937-268-8991

### **Licensed Mobile Scrap Tire Recovery Facilities**

Liberty Tire Services of Ohio  
 3041 Jackson Pk.  
 Grove City, OH 43123  
 Phone: (614) 871-8097

Rumpke Sanitary Landfill Inc  
 10795 Hughes Rd.  
 Cincinnati, OH 45251  
 Phone: (800) 582-3107

### **Attachment D2—Hazardous Waste Vendors List**

The services provided by these vendors vary from company to company. Contact the vendors directly for more complete information on their specific services and capacities.

<b>Company/Address</b>	<b>Phone</b>	<b>Fax</b>	<b>Contact</b>
American Ecology 300 E. Mallard Dr., Suite 300 Boise, ID 83706 <a href="http://www.americanecology.com">www.americanecology.com</a>	(800) 590-5220	(208) 331-7900	
Clean Harbors Environmental Services 4879 Spring Grove Rd. Cincinnati, OH 45232 <a href="http://www.cleanharbors.com">www.cleanharbors.com</a>	(800) 805-4582 (X 6304) or (513) 681-6242	(513) 681-0869	John Stevens
Clean Water Ltd.(formerly Perma-fix) 300 Cherokee Rd Dayton, OH 45417 <a href="http://www.cleanwaterltd.com">www.cleanwaterltd.com</a>	(937) 268-6501 or (800) 543-3670	(937) 268-9059	
Environmental Enterprises, Inc. 4650 Spring Grove Rd. Cincinnati, OH 45232 <a href="http://www.eeusa.com">www.eeusa.com</a>	(513) 541-1823 (800) 392-1503	(513) 782-8950	Brad Boyer
E.Q. Environmental Quality 2050 Central Ave., SE Canton, Ohio 44707 <a href="http://www.eqonline.com">www.eqonline.com</a>	(330) 456-6238		
Heritage Crystal Clean 10706 Maintenance Rd. Vandalia, OH 45377	(937) 454-1093	(937) 454-1218	Alan Spiller

www.crystal-clean.com			
PSC 1701 E. Matziner Rd. Toledo, OH 43612 <a href="http://www.pscnow.com">www.pscnow.com</a>	(419) 726-1500	(419) 729-8501	
Pollution Control Industries 4343 Kennedy Ave. East Chicago, IN 46312 <a href="http://www.pollutioncontrol.com">www.pollutioncontrol.com</a>	(800) 388-7242 (219) 397-3951	(219) 397-6411	: Nick Lakich
Veolia ES Technical Solutions 4301 Infirmary Rd. West Carrollton, OH 45449 <a href="http://www.veoliaes.com">www.veoliaes.com</a>	(937) 859-6101	(937) 859-4671	

### Attachment D3—Registered Infectious Waste Transporters

This list indicates vendors who operate in Miami County for a complete list of infectious waste transporters registered to operate in the State of Ohio, go to the Ohio EPA website

<http://www.epa.state.oh.us>.

SafeWaste, Inc.  
140 Wooster Pike  
Milford, OH 45150  
Phone: (513) 248-0022

Stericycle, Inc.  
28161 N. Keith Dr.  
Lake Forest, IL 60045  
Phone: (330) 393-0385





Is this employee an Independent Contractor?

Yes

☐

No

☐

**REPORTS WILL NOT BE PROCESSED IF REQUIRED INFORMATION IS MISSING**

Report can be downloaded from <https://newhirereporting.com/oh-newhire/default.asp>

## Attachment E2



Ohio Department of Public Safety  
Division of Homeland Security  
<http://www.homelandsecurity.ohio.gov>

### GOVERNMENT BUSINESS AND FUNDING CONTRACTS

In accordance with section 2909.33 of the Ohio Revised Code

#### DECLARATION REGARDING MATERIAL ASSISTANCE/NONASSISTANCE TO A TERRORIST ORGANIZATION

This form serves as a declaration of the provision of material assistance to a terrorist organization or organization that supports terrorism as identified by the U.S. Department of State Terrorist Exclusion List (see the Ohio Homeland Security Division website for a reference copy of the Terrorist Exclusion List).

Any answer of "yes" to any question, or the failure to answer "no" to any question on this declaration shall serve as a disclosure that material assistance to an organization identified on the U.S. Department of State Terrorist Exclusion List has been provided. Failure to disclose the provision of material assistance to such an organization or knowingly making false statements regarding material assistance to such an organization is a felony of the fifth degree.

For the purposes of this declaration, "material support or resources" means currency, payment instruments, other financial securities, funds, transfer of funds, and financial services that are in excess of one hundred dollars, as well as communications, lodging, training, safe houses, false documentation or identification, communications equipment, facilities, weapons, lethal substances, explosives, personnel, transportation, and other physical assets, except medicine or religious materials.

LAST NAME		FIRST NAME		MIDDLE INITIAL
HOME ADDRESS				
CITY	STATE	ZIP	COUNTY	
HOME PHONE		WORK PHONE		

#### **COMPLETE THIS SECTION ONLY IF YOU ARE A COMPANY, BUSINESS OR ORGANIZATION**

BUSINESS/ORGANIZATION NAME				
BUSINESS ADDRESS				
CITY	STATE	ZIP	COUNTY	
PHONE NUMBER				

#### **DECLARATION**

In accordance with division (A)(2)(b) of section 2909.32 of the Ohio Revised Code

For each question, indicate either "yes," or "no" in the space provided. Responses must be truthful to the best of your knowledge

- Are you a member of an organization on the U.S. Department of State Terrorist Exclusion List?  
☐ Yes ☐ No
- Have you used any position of prominence you have with any country to persuade others to support an organization on the U.S. Department of State Terrorist Exclusion List?  
☐ Yes ☐ No

HLS 0038 2/06

**Attachment E3**

## GOVERNMENT BUSINESS AND FUNDING CONTRACTS - CONTINUED

3. Have you knowingly solicited funds or other things of value for an organization on the U.S. Department of State Terrorist Exclusion List?  
☐ Yes ☐ No
4. Have you solicited any individual for membership in an organization on the U.S. Department of State Terrorist Exclusion List?  
☐ Yes ☐ No
5. Have you committed an act that you know, or reasonably should have known, affords "material support or resources" to an organization on the U.S. Department of State Terrorist Exclusion List?  
☐ Yes ☐ No
6. Have you hired or compensated a person you knew to be a member of an organization on the U.S. Department of State Terrorist Exclusion List, or a person you knew to be engaged in planning, assisting, or carrying out an act of terrorism?  
☐ Yes ☐ No

**CERTIFICATION OF COMPLIANCE WITH SECTION 3517.13  
OF THE OHIO REVISED CODE**

\_\_\_\_\_ (the "Subdivision") has entered into a contract for the provision of goods and/or services with \_\_\_\_\_ (the "Provider"), an individual, partnership, unincorporated business, an association, a professional association, estate, trust, corporation, or business trust, the situs of the principal office and place of operations of which is located at \_\_\_\_\_. The undersigned authorized agent of the Provider certifies on behalf of the Provider that all of the following persons, if applicable, are in compliance with Divisions (I) and (J) of Section 3517.13 of the Ohio Revised Code with respect to all public officials who have or had authority to award that contract and all public officials who may authorize or receive goods and/or services under that contract:

- A. Myself;
- B. Each partner or owner of the partnership or association;
- C. Each shareholder of the association;
- D. Each executor or administrator of the estate;
- E. Each trustee of the trust;
- F. Each owner of more than twenty percent (20%) of the corporation or business trust;
- G. Each spouse of any of the above listed persons;
- H. Each child, between seven (7) and seventeen (17) years of age, of any of the above listed persons;
- I. Any political action committee associated with the partnership, the unincorporated business, the estate, the trust, the corporation, or the business trust; and,
- J. Any combination of the persons and entities identified in (A) through (I) above.

The undersigned certifies such compliance on and since \_\_\_\_\_ (and on the date the Subdivision and the Provider entered into the Contract referenced above if it has not been entered into fully by them). This certification shall be a part of the above-referenced Contract between the Subdivision and the Provider.

\_\_\_\_\_  
By: \_\_\_\_\_

AUTHORIZED REPRESENTATIVE

Date Signed: \_\_\_\_\_

**WARNING**

By signing this Certification of Compliance with Ohio Revised Code Section 3517.13, you are making a representation as to the truth of the statements contained herein. Making a false certification is a felony crime punishable by up to eighteen months in prison, and/or up to \$2,500.00 for an individual or \$7,500.00 for an organization. R.C. § 3517.992(R)(3).

**THIS DOCUMENT SHOULD BE RETAINED FOR RECORD PURPOSES**