WASHTENAW COUNTY SOLID WASTE PLAN AMENDMENT – COMPILED DRAFT

2ND DRAFT – WORKING VERSION – 10/10/17

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EXECUTIVE SUMMARY

Overview of Plan Document

Each County in the State of Michigan is required to have a Solid Waste Management Plan to assure that all the solid waste generated in the county is collected and recovered, processed or disposed of for a ten-year period at facilities that comply with state laws and rules.

The purpose of the Executive Summary is to provide an easy-to-read overview of the Washtenaw County Solid Waste Management Plan (referred to as "the Plan") including key components of the Plan and reference to where to find more information about a topic.

The plan consists of three primary sections with appendices to provide supporting documents and materials. The three sections are:

- **Introduction**: describes the goals and objectives of the Plan.
- **Database**: consists of background information to support the development and implementation of the Plan.
- **Selected Solid Waste Management System:** describes the comprehensive approach to managing the County's solid waste and recoverable materials.

The appendices provide supporting documents and materials.

- **Appendix A** contains additional detail about the evaluation of current systems.
- **Appendix B** contains additional evaluation of alternatives not selected by the County.
- **Appendix C** contains documentation of public participation.
- **Appendix D** contains additional information related to the database, the selected system, and other materials the Solid Waste Planning Committee determined important to include. These materials include a glossary of terms and an overview of the solid waste planning process.

As you read through this document, please note that italicized text is required by the State of Michigan and must be included in the Plan document.

Comments or Questions

If you have any questions while reviewing this document, please contact Washtenaw County's Department of Public Works via email at publicworks@ewashtenaw.org.

Overall View of the County

Washtenaw County is in southeast Michigan, covering an area of 720 square miles. The County is situated approximately 30 miles west of Detroit: Ann Arbor is the County Seat. Six cities: Ann Arbor, Dexter, Ypsilanti, Saline, Chelsea and Milan; and two incorporated villages: Manchester, and Barton Hills are located within the County. The County spans a distance of 30 miles east-west and extends 24 miles in the north-south direction. The County's 28 cities, villages and townships are home to about 354,000 citizens in urban, suburban, and rural settings. This mix of settings provides many opportunities for education, recreation, business, agricultural, and home life. The two largest cities are Ann Arbor and

Ypsilanti which are home to two large universities - the University of Michigan in Ann Arbor and Eastern Michigan University in Ypsilanti. For more information on population and other demographics, please see pages XXX – XXX.

Solid Waste Overview of Washtenaw County

While the entire solid waste system is described in detail throughout this plan, this list provides a quick overview of some key components and data points for solid waste and recycling in Washtenaw County.

- 66% of Washtenaw County's population automatically receives curbside collection of trash and recycling through municipally contracted services. The rest of the population is served through subscription services or preferred hauler contracts; and for recycling, through drop-off locations throughout the county. See pages XX for additional information.
- The estimated residential recycling rate for Washtenaw County is 33%. For commercial recycling, the rate is roughly 12%. In comparison, the state average recycling rate is estimated to be about 15%. Therefore, Washtenaw County exceeds the state average by more than double.
- The highest residential diversion occurs in the City of Chelsea, which utilizes a Pay as You Throw (PAYT) program. Under this program, individual residents can control their own costs when it comes to disposal – if they want to throw away more, they pay more. If they throw away less, they pay less. Curbside recycling is provided weekly and drop-off bins are provided at two locations in the city, making recycling easy and convenient.
- Of the local units of government that track solid waste and recycling data, the average household recycles 440 pounds per year. In Chelsea, that number is almost double at 800 pounds per household.
- Washtenaw County Department of Public Works (DPW) offers several programs to divert challenging materials. The programs handle materials like household hazardous waste, electronic waste, shrink wrap, pharmaceutical waste, and recyclables from schools and special events. In 2016, the programs successfully diverted 494,000 pounds (or 247 tons) from disposal.
- 40% of waste generated within Washtenaw County is disposed of at Arbor Hills Landfill. The remaining waste generated within the County is disposed of in landfills southeast Michigan. See pages XX for additional information. Washtenaw County's waste only represents 10% of the waste received at Arbor Hills. Most waste disposed of in that landfill is collected from Wayne and Oakland Counties.
- There are 2 Material Recycling Facilities (MRF), 1 Landfill, 2 Trash Transfer Stations, 3 Compost sites, and 15 recycling drop-off locations in Washtenaw County (as of 2016).
- Washtenaw County DPW is actively engaged in community outreach through its programs such as Zero Waste Events, Saturday Drop-off Events, Waste Knot Partnerships, and Master Composter training. The DPW also provides information and resources to the community through a weekly radio program, informational videos, and helpful resource guides like "Turning Trash into Treasure" – a comprehensive summary of waste reduction, reuse, recycling and disposal opportunities throughout Washtenaw County.

Plan Implementation within Washtenaw County Government

The Washtenaw County Board of Public Works (BPW) consists of a seven-member board appointed by the County Board of Commissioners (BOC). The BPW is authorized by the BOC to serve as the Designated Planning Agency for the County, referred to in this document as "the County" or "Washtenaw County". The BPW is involved in all aspects of the County Solid Waste Plan, including planning, implementation, and enforcement. The County's DPW and its staff serve the Board of Public Works and support the day-to-day implementation of the Plan. For additional information about roles and responsibilities, please see pages XXX – XXX.

Siting of Landfills

Under this Plan, landfills are not an authorized disposal area type in Washtenaw County. Only authorized disposal areas are eligible to enter into the siting review process. Unauthorized disposal areas, such as a landfill, must be reassigned as an authorized disposal area in the solid waste management plan in order to build a new facility. Reassignment from unauthorized to authorized disposal area type would be considered during a state mandated Plan update or a free-standing Plan amendment. Therefore, if a landfill is interested in building a new facility within Washtenaw County, it would first need to be included in the plan as an authorized facility, which would require the plan to be opened and amended, or be updated as part of a state-mandated Plan update request. If a landfill or any other unauthorized disposal area type is reassigned to authorized, and the Plan amendment is accepted by the MDEQ; then the facility may proceed with the Siting Review Process. In the case of a disposal area type seeking reassignment from unauthorized to authorized, the Solid Waste Planning Committee would be convened to for the Plan Amendment process. The Facility Review committee (formerly the Siting Review Committee) would be convened for an authorized disposal area type interested in constructing a new facility. For more information about siting review procedures, please see pages XXX – XXX.

The Solid Waste Planning Process

The Washtenaw County Solid Waste Planning Committee (SWPC) was appointed in August 2015 to prepare a Solid Waste Management Plan amendment in response to a request to expand the Arbor Hills Landfill located in the northeast portion of Washtenaw County in Salem Township. In September 2016, the Arbor Hills Landfill withdrew its request for an expansion. However, by opening the Plan, the County continued with the planning process to update the outdated sections of the County's 1999 Solid Waste Management Plan. Much of the current solid waste law is focused on ensuring proper and adequate disposal capacity. However, the Washtenaw County Solid Waste Planning Committee (SWPC) embraced a mindset where waste is a viewed as a resource and strived to set goals and objectives to focus on reduction, reuse, and recycling.

The SWPC embarked on a methodical and thorough process to update the plan. Starting first with data collection and analysis, this step provided the foundation for the Plan's guiding principles, goals, and Selected System. The SWPC then addressed different plan implementation strategies, along with funding. Throughout the Plan process, there was regular opportunity for public involvement through SWPC meeting attendance, public hearing and informational sessions offered, and a public survey.

During the time the SWPC was convened, the committee was presented with feedback from the public about the current and future impacts of the landfill. The planning process incorporated concerns and considerations into the Plan amendment including restating that landfills are an unauthorized disposal area, and amending the siting review process to include additional requirements regarding relationships with facilities and the surrounding communities.

Data Collection and Analysis

The SWPC began the plan amendment process by creating an inventory of solid waste management systems currently available in the county through data collection and analysis. Data was collected about services, programs, and facilities along with facts and figures about program metrics such as annual tons disposed and tons recycled by community. Data collected from facilities located in Washtenaw County demonstrated that there is at least 10 years of disposal capacity available for waste generated within the County, one of the primary purposes of the Solid Waste Management Plan process. Where data was lacking or not available and in those cases the data was modeled based on national and state level information. This data comprises the information provided on pages XXX -XXX.

In addition to hard data collection, the SWPC conducted a S.W.O.T. (Strengths, Weaknesses, Opportunities, and Threats) analysis of solid waste management within Washtenaw County, which provided a greater understanding of current successes and areas for future improvement. The SWPC also reviewed information about solid waste management systems of peer communities from across the country. The review offered the SWPC insights into best practices and possibilities to adopt in Washtenaw County. Finally, a public information survey was also conducted during this time to seek input from the users of the solid waste management system. With 327 responses, the public offered feedback on their preferences and where the system needs improvement. For more information on the S.W.O.T, please see pages XXX – XXX and for the results of the public survey, please see pages XXX – XXX.

Guiding Principles

The Guiding Principles are the core of what this Plan amendment seeks to achieve and were developed by compiling and comparing the data analysis, the outcomes of the S.W.O.T. analysis, and the public survey results. The results illustrated areas of importance that should be considered by the SWPC for inclusion in this Plan. More information can be found on pages XXX– XXX.

- **Access and Convenience:** Programs and services that support proper disposal of waste and diversion of recoverable materials must be accessible and convenient for County residents, businesses, agencies, and institutions to utilize. For example, the County has partnered with the City of Ann Arbor to explore the feasibility of additional waste diversion sites in the county. As part of the study, potential sites were identified based on distance from population centers in the county. The study recommended in one scenario that to consider a site, it should require no more than a 20 minute drive to access for successful participation.
- **More Diversion and Recovery, Less Disposal:** Additional programs and services will increase the diversion of recoverable materials, and may require additional infrastructure, funding, and outreach. Increasing diversion opportunities will contribute to a reduced need for disposal and

preserve capacity at existing disposal facilities available to the county. Making less waste in the first place is a priority as it is the first step in the 3R's: reduce, reuse, then recycle.

- **Education and Outreach**: Education and outreach around available programs and services are necessary to ensure proper participation. From the public feedback survey conducted, many respondents indicated a lack of familiarity with options for disposal and diversion, and expressed confusion to what is and is not acceptable in community programs. In addition to providing information about how to participate, education and outreach should include additional messages about why these activities are important and quantifying their impacts. Furthermore, to support the goals of the Plan, education and outreach is necessary to inform about how to make less waste in the first place through waste reduction and reuse.
- **Data and Measurement:** Measurement systems and processes will be investigated and implemented as needed to establish realistic and measurable goals for regular evaluation for successes, challenges, improvements, and opportunities. Currently, there is limited data for programs related to solid waste management, diversion, and recovery. This may be attributed to the fact that collection of materials is not limited to one community. That is, a service provider in one municipality could cross boundaries into another municipality, making it challenging to isolate tonnage data for one community. There is also not a consistent data collection system in place at the state or county level nor any rules or regulations mandating regular reporting.
- **Funding:** Adequate funding is required to support implementation of this Plan. Pages 119-120 in Appendix A provides a complete list of available funding options to support programs and services. Using a variety of available methods as well as developing an adequate reserve of funds will support programs and services in challenging times. As programs are identified for implementation, the best funding option will be explored.
- **Coordination and Collaboration:** Working together can have a greater impact and cost benefit than an individual community pursuing programs on their own. Regional efforts and collaboration should occur to benefit as many users as possible. The Western Washtenaw Recycling Authority (WWRA) is one example of successful collaboration between local units of government by sharing costs and benefits to offer enhanced services for their residents.

Goals and Objectives

Overall, the Goals and Objectives of the past Plan remained relevant but required some updating to modernize the language. The SWPC intertwined the Guiding Principles into the previous Goals to be included this Plan Amendment. While the first two Goals sound similar, the focus of each is different. Making less waste in the first place through source reduction is the top priority (Goal One), but if waste is generated, diverting waste through reuse and recycling is the preference (Goal Two). Both Goals One and Two set incremental targets for five years and ten years. Each goal has a robust set of Objectives, provided in more detail on pages XX - XX.

- **Goal One:** Reduce the overall amount of municipal solid waste (MSW) generated per capita in Washtenaw County by 5% in the year 2022 and by 10% in the year 2027, with a target of working towards zero waste.

- **Goal Two:** Increase municipal solid waste diversion rates from current levels (33%) to 38% in 2022 and 43% in 2027, with a target of 100% diversion.
- **Goal Three:** Develop, support, and monitor comprehensive education, outreach, and feedback programs to achieve the goals of this Plan.
- **Goal Four:** Ensure the safe, lawful and efficient management of municipal solid waste.
- **Goal Five:** Operate collaboratively within the County and regionally outside of the County for a comprehensive sustainable materials management strategy.

Working Towards Zero Waste

One of the key elements included in the goals is the aspiration to achieve zero waste. The County has already adopted a zero waste mindset through its Zero Waste Washtenaw Event community outreach program and will continue to build on its success. According to the Zero Waste International Alliance, zero waste promotes positive alternatives to landfill and incineration and a system where waste is regarded as a resource. These definitions align with commitment of this SWPC to work towards limiting the amount of waste requiring disposal, and to focus on waste as resources through reduction, reuse, and recycling. As part of the discussion of setting a zero waste goal, the SWPC recognizes that achieving zero waste is an aspirational goal, with zero waste top of mind throughout the implementation of this Plan. The SWPC also recognizes the need for smart and focused implementation of any zero waste initiative to be in balance with the amount of resources required with the potential outcomes, so that these efforts are productive and make a true positive impact.

The Selected System

The Selected System is the strategy and methods to be utilized by a county to handle its solid waste for the planning period. Both the data collection and analysis along with the development of goals informed the description of the Selected System. Washtenaw County's Selected System is an integrated strategy that places waste prevention, reduction, reuse, recycling, and composting at the top of the solid waste management hierarchy. This alternative requires strengthening existing diversion programs and recovery rates through access, education and outreach, and data measurement. This alternative also seeks to increase diversion of additional materials such as food waste, and construction and demolition waste. The theory being that landfill space would only be utilized to dispose of solid waste remaining after the diversion technologies have been developed to their fullest long term environmental, technological and economic potential.

Implementation of the Plan

The SWPC detailed an implementation plan (available on pages XXX-XXX) to ensure action on the goals and objectives once the plan is approved by the state. At the core, their effort identified the development of a Plan Advisory Committee (PAC) to serve as a resource to DPW staff. The make-up of the PAC would be reflective of the different types of stakeholders in the county, just as the SWPC membership requires representatives from the waste industry, local government, environmental organizations, and the public. The PAC will set annual priorities, develop action plans, and provide regular reports on milestones.

Funding Implementation

Currently, programs coordinated through Washtenaw County's DPW are funded by the revenues earned through the host community agreement with Arbor Hills Landfill. In this Plan, the SWPC seeks to diversify future funding options so that programs are not reliant on one funding source. This plan contains a list of potential funding mechanisms available, but ultimately funding options are best determined by the type of activity or program to be implemented. Therefore, no specific funding mechanisms were selected as part of this Plan, but will be evaluated in the future in the implementation of the Plan by the PAC. Available funding mechanisms are on pages XXX – XXX.

Public Review

There was extensive public comment throughout the planning process from the public in attendance at the SWPC meetings, and the public survey conducted. In addition to the required public hearing, the SWPC requested that two additional information meetings be held to increase the number of opportunities for public comment and dialogue related to the draft Plan Amendment. During these sessions, information about the plan process was presented, and the attendees were also guided through an interactive discussion to capture priorities and ideas to support plan implementation. This information will be used during the Plan Advisory Committee (PAC) kick-off.

Conclusions

The landscape of waste and recycling has changed dramatically since the previous Plan adoption in 2000 such as less fiber in the waste stream due to the decline of printed newspapers; the production and use of different types of plastic packaging that challenge recycling processing; and single-stream recycling technology that is more automated and sorts recyclables at the facility rather than at the curb. While the technologies and industry norms have significantly changed over the years, the County Plan has remained the same. This Plan amendment builds on the progressive goals and programs set forth almost two decades ago, and reinforces the desire to continue to seek alternatives to wasting resources through opportunities like reduction, reuse, recycling, and composting. The delicate balance between the need for disposal areas for waste and the maintaining quality of life were made very clear during this planning process, especially through the participation of residents surrounding the county's only landfill. The true cost of disposal is not quantified in the current business as usual approach. A paradigm shift in our culture will be necessary to focus on making less waste in the first place through reduction and reuse. If these important strategies can become part of the way of life not just the residents of Washtenaw County, but for everyone, then society can really begin to diminish the need for disposal.

DATABASE

DATABASE

Identification of sources of waste generation within the County, total quantity of solid waste generated to be disposed, and the sources of the information.

Sources for Data and Information

Calculating accurate data for municipal solid waste is a challenging task across all sectors (residential and commercial/industrial) requiring significant resources to conduct and maintain. Therefore, data and information gathered from the following sources were utilized to estimate and project waste generation, disposal needs, and diversion percentages.

- Bureau of Labor Statistics (BLS)
- Crain's Business
- Environmental Protection Agency (EPA)
- Michigan Department of Environmental Quality (DEQ)
- Resource Recycling Systems (RRS)
- Self-reported data from municipalities and Washtenaw County
- Southeast Michigan Council of Governments (SEMCOG)
- U.S. Census Bureau including North American Industry Classification System (NAICS)

The need for accurate data collection and measurement at the local and state level is addressed in the Goals and Objectives section of this Plan.

Sources of Waste Generation in Washtenaw County

Waste in Washtenaw County comes from a variety of sources. In general, most non-hazardous waste generated is municipal solid waste (MSW), which includes residential and commercial/industrial wastes.

Table 2 is a summary of Washtenaw County's estimated landfill capacity needs for the next fifteen years. The data is based on waste generation projections for MSW and considers population growth as well as the current County diversion rate of 33% for residential waste and 12% for commercial/industrial waste. Commercial/industrial waste makes up approximately 65% of the total waste requiring disposal compared to 35% from the residential sector.

Table 1. Washtenaw County – Projected Landfill Needs (2015-2030)				
	2015	2020	2025	2030
Residential Waste (tons)	100,374	103,589	105,375	107,628
Commercial/Industrial Waste (tons)	191,396	195,826	202,354	209,938
Total Waste (tons)	291,770	299,415	307,729	317,566
Total Waste (CY)	875,310	898,244	923,187	952,699

Residential Waste

The total amount of residential waste generated was calculated using both available information provided by municipalities and modeled data based on standard information from the EPA (waste generation per person) and SEMCOG (population data).

Table 3 provides waste generation and diversion tons per year for the residential sector by community. Of the 28 municipalities in the County, 5 provided actual data and the remaining 23 were modeled. The municipalities that provided residential waste generation data for 2015 achieved a diversion rate of 41% (i.e., 41% of the total waste stream was recycled or composted). For the municipalities that submitted partial or no data, the model estimates that 21% of waste was diverted from landfills. The overall diversion rate for all of Washtenaw County's residential sector (including the provided data, modeled data, and recycling through the bottle bill program) is 33%.

Table 2. Washtenaw County Residential Waste Generation – Modeled 2015

Community	Population	Total Waste Generation (Tons/Year)	Total Recyclable Diversion (Tons/ Year)	Total Compost Diversion (Tons/ Year)	Total Requiring Disposal (Tons/ Year)
Ann Arbor City	118,017	49,321	14,714	8,137	26,470
Chelsea City	4,934	2,985	910	85	1,990
Dexter City	4,911	2,030	312	377	1,341
Milan City	3,920	2,804	360	436	2,009
Saline City	8,897	3,132	923	377	1,832
Ypsilanti City	19,985	5,041	772	860	3,409
Ann Arbor Township	4,271	1,852	378	264	1,210
Augusta Township	6,948	3,013	134	93	2,786
Bridgewater Township	1,663	721	131	24	566
Dexter Township	6,905	2,995	465	85	2,444
Freedom Township	1,461	634	12	6	616
Lima Township	3,690	1,600	250	46	1,304
Lodi Township	6,238	2,705	43	21	2,641
Lyndon Township	2,947	1,278	201	37	1,040
Manchester Township	2,603	1,129	194	36	900
Northfield Township	8,133	3,527	66	33	3,428
Pittsfield Township	38,309	16,614	3,082	2,153	11,380
Salem Township	5,724	2,482	42	21	2,420
Saline Township	2,057	892	15	7	870
Scio Township	17,050	7,394	352	246	6,797
Sharon Township	1,729	750	13	7	730
Superior Township	13,026	5,649	1,082	756	3,811
Sylvan Township	2,896	1,256	229	42	985
Webster Township	6,405	2,778	45	22	2,711
York Township	9,003	3,905	515	360	3,030
Ypsilanti Township	55,334	18,049	1,906	3,291	12,852
Barton Hills Village	318	138	2	1	134
Manchester Village	2,080	902	196	36	670
Total	359,454	145,578	27,344	17,860	100,374

Commercial/Industrial Wastes

The total amount of commercial/industrial waste generated was calculated using both available information and projections based on standard information from the Bureau of Labor Statistics, Crain's Business, EPA, MDEQ, SEMCOG, and NAICS.

Tables 4 and 5 provide waste generation and diversion estimates for Washtenaw County businesses. In 2015, the commercial/industrial sector generated 217,496 total tons of waste (i.e., recycling and landfilled waste) (Table 4). An estimated 12% of this waste was diverted from landfills through recycling (Table 5).

Table 3. Commercial/Industrial Waste and Recycling Generation – Modeled - 2015

Sector	2015 Employees	Generation Rate (Lbs/Employee /Day)	2015 Waste Generation (Tons)
Government	67,258	8.60	72,295
Private Education & Healthcare	36,036	8.60	38,735
Services to Households & Firms	25,811	8.60	27,744
Leisure & Hospitality	19,224	10.69	25,696
Manufacturing	13,142	8.60	14,126
Retail Trade	19,216	5.55	13,331
Wholesale Trade, Transportation, Warehousing, & Utilities	10,427	7.29	9,499
Natural Resources, Mining, & Construction	8,100	8.60	8,707
Knowledge-based Services	47,507	1.24	7,364
Total	246,721		217,496
Diversion		12% (Est)	26,099
Disposed			191,396

Table 4. Commercial/Industrial Waste and Recycling – Projected - 2015-2030				
	2015	2020	2025	2030
Employment (Forecast)	246,721	252,598	260,024	268,528
Waste Generation (Tons)	217,496	222,529	229,948	238,566
Percent Diversion	12%	12%	12%	12%
Waste Disposed (Tons)	191,396	195,826	202,354	209,938

Total Waste Generated in Washtenaw County

Based on the information in the Residential and Commercial/Industrial Sector descriptions, Table 6 outlines total waste generated in Washtenaw County and reflects the landfill needs as described in Table 2 for the year 2015. For waste generated, 35% is from the residential sector, while 65% is from the Commercial/Industrial sector. For waste diverted, the residential sector contributes to 33% of the total, while the Commercial/Industrial sector contributes about 12%.

Table 5. Total Washtenaw County Waste (2015)	
Total Waste Generated Annually (Residential and C/I)	363,074 tons
Total Waste Diverted Annually (Residential and C/I)	71,303 tons
Total Waste Requiring Disposal	291,770 tons

SOLID WASTE DISPOSAL AREAS

Inventory and description of all solid waste disposal areas within the County or to be utilized by the County to meet its disposal needs for the Planning period.

"Disposal Area" is defined by Act 451, Part 115 and the Administrative Rules to include the following: Municipal Solid Waste Landfill, Industrial Waste Landfill, Construction and Demolition Waste Landfill, Municipal Incinerator Ash Landfill, Municipal Solid Waste Incinerator, Processing Facilities, Transfer Station Facility, Waste Pile.

Also, included here are MSW landfill facilities located outside of the county used for disposal and facilities not regulated under Act 451, such as source separated materials recovery facilities and composting sites, which are noted with an asterisk (*).

A. Municipal Solid Waste Landfill
    1. Arbor Hills Landfill (Operational)
    2. Chelsea Sanitary Landfill (Closed)
    3. City of Ann Arbor Landfill (Closed)
    4. Carleton Farms Landfill, Wayne County (Operational)*
    5. Sauk Trail Hills Landfill, Wayne County (Operational)*
    6. Woodland Meadows RDF, Wayne County (Operational)*
B. Industrial Waste Landfill (None)
C. Construction and Demolition Waste Landfill (None)
D. Municipal Incinerator Ash Landfill (None)
E. Municipal Solid Waste Incinerator (None)
F. Processing Facilities
    a. Arbor Hills Materials Recovery Facility (leased to Great Lakes Recycling)
    b. City of Ann Arbor Materials Recovery Facility
    c. Omni Source Type III Materials Processing Center (leased to Recycle Ann Arbor)
    d. Western Washtenaw Recycling Authority Materials Recovery Facility
    e. Arbor Hills Compost Facility*
    f. City of Ann Arbor Compost Facility*
    g. City of Chelsea Compost Facility*
    h. City of Milan Compost Facility*
    i. City of Ypsilanti Materials Recovery Facility*
    j. Washtenaw County Home Toxics Facility*
    k. Ypsilanti Township Compost Facility*
    l. Village of Barton Hills Compost Facility*
G. Transfer Station Facility
    1. City of Ann Arbor Transfer Station
    2. City of Chelsea Transfer Station
    3. City of Ann Arbor Drop-off Station*
    4. City of Ypsilanti Drop-off Station*
    5. Washtenaw County Home Toxics Collection Facility*
H. Waste Pile (None)

FACILITY DESCRIPTIONS

The following facility descriptions are those of facilities regulated under Act 451. These include:

1. Arbor Hills Landfill (Operational)
2. Chelsea Sanitary Landfill (Closed)
3. City of Ann Arbor Landfill (Closed)
4. Carleton Farms Landfill, Wayne County (Operational)
5. Sauk Trail Hills Landfill, Wayne County (Operational)
6. Woodland Meadows RDF, Wayne County (Operational)
7. Arbor Hills Materials Recovery Facility (leased to Great Lakes Recycling)
8. City of Ann Arbor Materials Recovery Facility
9. OmniSource Type III Materials Processing Center (leased to Recycle Ann Arbor)
10. Western Washtenaw Recycling Authority Materials Recovery Facility
11. City of Ann Arbor Transfer Station
12. City of Chelsea Transfer Station

FACILITY DESCRIPTIONS

Facility Type: Type II Landfill
Facility Name: Arbor Hills West Sanitary Landfill
County: Washtenaw
Location: 10690 Six Mile Road, Northville, MI 48168
Town: 1S Range: 7E Section(s): 13

Is a map identifying the location included in Attachment Section: yes, p. XX

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for Incinerator ash or Transfer Station wastes: Not Applicable

Public or Private: Private

Owner: Advanced Disposal Services Arbor Hills Landfill, Inc.

Operating Status (check)	
x	open
	closed
x	licensed
	unlicensed
x	construction permit
	open, but closure pending

Waste Types Received (check all that apply)	
x	residential
x	commercial
x	industrial
x	construction & demolition
x	contaminated soils
x	special wastes *
	other:

Explanation of special wastes, including a specific list and/or conditions:
Incinerator ash, asbestos, foundry sand, wastewater sludge, trees and stumps.

Site Size:

Total area of facility property:	337 acres
Total area sited for use:	242 acres
Total area permitted:	242 acres
Operating:	191 acres
Not excavated:	51 acres
Current capacity:	64.31 MCY (Net refuse bank volume)
Estimated lifetime:	17.4 years (as of 1/1/16)
Estimated days open per year:	364 days
Estimated yearly disposal volume:	1.6 MCY (airspace consumed)
Annual energy production:	
Landfill gas recovery projects:	18 megawatts
Waste-to-energy incinerators:	N/A megawatts

Proposed uses of facility site after closure: not available

FACILITY DESCRIPTIONS

Facility Type: Type II Landfill
Facility Name: Chelsea Sanitary Landfill
County: Washtenaw
Location: 8027 Werkner Rd., Chelsea, MI 48118
Town: 1S Range: 3E Section(s): 25

Is a map identifying the location included in Attachment Section: yes, p. XXX

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for Incinerator ash or Transfer Station wastes: Not Applicable

Public or Private: Public

Owner: Village of Chelsea

Operating Status (check)		**Waste Types Received (check all that apply)**
	open	residential
x	closed	commercial
	licensed	industrial
	unlicensed	construction & demolition
	construction	permit contaminated soils
	open, but closure	special wastes *
	pending	other:

*** Explanation of special wastes, including a specific list and/or conditions:** Not Applicable

Site Size:

Total area of facility property:	5 acres
Total area sited for use:	0 acres
Total area permitted:	0 acres
Operating:	N/A
Not excavated:	N/A
Current capacity:	N/A
Estimated lifetime:	N/A
Estimated days open per year:	N/A
Estimated yearly disposal volume:	N/A
Annual energy production:	
Landfill gas recovery projects:	N/A
Waste-to-energy incinerators:	N/A

Proposed uses of facility site after closure: N/A

FACILITY DESCRIPTIONS

Facility Type: Type II Landfill
Facility Name: City of Ann Arbor Landfill
County: Washtenaw
Location: 4120 Platt Rd., Ann Arbor, MI 48108
Town: 3S Range: 6E Section(s): 15

Is a map identifying the location included in Attachment Section: yes, p. XXX

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for

Incinerator ash or Transfer Station wastes: Not Applicable

Public or Private: Public

Owner: City of Ann Arbor

Operating Status (check)		**Waste Types Received (check all that apply)**
	open	residential
x	closed	commercial
	licensed	industrial
	unlicensed	construction & demolition
	construction permit	contaminated soils
	open, but closure	special wastes *
	pending	other:

*** Explanation of special wastes, including a specific list and/or conditions:** Not Applicable

Site Size:

Total area of facility property:	130 acres
Total area sited for use:	0 acres
Total area permitted:	0 acres
Operating:	N/A
Not excavated:	N/A
Current capacity:	N/A
Estimated lifetime:	N/A
Estimated days open per year:	N/A
Estimated yearly disposal volume:	N/A
Annual energy production:	
Landfill gas recovery projects:	0.8 megawatts
Waste-to-energy incinerators:	N/A

Proposed uses of facility site after closure:

A PUD has been developed for the landfill and the surrounding area. A dog park is currently operating on the Northeast Corner of the site. A landfill gas collection system has been installed and collected gas

is burned in an 800KW generator. A biodigester feasibility study is underway and the landfill property is one of the site locations under consideration. Possible uses for the landfill portion of the site may include, but are not limited to, open space, parks, city operations, and business/for-profit activities.

FACILITY DESCRIPTIONS

Facility Type: Type II Landfill and Ash Monofill
Facility Name: Carleton Farms
County: Wayne
Location: 28800 Clark Road, Sumpter Township, MI 48111
Town: 4S Range: 8E Section(s): 36

Is a map identifying the location included in Attachment Section: yes, p. XX

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for Incinerator ash or Transfer Station wastes: Not Applicable

Public or Private: Private

Owner: Carleton Farms Landfill, Inc.

Operating Status (check)	
x	open
	closed
x	licensed
	unlicensed
x	construction permit
	open, but closure pending

Waste Types Received (check all that apply)	
x	residential
x	commercial
x	industrial
x	construction & demolition
x	contaminated soils
x	special wastes *
x	other: Ash

Explanation of special wastes, including a specific list and/or conditions:
Asbestos, sludge.

Site Size:	**Landfill**	**Monofill**
Total area of facility property:	662.4 acres	
Total area sited for use:	662.4 acres	
Total area permitted:	335.1 acres	53.2 acres
Operating:	112.6 acres	14.7 acres
Not excavated:	222.5 acres	38.5 acres
Current capacity:	59,500,000 bank yds^3	4,200,000 bank yds^3
Estimated lifetime:	35 years	23 years
Estimated days open per year:	312 days	312 days
Estimated yearly disposal volume:	3,144,620 gate yds^3	180,910 gate yds^3
Annual energy production:		
Landfill gas recovery projects:	4 megawatts	N/A
Waste-to-energy incinerators:	N/A megawatts	N/A

Proposed uses of facility site after closure: not available

FACILITY DESCRIPTIONS

Facility Type: Type II Sanitary Landfill
Facility Name: Sauk Trail Hills Landfill
County: Wayne
Location: 5011 S Lilley Road, Canton Township, MI 48188
Town: 2S Range: 8E Section(s): 35

Is a map identifying the location included in Attachment Section: yes, p. XX

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for Incinerator ash or Transfer Station wastes: Not Applicable

Public or Private: Private

Owner: Sauk Trail Hills Development, Inc.

Operating Status (check)	
x	open
	closed
x	licensed
	unlicensed
x	construction permit
	open, but closure pending

Waste Types Received (check all that apply)	
x	residential
x	commercial
	industrial
x	construction & demolition
x	contaminated soils
x	special wastes *
	other:

Explanation of special wastes, including a specific list and/or conditions:
Asbestos.

Site Size:

Total area of facility property:	200.7 acres
Total area sited for use:	160.2 acres
Total area permitted:	86.7 acres
Operating:	86.7 acres
Not excavated:	73.5 acres
Current capacity:	25,657,759 bank yds^3
Estimated lifetime:	20 years
Estimated days open per year:	310 days
Estimated yearly disposal volume:	1,957,220 gate yds^3
Annual energy production:	
Landfill gas recovery projects:	N/A megawatts
Waste-to-energy incinerators:	N/A megawatts

Proposed uses of facility site after closure: not available

FACILITY DESCRIPTIONS

Facility Type: Type II Sanitary Landfill
Facility Name: Woodland Meadows Recycling & Disposal Facility
County: Wayne
Location: 5900 Hannan Road, Van Buren Township, MI 48184
Town: 3S Range: 8E Section(s): 1

Is a map identifying the location included in Attachment Section: yes, p. XX

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for Incinerator ash or Transfer Station wastes: Not Applicable

Public or Private: Private

Owner: Waste Management of Michigan, Inc.

Operating Status (check)	
x	open
	closed
x	licensed
	unlicensed
x	construction permit
	open, but closure pending

Waste Types Received (check all that apply)	
x	residential
x	commercial
x	industrial
x	construction & demolition
x	contaminated soils
x	special wastes *
	other:

Explanation of special wastes, including a specific list and/or conditions:
Asbestos, sludges.

Site Size:

Total area of facility property:	269 acres
Total area sited for use:	269 acres
Total area permitted:	206.2 acres
Operating:	156.2 acres
Not excavated:	0 acres
Closed:	50.0 acres
Current capacity:	14,677,000 bank yds^3
Estimated lifetime:	9 years
Estimated days open per year:	312 days
Estimated yearly disposal volume:	5,000,000 gate yds^3
Annual energy production:	
Landfill gas recovery projects:	N/A megawatts
Waste-to-energy incinerators:	N/A megawatts

Proposed uses of facility site after closure: not available

FACILITY DESCRIPTIONS

Facility Type: Materials Recovery Facility
Facility Name: Arbor Hills Materials Recovery Facility
County: Washtenaw
Location: 10690 Six Mile Road, Northville, MI 48168
Town: 1S Range: 7E Section(s): 13

Is a map identifying the location included in Attachment Section: yes, p. XXX

Public or Private: Private

Owner: Advanced Disposal Services Midwest, LLC.

Materials Processed:

X	Glass	x	Aluminum Cans
X	Plastics	x	Steels Cans
x	Polystyrene	x	Scrap Metals
x	Plastic Film	x	White Goods
	Cartons		Motor Oil
x	Newspapers		Oil Filters
x	Mixed office papers		Antifreeze
x	Catalogs/glossies/phonebooks		Batteries
x	Corrugated cardboard		Textiles
	Boxboard/greyboard		C & D Materials
	Other:		

Site Size:

Total size of facility:	55,000 Square Feet
Current processing capacity:	400 Tons per day
Total processing capacity:	1,000 Tons per day
Estimated days open per year:	250 Days
Estimated yearly processing volume:	61,200 Tons

Additional Information:
The Arbor Hills MRF opened April 1992. Since that time, the facility has provided service to Southeastern Michigan communities and businesses. This facility is currently leased to Great Lakes Recycling who is primarily performing commercial and industrial recycling.

FACILITY DESCRIPTIONS

Facility Type: Materials Recovery Facility
Facility Name: City of Ann Arbor Materials Recovery Facility
County: Washtenaw
Location: 4150 Platt Rd., Ann Arbor, MI 48108
Town: 3S Range: 6E Section(s): 15

Is a map identifying the location included in Attachment Section: yes, p. XXX

Public or Private: Public

Owner: City of Ann Arbor

Materials Processed:

x	Glass	x	Aluminum
x	Plastic	x	Steels Cans
	Polystyrene	x	Scrap Metals
	Plastic Film		White Goods
x	Cartons		Motor Oil
x	Newspapers		Oil Filters
x	Mixed Office Papers		Antifreeze
x	Catalogs/Glossies/Phonebooks/Paperbacks		Batteries
x	Corrugated Cardboard		Textiles
x	Boxboard/Greyboard		C & D Materials: list:
	Other:		

Site Size:

Total size of facility:	31,772 square feet
Current processing capacity:	1,200 tons per month
Total processing capacity:	1,200 tons per month
Estimated days open per year:	260 days
Estimated yearly processing volume:	14,400 tons

Additional Information:
In the month of July 2016, the City of Ann Arbor MRF changed operating vendors, and the processing equipment was turned off. Currently, the MRF only accepts material from the City of Ann Arbor curbside program; the material is baled and transported to a regional MRF for processing.

FACILITY DESCRIPTIONS

Facility Type: Type III Materials Processing Facility
Facility Name: Omni Source (Leased to Recycle Ann Arbor)
County: Washtenaw
Location: 7887 Jackson Rd., Ann Arbor, MI 48103
Town: 2S Range: 5E Section(s): 19

Is a map identifying the location included in Attachment Section: yes, p. XXX

Classification: Regulated under Act 451

Public or Private: Private

Owner: Omni Source, Leased to Recycle Ann Arbor

Materials Processed:

x	Glass	x	Aluminum Cans
x	Plastics #1,2	x	Steels Cans
	Polystyrene		Scrap Metals
	Plastic Film		White Goods
	Cartons	x	Motor Oil
x	Newspapers	x	Oil Filters
x	Mixed office papers	x	Antifreeze
	Catalogs/glossies/phonebooks		Batteries
x	Corrugated cardboard		Textiles
	Boxboard/greyboard	x	C & D Materials
	Other:		

Site Size:

Total size of facility:	10,000 Square Feet
Current processing capacity:	Unlimited Tons per day
Total processing capacity:	Unlimited Tons per day
Estimated days open per year:	300 Days
Estimated yearly processing volume:	Tons

FACILITY DESCRIPTIONS

Facility Type: Materials Recovery Facility
Facility Name: Western Washtenaw Recycling Authority (WWRA) Materials Recovery Facility
County: Washtenaw
Location: 8025 Werkner Rd., Chelsea, MI 48118
Town: 1S Range: 3E Section(s): 25

Is a map identifying the location is included in Attachment Section: yes, p. XXX

Public or Private: Public

Owner: Western Washtenaw Recycling Authority

Materials Processed:

	Glass	x	Aluminum Cans
x	Plastics	x	Steels Cans
	Polystyrene	x	Scrap Metals
	Plastic Film		White Goods
	Cartons	x	Motor Oil
x	Newspapers		Oil Filters
x	Mixed Office Papers		Antifreeze
x	Catalogs/Glossies/Phonebooks		Batteries
x	Corrugated Cardboard		Textiles
x	Boxboard/Greyboard		C & D Materials: list:
	Other:		

Site Size:

Total size of facility:	8,700 Square Feet
Current processing capacity:	80 Cubic yards per day
Total processing capacity:	100 Cubic yards per day
Estimated days open per year:	260 Days
Estimated yearly processing volume:	20,000 Cubic yards

FACILITY DESCRIPTIONS

Facility Type: Transfer Station
Facility Name: City of Ann Arbor Transfer Station
County: Washtenaw
Location: 4130 Platt Rd., Ann Arbor, MI 48108
Town: 3S Range: 6 E Section(s): 15

Is a map identifying the location included in Attachment Section: Yes, p. XXX

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for Incinerator ash or Transfer Station wastes: Waste Management Woodland Meadows Landfill, Wayne MI

Public or Private: Public

Owner: City of Ann Arbor

Operating Status (check) Waste Types Received (check all that apply)

x	open	x	residential
	closed	x	commercial
x	licensed		industrial
	unlicensed		construction & demolition
	construction permit		contaminated soils
	open, but closure		special wastes *
	pending		other:

*** Explanation of special wastes, including a specific list and/or conditions:** Not Applicable

Site Size:

Total area sited for use:	5.7 acres
Total area permitted:	5.7 acres
Operating:	N/A
Not excavated:	N/A
Current capacity:	130.75 Tons per day/per year 365 days
Estimated lifetime:	20 years
Estimated days open per year:	260 days
Estimated yearly disposal volume:	50,000 tons
Annual energy production:	N/A
Landfill gas recovery projects:	N/A
Waste-to-energy incinerators:	N/A

Proposed uses of facility site after closure: N/A

FACILITY DESCRIPTIONS

Facility Type: Transfer Station
Facility Name: City of Chelsea Transfer Station
County: Washtenaw
Location: 8027 Werkner Road, Chelsea, MI 48118
Town: 1S Range: 3E Section(s): 25

Is a map identifying the location included in Attachment Section: yes, p. XXX

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for Incinerator ash or Transfer Station wastes: Arbor Hills Landfill; Salem Township, Michigan

Public or Private: Public

Owner: Village of Chelsea

Operating Status (check)		**Waste Types Received (check all that apply)**	
x	open	x	residential
	closed	x	commercial
x	licensed		industrial
	unlicensed	x	construction & demolition
	construction permit		contaminated soils
	open, but closure pending		special wastes *
			other:

*** Explanation of special wastes, including a specific list and/or conditions:** Not Applicable

Site Size:

Total area of facility property:	80 acres
Total area sited for use:	10 acres
Total area permitted:	10 acres
Operating:	10 acres
Not excavated:	N/A
Current capacity:	N/A
Estimated lifetime:	30 years
Estimated days open per year:	208 days
Estimated yearly disposal volume:	25,000 yards
Annual energy production	
Landfill gas recovery projects:	N/A
Waste-to-energy incinerators:	N/A

Proposed uses of facility site after closure: N/A

The following facility descriptions are those of facilities not regulated under Act 451, but are included here to demonstrate the types of facilities and activities that are currently occurring in the County in regards to recycling and recovery.

1. Arbor Hills Compost Facility
2. City of Ann Arbor Compost Facility
3. City of Ann Arbor Drop-off Station
4. City of Chelsea Compost Facility
5. City of Milan Compost Facility
6. City of Ypsilanti Drop-off Station
7. City of Ypsilanti Materials Recovery Facility
8. Washtenaw County Home Toxics Facility
9. Ypsilanti Township Compost Facility
10. Village of Barton Hills Compost Facility

FACILITY DESCRIPTIONS

Facility Type: Municipal Compost Site
Facility Name: Advanced Disposal Arbor Hills Compost Facility
County: Washtenaw
Location: 10690 Six Mile Road, Northville, MI 48168
Town: 1S Range: 7E Section(s): 13

Is a map identifying the location included in Attachment Section: yes, p. XXX

Public or Private: Private

Owner: Advanced Disposal Arbor Hills Landfill, Inc.

Materials Processed:
x Grass clippings
x Leaves
x Brush
x Trees
x Prunings
Other:

Communities/Businesses Serviced:
Public and Private Residential and Commercial Haulers from Washtenaw, Wayne, Oakland, Livingston and Macomb Counties

Site Size:
Total area of facility property: 233 Acres
Total area sited for use: 20 Acres
Current processing capacity: 160,000 Cubic yards per year
Estimated days open per year: ~180 Days
Estimated yearly processing volume: 130,000 Cubic yards

End use of compost: Product is sold to commercial landscapers and Michigan Department of Transportation for road construction projects. Additional material is sold for industrial applications, such as the production of bio-filters for odor control, or donated to communities that ADS services.

FACILITY DESCRIPTIONS

Facility Type: Municipal Compost Site
Facility Name: City of Ann Arbor Compost Facility
County: Washtenaw
Location: 4170 Platt Rd., Ann Arbor, MI 48108
Town: 3S Range: 6E Section(s): 15

Is a map identifying the location included in Attachment Section: yes, p. XXX

Public or Private: Public

Owner: City of Ann Arbor

Materials Processed:
x Grass clippings
x Leaves
x Brush
x Trees
x Prunings
x Other: Food waste
x Other: Vivarium waste

Communities/Businesses Serviced:
City of Ann Arbor residents
Residents of other communities and contractors may drop off for a fee

Site Size:

Total area of facility property:	24 Acres Windrows, 1 Acre Grinding Area, 1 Acre Finished Compost and Mulch Storage
Total area sited for use:	26 Acres
Current processing capacity:	31.5 Tons per day/per year 365 days
Estimated days open per year:	251 Days
Estimated yearly processing volume:	11,500 Tons

End use of compost: compost, wood chips, mulch.

Additional Information:
The Site has operated since 2011 through a contract with WeCare, who owns the processing equipment; the City owns the land and the building.

FACILITY DESCRIPTIONS

Facility Type:	Transfer Station Type B
Facility Name:	City of Ann Arbor Drop-off Station
County:	Washtenaw
Location:	2950 E. Ellsworth Rd., Ann Arbor, MI 48108
	Town: 3S Range: 6E Section(s): 15

Is a map identifying the location included in Attachment Section: yes, p. XXX

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for Incinerator ash or Transfer Station wastes: Woodland Meadows Landfill

Classification: Regulated under Act 451

Public or Private: Public

Owner: City of Ann Arbor; operated by Recycle Ann Arbor

Operating Status (check) Waste Types Received (check all that apply)

x	open	x	residential
	closed	x	commercial
	licensed		industrial
x	unlicensed	x	construction & demolition
	construction permit		contaminated soils
	open, but closure pending		special wastes *
			other:

*** Explanation of special wastes, including a specific list and/or conditions:** Not Applicable

Site Size:

Total area of facility property:	3.5 acres
Total area sited for use:	N/A
Total area permitted:	N/A
Operating:	N/A
Not excavated:	N/A
Current capacity:	N/A
Estimated lifetime:	N/A
Estimated days open per year:	156 days
Estimated yearly disposal volume:	N/A
Annual energy production:	N/A
Landfill gas recovery projects:	N/A
Waste-to-energy incinerators:	N/A

Proposed uses of facility site after closure: N/A

FACILITY DESCRIPTIONS

Facility Type: Municipal Compost Site
Facility Name: City of Chelsea Compost Facility
County: Washtenaw
Location: 8027 Werkner Rd., Chelsea, MI 48118
Town: 1S Range: 3E Section(s): 25

Is a map identifying the location included in Attachment Section: yes, p. XXX

Public or Private: Public

Owner: Village of Chelsea

Materials Processed:
x Grass clippings
x Leaves
Brush
Trees
x Prunings
x Other: Christmas Trees

Communities/Businesses Serviced:
Village of Chelsea residents, non-village residents, small lawn care contractors

Site Size:
Total area of facility property: 80 Acres
Total area sited for use: 2 Acres
Current processing capacity: 1/2 Cubic yards per day
Estimated days open per year: 208 Days
Estimated yearly processing volume: 150 Cubic yards

End use of compost: Used on Village landscaping projects; sold to the public at $6 per yard.

Additional Information:
The Chelsea Municipal Compost site opened to residents in 1982. This site, located near the old Chelsea Sanitary Landfill, collects clean leaves and grass from the Village, Township, and other surrounding municipalities.

FACILITY DESCRIPTIONS

Facility Type: Municipal Compost Site
Facility Name: City of Milan Compost Facility
County: Monroe
Location: 79 Gump Lake Road, Milan, MI 48160
Town: 5S Range: 6E Section(s): 2

Is a map identifying the location is included in Attachment Section: yes, p. XXX

Public or Private: Public

Owner: City of Milan

Materials Processed:
x Grass clippings
x Leaves
x Brush
x Trees
x Prunings
Other:

Communities/Businesses Serviced:
City of Milan Residents

Site Size:
Total area of facility property: N/A Acres
Total area sited for use: N/A Acres
Current processing capacity: N/A Cubic yards per day
Estimated days open per year: 365 Days
Estimated yearly processing volume: 2,500 Cubic yards

End use of compost: Used on various city projects and given free of charge to residents of Milan.

FACILITY DESCRIPTION

Facility Type: Transfer Station
Facility Name: City of Ypsilanti Drop-off Station
County: Washtenaw
Location: 651 Rice Street, Ypsilanti, MI 48198

Is a map identifying the location included in Attachment Section: yes, p. XXX

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for Incinerator ash or Transfer Station wastes: Sauk Hills Landfill, Wayne County

Classification: Regulated under Act 451

Public or Private: Public

Owner: City of Ypsilanti

Operating Status (check) Waste Types Received (check all that apply)

x	open	x	residential
	closed		commercial
	licensed		industrial
	unlicensed		construction & demolition
	construction permit		contaminated soils
	open, but closure		special wastes *
	pending		other:

*** Explanation of special wastes, including a specific list and/or conditions:** Not Applicable

Site Size:

Total area of facility property:	N/A
Total area sited for use:	N/A
Total area permitted:	N/A
Operating:	N/A
Not excavated:	N/A
Current capacity:	N/A
Estimated lifetime:	N/A
Estimated days open per year:	N/A
Estimated yearly disposal volume:	N/A
Annual energy production:	N/A
Landfill gas recovery projects:	N/A
Waste-to-energy incinerators:	N/A

Proposed uses of facility site after closure: N/A

FACILITY DESCRIPTIONS

Facility Type: Materials Recovery Facility
Facility Name: City of Ypsilanti Materials Recovery Facility
County: Washtenaw
Location: 651 Rice St., Ypsilanti, MI 48198
Town: 3S Range: 7E Section(s): 10

Is a map identifying the location included in Attachment Section: yes, p. XXX

Public or Private: Public

Owner: City of Ypsilanti

Materials Processed:

x	Glass	x	Aluminum Cans
x	Plastics #1,2,4,5,6,7	x	Steels Cans
x	Polystyrene	x	Scrap Metals
	Plastic Film		White Goods
x	Cartons	x	Motor Oil
x	Newspapers		Oil Filters
x	Mixed Office Papers		Antifreeze
x	Catalogs/Glossies/Phonebooks	x	Batteries
x	Corrugated Cardboard		Textiles
x	Boxboard/Greyboard		C & D Materials: list:
x	Other: Electronics		

Site Size:

Total size of facility:	6,920 Square Feet
Current processing capacity:	N/A Cubic yards per day
Total processing capacity:	N/A Cubic yards per day
Estimated days open per year:	365 Days
Estimated yearly processing volume:	167 Tons

FACILITY DESCRIPTIONS

Facility Type: Permanent Household Hazardous Waste Collection Site
Facility Name: Washtenaw County Home Toxics Collection Center
County: Washtenaw
Location: 750 N. Zeeb Road, Ann Arbor, MI 48103

Is a map identifying the location included in Attachment Section: yes, p. XXX

Public or Private: Public

Owner: Washtenaw County

Materials Processed:

x	Acids	x	Fluorescent Light Tubes and Bulbs
x	Aerosols	x	Fertilizer
x	Antifreeze	x	Paint, Latex
x	Automotive Fluids	x	Pesticides
x	Batteries	x	Propane Tanks
x	Cleaners and Polish	x	Stains and Varnish
x	Fire Extinguishers		Asbestos
x	Flammables		Yard Waste
	Medical Waste		
	Tires		
	Trash		

Site Size:

Total size of facility:	3500 sq. ft.
Current processing capacity:	6 cubic yards per day
Total processing capacity:	10 cubic yards per day
Estimated days open per year:	21 open days, daily appointments
Estimated yearly processing volume:	380 cubic yards

FACILITY DESCRIPTION

Facility Type:	Municipal Compost Site
Facility Name:	Ypsilanti Township Compost Facility
County:	Washtenaw
Location:	2600 E. Clark Rd., Ypsilanti, MI 48198
	Town: 3S Range: 7E Section(s): 1

Is a map identifying the location included in Attachment Section: yes, p. XXX

Public or Private: Public

Owner: Charter Township of Ypsilanti

Materials Processed:

x Grass clippings
x Leaves
x Brush
x Trees
x Prunings
x Other: Scrap Metals, White Goods, Motor Oil, and Oil Filters

Communities/Businesses Serviced:

- Ypsilanti Township Residents
- City of Ypsilanti Residents
- Superior Township Residents
- Small lawn care contractors
- Citizens of other communities may drop-off for a charge

Site Size:

Total area of facility property:	40 Acres
Total area sited for use:	~20 Acres
Current processing capacity:	5,000 Cubic yards per day
Estimated days open per year:	225 Days
Estimated yearly processing volume:	140,000 Cubic yards

End use of compost: Given free of charge to residents; sold to non-residents.

FACILITY DESCRIPTION

Facility Type:	Municipal Compost Site
Facility Name:	Village of Barton Hills Compost Facility
County:	Washtenaw
Location:	199 Barton Shore Dr., Ann Arbor, MI 48105

Is a map identifying the location included in Attachment Section: yes, p. XXX

Public or Private: Public

Owner: Village of Barton Hills

Materials Processed:
- x Grass clippings
- x Leaves
- x Brush
- x Trees
- x Prunings
- x Other: Large Tree Trimmings

Communities/Businesses Serviced:
Barton Hills Village residents only

Site Size:

Total area of facility property:	~6-10 Acres
Total area sited for use:	~1/2 Acres
Current processing capacity:	2,000 Cubic yards per day
Estimated days open per year:	365 Days
Estimated yearly processing volume:	1,000 Cubic yards

End use of compost: Plowed into field yearly.

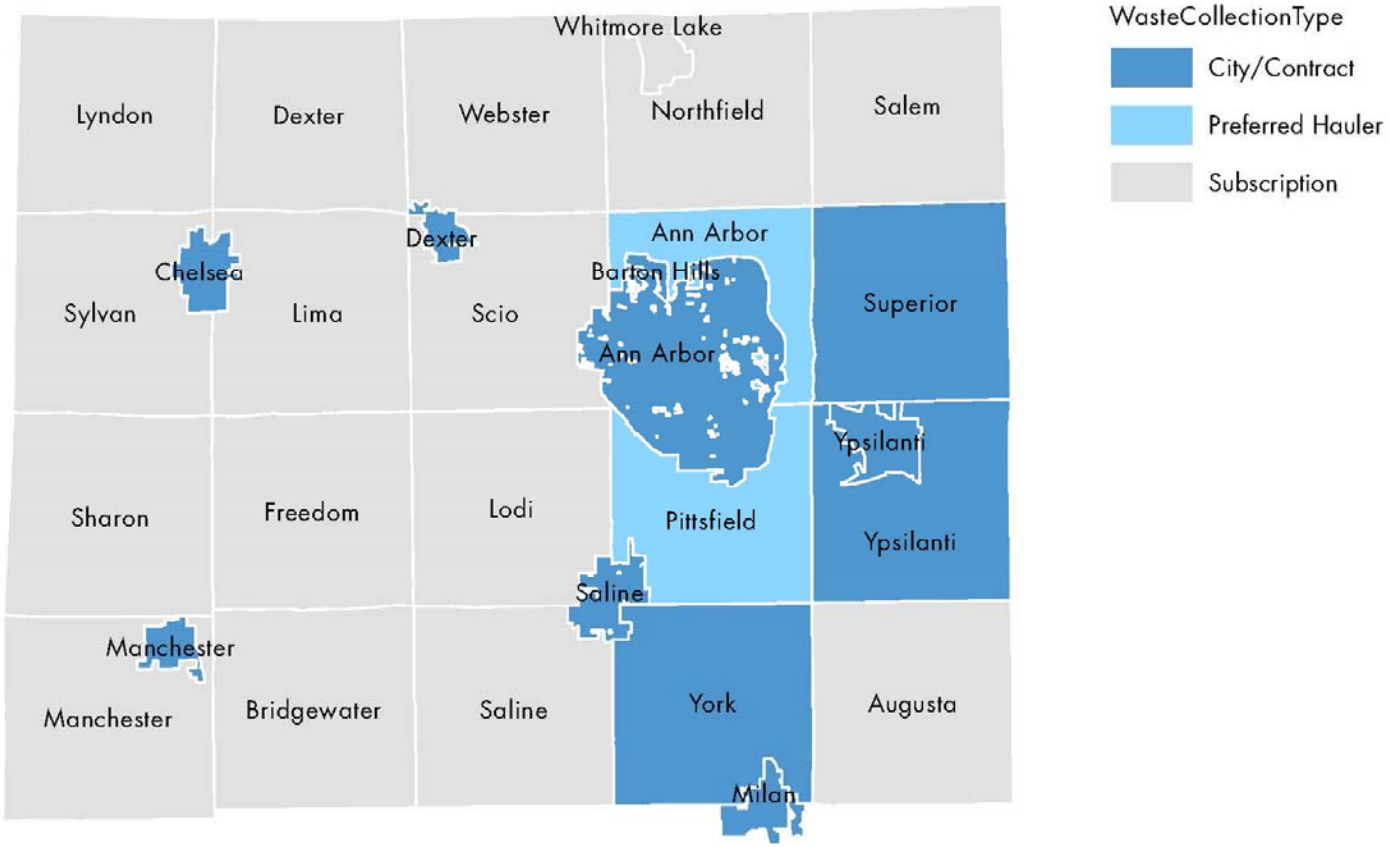
SOLID WASTE COLLECTION SERVICES AND TRANSPORTATION INFRASTRUCTURE

Describe the existing collection services which are available for the county.

Washtenaw County is serviced by public, non-profit, and private service providers for the collection and transportation of waste, recycling and yard waste. The responsibility of collection and transportation services varies by community. In Washtenaw County, collection categorized as follows:

1) **City Coordinated Collection:** Collection is automatically provided to residents by the city or contracted service provider. The largest percent of county residents are provided service in this manner.
2) **Preferred Hauler**: Communities secure contract with a service provider, but it is not required that residents utilize the service and may contract with a different service provider if desired. Two townships currently offer a preferred hauler.
3) **Subscription services**: residents secure collection services with the service provider of their choice. There is no community provided option. Residents in fifteen different communities within the County receive services by subscription.

Figure 1. Solid Waste Collection by Type in Washtenaw County



Source: Resource Recycling Systems, 2016

Active Service Providers

The following list the service providers currently providing collection services in Washtenaw County. All of the following haulers are private operations unless noted otherwise.

- Advanced Disposal – www.advanceddisposal.com
- City of Ann Arbor (Public) – www.a2gov.org
- City of Chelsea (Public) – www.city-chelsea.org
- City of Ypsilanti (Public) – www.cityofypsilanti.com
- Granger Disposal – www.grangernet.com
- Green for Life (GFL) – www.gflenv.com
- Modern Waste – www.modernwastesystems.com
- Recycle Ann Arbor (Non-profit) – www.recycleannarbor.org
- Republic Services – www.republicservices.com
- Stevens Disposal – www.stevensdisposal.com
- Titans Trash – www.titanstrash.com
- University of Michigan Waste Management Services – ltp.umich.edu/wm
- Village of Barton Hills (Public) – www.vil-bartonhills.org
- Waste Management – www.wm.com
- Western Washtenaw Recycling Authority (WWRA) (Public) – www.wwrarecycles.org

EVALUATION OF PROBLEMS AND DEFICIENCES

With sufficient reserves of landfill capacity in southeast Michigan, the challenges facing citizens, communities, businesses, and industries in Washtenaw County are centered on non-disposal issues and improving waste stream diversion from disposal facilities. The following is a description of problems or deficiencies in the existing solid waste system.

1) **Data Collection and Measurement**: Currently, there is limited data for programs related to solid waste management, diversion, and recovery. This can be attributed to several factors. First, collection of materials is not limited to one community. That is, a service provider in one municipality could cross boundaries into another municipality, making it challenging to isolate tonnage data for one community. There is no single data collection system in place at the state or county level nor any rules or regulations requiring regular reporting. Furthermore, some activities are difficult to measure such as source reduction. Encouraging less waste in the first place may achieve diversion goals, but is often not measurable on a household to household or even business to business basis.

   Data collection and measurement is addressed in all goals of this Plan, except Goal Four.

2) **Program Participation**: Determining participation is also related to data collection. Participation rates are also challenging to track and monitor and provide another metric of program progress. One-day collection events can measure participation by counting the number of cars, but overall, there is a lack of understanding of participation in programs across the county.

   Data collection and measurement is addressed in all goals of this Plan, except Goal Four.

3) **Education and Outreach**: From the public feedback survey conducted, many respondents indicated a lack of familiarity with options for disposal and diversion, and expressed confusion to what is and is not acceptable in community programs. Education and outreach expands beyond program information to providing citizens with information about why these activities are important and quantifying their impacts.

   Education and outreach is addressed in Goal #3 of this Plan.

4) **Regional Engagement and Interaction**: Solid waste management reaches beyond one county's borders and is very regional in nature. While Washtenaw County currently hosts one landfill, only a portion of the County's waste is disposed of at that facility. More than half the waste generated in the County is disposed of at facilities located in several other counties. Collaboration and engagement of all stakeholders across different jurisdictions' borders will strengthen the system and ensure benefits and impacts are measured against all stakeholders.

   Regional engagement and interaction is addressed in Goal #5.

5) **Disposal Costs**: Landfill disposal rates in Michigan continue to be some of the lowest across the Great Lakes states, creating little or no economic incentive for waste reduction and recycling

programs, efforts, or investments. There are programs in the County that incentivize waste reduction such as Pay as You Throw, but they are not applied in every community.

Incentives for recycling are addressed in Goal #2.

6) **Illegal Dumping:** Roadside illegal dumping continues to plague rural communities throughout the County. In more urban areas, illegal dumping occurs in dumpsters that are not for general public use. County residents also indicated that they are unaware of locations for proper disposal.

   Illegal dumping is addressed in Goal #4.

7) **Market Conditions and Development:** Markets for recyclables continue to fluctuate, or are not available in southeast Michigan. Markets for commodities are cyclical in nature and program operators should develop reserves to cover the down cycle of markets to reduce negative impacts on programs and services offered. With a stronger emphasis on purchasing good manufactured from post-consumer recycled materials, recycling programs can to help maintain and encourage further market development.

   Market development is addressed in Goal #2.

DEMOGRAPHICS AND LAND DEVELOPMENT

Demographic information provides insight to key characteristics of human populations, such as size, growth, density, and distribution. Basic demographic data is unique to each population, and it is necessary to have a clear understanding of local statistics to develop sound solid waste management strategies. The following information has been selected for inclusion in Washtenaw County's Plan based on its relevance to current and future solid waste management practices.

Economic Trends

The economic climate within the County can greatly affect how solid waste is generated and managed. As major industries rise and fall and the economic structure shifts and changes, the types and amounts of solid waste will evolve accordingly. Therefore, if economic trends can be determined, future solid waste needs can be more accurately predicted.

The current economic climate is heavily influenced by the recession in 2008-2009, with an astounding amount of job loss documented from 2006-2009 [1]. However, the County continues to see signs of economic recovery with net annual job growth starting in 2010 through 2014. The top job producers in the recovery from 2009 until 2014 have been state government (public higher education and the U-M Health System); leisure and hospitality; professional, scientific, and technical services; manufacturing other than autos; private health services; and financial activities[1].

Table 6. Employment by Major Industry Sectors
Washtenaw County 2001-2014

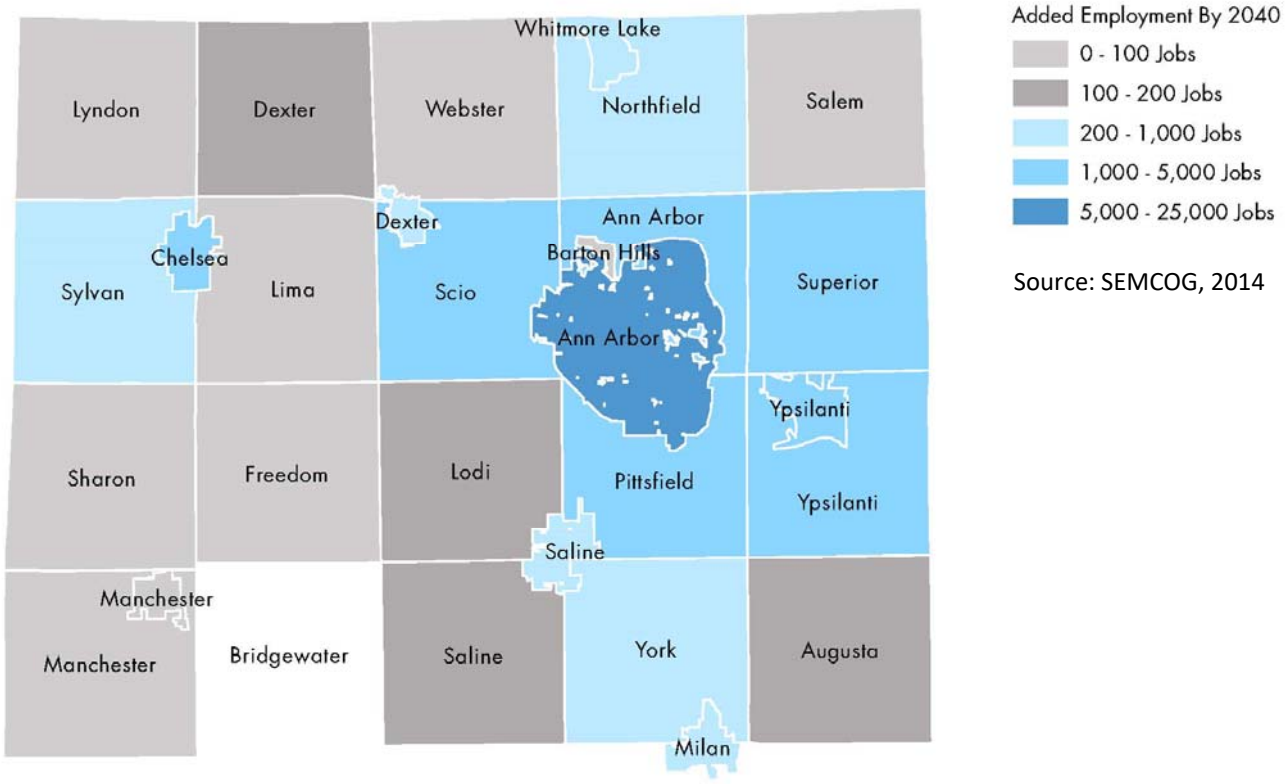
Sector	2001	2010	2014	% of Total in 2001	% of Total in 2014	Employment Growth 2010-2014
Leisure & Hospitality	15,978	18,505	21,072	6.6%	8.4%	13.9%
Manufacturing	26,985	13,441	15,200	11.2%	6.1%	13.1%
Government	67,682	68,923	74,407	28.0%	29.8%	8.0%
Knowledge-based Services	42,616	42,729	45,558	17.6%	18.3%	6.6%
Private Education & Healthcare	25,364	31,961	32,828	10.5%	13.2%	2.7%
Services to Households & Firms	21,430	23,665	23,756	8.9%	9.5%	0.4%
Natural Resources, Mining, & Construction	10,549	7,904	7,899	4.4%	3.2%	-0.1%
Retail Trade	22,718	19,466	18,948	9.4%	7.6%	-2.7%
Wholesale Trade, Transportation, Warehousing, & Utilities	8,371	10,082	9,728	3.5%	3.9%	-3.5%
Total	241,693	236,676	249,396	100.0%	100.0%	2.7%

Source: SEMCOG Employment data 2014

[1] Fulton, G. A., & Grimes, D. R. (2015). *The Economic Outlook for Washtenaw County in 2015-2017.* Ann Arbor: University of Michigan

The City of Ann Arbor, Superior Township, and Pittsfield Township are projected to see the largest growth in employment with an addition of over 3,000 jobs each year through 2040. The City of Chelsea, the City of Ypsilanti, Ypsilanti Township, Ann Arbor Township, and Scio Township should also expect large employment growth (1000-3000 jobs each). Small growth is anticipated for the remainder of the southeast area of the County (Augusta Township, York Township, City of Milan, Saline Township, City of Saline, and Lodi Township) as well as in Northfield Township, Dexter Township, City of Dexter, and Sylvan Township. Employment in the west side of the County (specifically, Lyndon Township, Lima Township, Sharon Township, Freedom Township, Manchester Township, and Manchester Village), Webster Township, and Salem Township is expected to change very little.

Figure 2. Employment Growth in Washtenaw County by Community

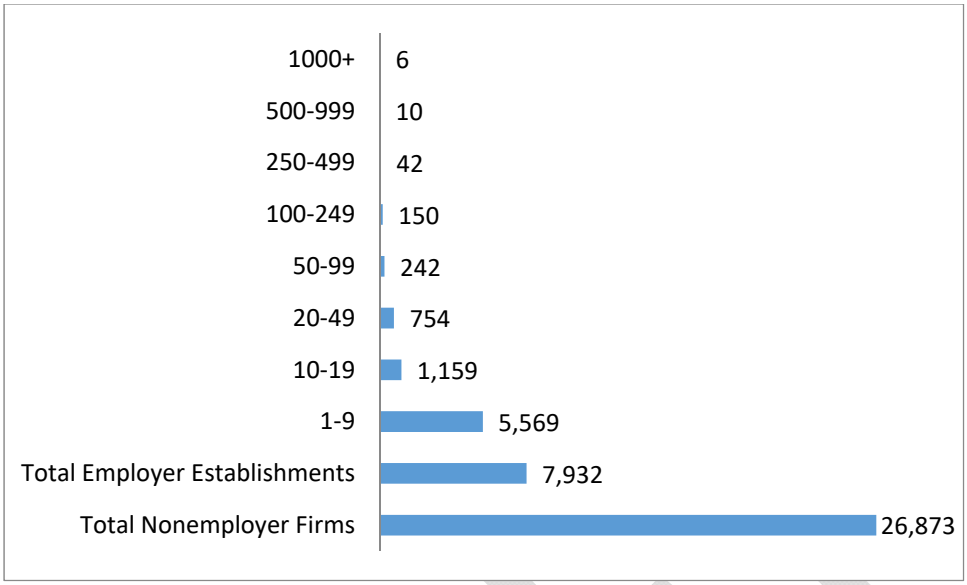


Source: SEMCOG, 2014

According to the Washtenaw County Office of Community & Economic Development[2], the vast majority of businesses are small businesses with under 20 employees. The number of business establishments increased significantly in 2013 indicating an improving economy, which may be due in part to the formation of non-employer firms by those residents that became unemployed during the recent recession (Figure 3).

A non-employer business is one that has no paid employees, has annual business receipts of $1,000 or more ($1 or more in the construction industries), and is subject to federal income taxes. Most non-employers are self-employed individuals operating very small unincorporated businesses, which may or may not be the owner's principal source of income (U.S. Census Bureau). [2] Washtenaw County Office of Community & Economic Development. (2014). *Washtenaw County Economic Vitality Report.*

Figure 3. Number of Businesses in Washtenaw County by Size



Source: Washtenaw County Office of Community & Economic Development *Economic Vitality Report January 2014*

Population

Washtenaw County's population has steadily increased over the past 34 years, growing over an average of 1% each year from 1980-2014 (see Table 8). Population figures are necessary for predicting future solid waste generation figures. For example, if the County wishes to estimate its solid waste generation rate per person, accurate and updated population figures are necessary. In addition, if long-term county recycling and waste reduction goals are to be measurable, population figures must first be calculated to compute a baseline waste generation estimate. Data on household size is provided in Table 8. Studies have demonstrated a strong correlation between the size of a household and the quantity of waste each person generates within that household. For example, a household of one typically generates more waste per person than does a household of five.

Table 7. Population and Household Estimates Washtenaw County 1980-2014

Year	1980	1990	2000	2010	2014	Percent Change (since 2000)
Population	264,740	282,937	322,770	344,791	350,781	7.45%
Households	92,937	104,546	125,327	130,880	138,026	9.51%
Persons per Household	2.85	2.71	2.57	2.60	2.60	-1.88%

Source: SEMCOG, 2014

To understand where solid waste is generated and how it affects the County's solid waste infrastructure, population changes and distribution must also be calculated. Table 9 shows population change for each Washtenaw County municipality (losses are highlighted) and Table 10 provides population densities for each municipality. Population density can affect the type of solid waste collection services needed for a community. Figure 4 is a graphic representation of the provided community population densities. A map has been constructed to estimate the major waste generation centers (see Figure 5) by analyzing the population change and density data (Table 11).

Table 8. Population by Municipality

Type	Geography	Population 2000	Population 2015	Percent change
City	Ann Arbor	115,012	118,017	2.61%
City	Chelsea	4,398	4,934	12.19%
City	Dexter	2,338	4,911	110.05%
City	Milan*	3,065	3,920	27.90%
City	Saline	8,034	8,897	10.74%
City	Ypsilanti	22,362	19,985	-10.63%
Township	Ann Arbor	3,763	4,271	13.50%
Township	Augusta	4,813	6,948	44.36%
Township	Bridgewater	1,646	1,663	1.03%
Township	Dexter	5,248	6,905	31.57%
Township	Freedom	1,562	1,461	-6.47%
Township	Lima	2,517	3,690	46.60%
Township	Lodi	5,710	6,238	9.25%
Township	Lyndon	2,728	2,947	8.03%
Township	Manchester	1,942	2,603	34.04%
Township	Northfield	8,252	8,133	-1.44%
Township	Pittsfield	29,801	38,309	28.55%
Township	Salem	5,562	5,724	2.91%
Township	Saline	1,302	2,057	57.99%
Township	Scio	13,421	17,050	27.04%
Township	Sharon	1,678	1,729	3.04%
Township	Superior	10,740	13,026	21.28%
Township	Sylvan	2,734	2,896	5.93%
Township	Webster	5,198	6,405	23.22%
Township	York	7,392	9,003	21.79%
Township	Ypsilanti	49,182	55,334	12.51%
Village	Barton	335	318	-5.07%
Village	Manchester	2,160	2,080	-3.70%
TOTAL		322,895	359,454	11.32%

Source: SEMCOG, 2014

* Part of the city of Milan is located within Monroe County. The statistics for the City of Milan reflect only the number of residents living in Washtenaw County

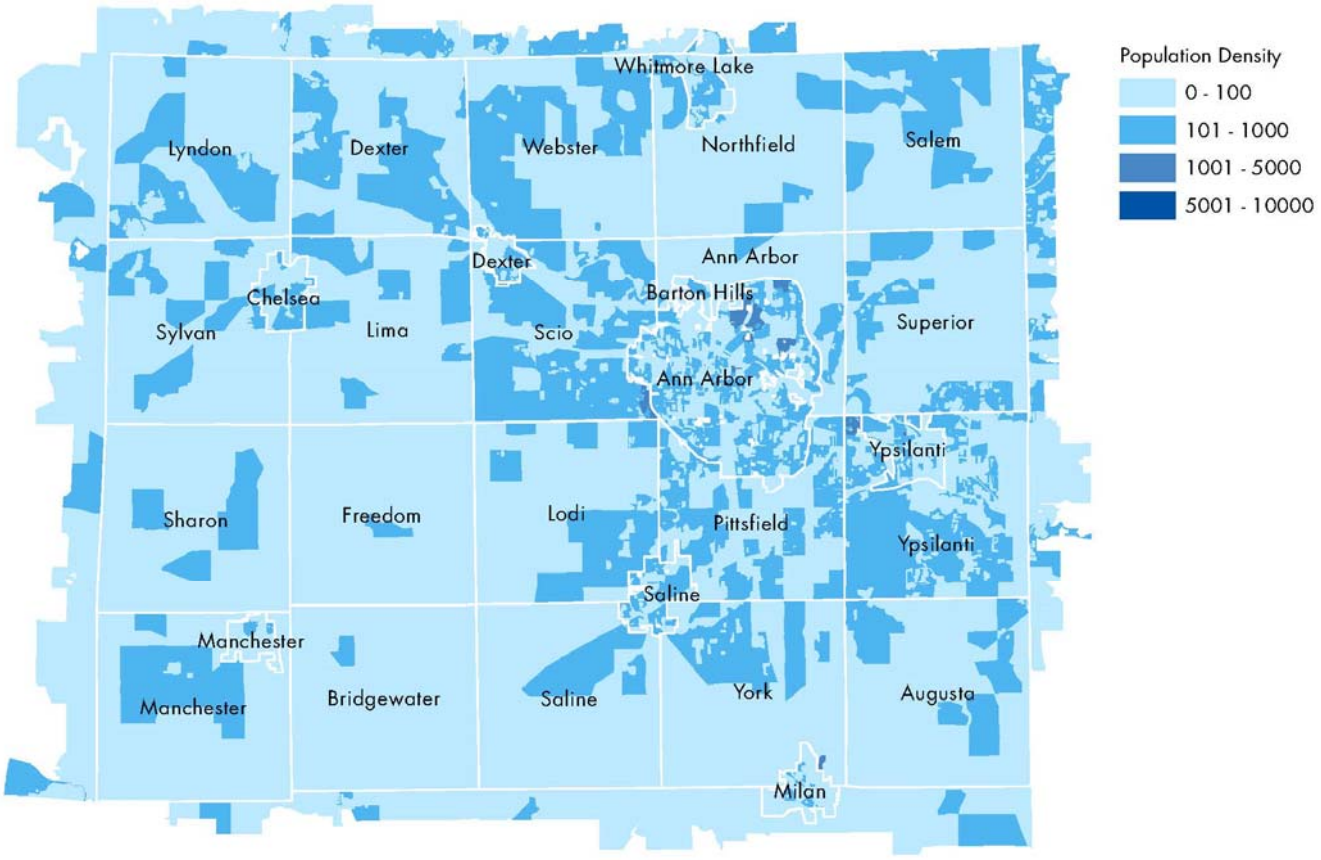
Table 9. Community Population Densities

Type	Geography	Population 2015	Area Sq. Miles	Population Density 2015 (population/sq. mile)
City	Ann Arbor	118,017	27.6	4,276
City	Chelsea	4,934	3.3	1,495
City	Dexter	4,911	1.7	2,889
City	Milan*	3,920	1.0	3,920
City	Saline	8,897	4.5	1,977
City	Ypsilanti	19,985	4.5	4,441
Township	Ann Arbor	4,271	17.2	248
Township	Augusta	6,948	36.8	189
Township	Bridgewater	1,663	36.7	45
Township	Dexter	6,905	33.1	209
Township	Freedom	1,461	35.5	41
Township	Lima	3,690	35.4	104
Township	Lodi	6,238	34.0	183
Township	Lyndon	2,947	35.2	84
Township	Manchester	2,603	36.9	71
Township	Northfield	8,133	36.7	222
Township	Pittsfield	38,309	27.4	1,398
Township	Salem	5,724	34.4	166
Township	Saline	2,057	35.0	59
Township	Scio	17,050	32.6	523
Township	Sharon	1,729	37.6	46
Township	Superior	13,026	35.5	367
Township	Sylvan	2,896	34.4	84
Township	Webster	6,405	35.8	179
Township	York charter	9,003	35.0	257
Township	Ypsilanti	55,334	31.8	1,740
Village	Barton Hills	318	0.8	398
Village	Manchester	2,080	1.9	1,095
TOTAL/AVG		359,454	722.3	954

Source: SEMCOG; Population and Household Estimates for Southeast Michigan, July 2015

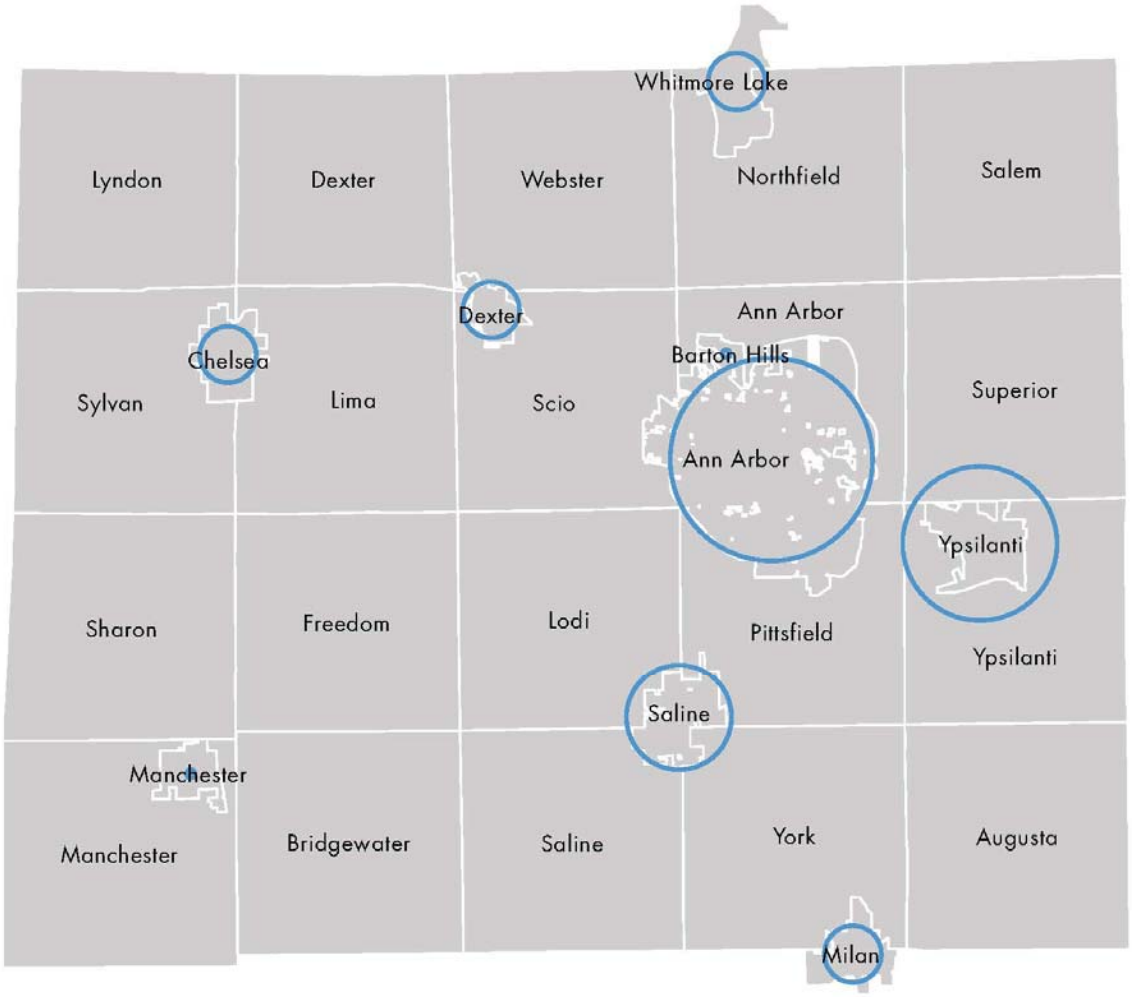
* Part of the city of Milan is located within Monroe County. The statistics for the City of Milan reflect only the number of residents living in Washtenaw County

Figure 4. Population Density in Washtenaw County



Source: U.S. Census Bureau, 2010 Census

Figure 5. Major Waste Generation Centers



Source: Resource Recycling Systems, 2016

Population and Household Forecast

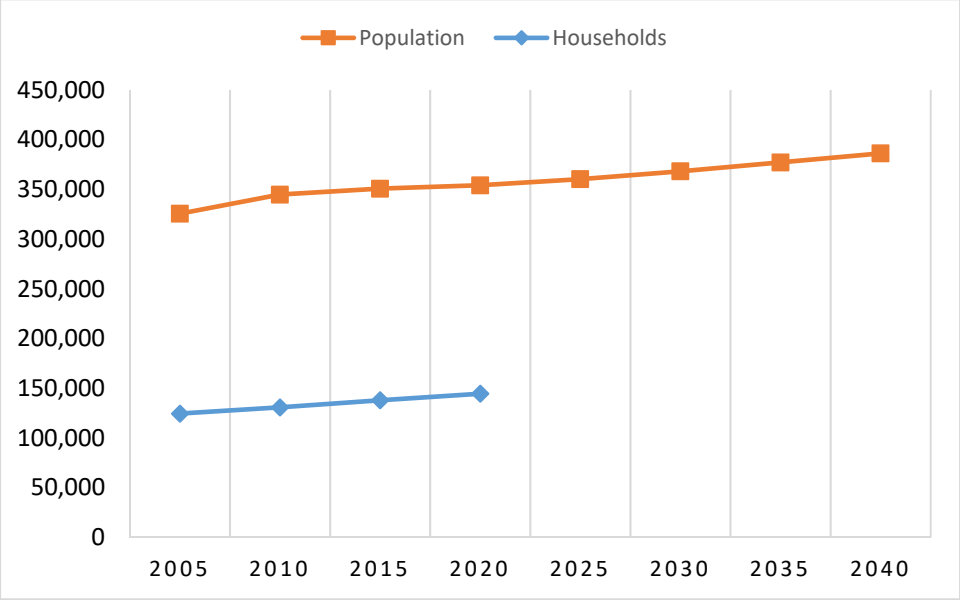
To properly locate facilities that adequately meet the needs of the people, projections of future levels of population and household size must be analyzed. SEMCOG has developed 20 year projections based on mathematical and computational models and the most recent national census estimates. Table 11 and Figure 6 provide projections for population and households through 2040. These projections differ from the estimates in Table 8 because they are derived using only models (and base census data) and are not actual population/household counts.

Table 10. Population and Household Forecast for Washtenaw County

Year	2005	2010	2015	2020	2025	2030	2035	2040	% Change
Population	325,599	344,791	350,781	354,116	360,371	368,262	377,183	386,235	18.6%
Households	124,559	137,193	141,483	146,870	151,822	156,324	160,691	164,447	32.0%
Persons/ Household	2.61	2.51	2.48	2.41	2.37	2.36	2.35	2.35	-0.1%

Source: SEMCOG

Figure 6. Population Growth Estimates in Washtenaw County



Source: SEMCOG, 2014

Land Use and Development

Washtenaw County is growing, and the increase in population and land development are placing new demands on farmland, open space, and natural areas. Although most of the County is still rural, farm acreage declined by 20% between 2000 and 2008, a loss of almost 5,292 acres per year. Although it appears that the population of Washtenaw County is gradually increasing, this appearance may be more the result of growing urban land use than of population. Between 2000-2010, the population in Washtenaw County increased approximately 6% according to SEMCOG figures. In that same ten-year period, it is projected that the urbanized area in Washtenaw County increased by over 39%. Thus, the urbanized area in Washtenaw County is growing at a faster rate than that of the entire population growth. The acreage in major land use classes in 2008 is shown in Table 12.

Table 11. 2008 Land Use Acreages

	Acres	Percent of Total County
Agricultural	165,586.7	35.8%
Single-family residential	189,512.6	41%
Multiple-family residential	2,897.4	0.6%
Commercial	9,981.4	2.2%
Industrial	15,317	3.3%
Governmental/Institutional	13,560.4	2.9%
Park, recreation, and open space	35,031.2	7.6%
Airport	648.6	0.1%
Transportation, Communication, and Utility	19,104.5	4.1%
Water	10,607.9	2.3%
Total	462,247.5	100%

Source: SEMCOG, 2008

SOLID WASTE MANAGEMENT ALTERNATIVES

The following briefly describes all solid waste management systems considered by the County and how each alternative will meet the needs of the County. The manner of evaluating and ranking of each alternative is also described. Details regarding the Selected Alternatives are in the following section. Details regarding each non-selected alternative are in Appendix B.

Washtenaw County approached consideration of solid waste management alternatives through a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis and through the development of the Goals and Objectives of this Plan. Through those processes, the County places a priority on solid waste and recycling related activities and programs that will contribute to waste reduction and recovery, and thus reducing the dependency on disposal. Therefore, solid waste management alternatives that support disposal as a primary option are not consistent with the vision of Washtenaw County. Below are four solid waste management alternatives. Based on the process undertaken by the County, two of these alternatives were determined to be unrealistic and were discarded immediately without undergoing detailed analysis. They are as follows:

Large Scale Incineration

Although large-scale incineration has the potential to divert a substantial amount of waste from landfill disposal, it is not realistic for Washtenaw County. There are currently no such facilities existing within the County, and the siting, construction, and operation of these facilities is cost-prohibitive. Also, incineration is unnecessary in southeast Michigan where both resource recovery opportunities and landfills are abundant. In addition, there are significant environmental costs, including energy consumption, air pollution, and hazards associated with the disposal of bottom and fly ash.

Sanitary Landfill Only

This alternative would consider landfilling as the only means of handling our waste. While this alternative may be attractive due to the abundance of available landfill space and the low cost of disposal in southeast Michigan, it is not a feasible option. Washtenaw County communities have placed a significant emphasis on waste reduction and recovery in the past, and a significant infrastructure has been established to support these activities within the public, private, and non-profit sectors. This strategy does not take into account those existing activities, and is not consistent with the established Goals and Objectives of the Plan.

After eliminating the first two alternatives, two viable alternatives remain, as follows:

Alternative #1: Waste reduction, recycling, and composting with sanitary landfill that maintains current recovery levels.

Alternative #1 utilizes a combination of waste reduction, recycling, composting, and land disposal technologies as its foundation while reserving the use of a sanitary landfill only for those items that cannot be diverted. This system is currently in place in the County as a result of the 1999 Solid Waste Plan Update.

While this alternative utilizes all environmental programs currently in place in the County, it does not require the expansion and enhancement of waste reduction, recycling, and composting activities. For this reason, it is not the preferred alternative for the County.

Alternative #2: Expanded system of waste prevention, reduction, recycling, composting, and sanitary landfill.

Alternative #2 is an integrated strategy that places waste prevention, reduction, recycling, and composting at the top of the solid waste management hierarchy. This alternative is different from #1 in that it requires strengthening existing diversion programs and recovery rates through measurement, education and outreach, and access. This alternative also seeks to increase diversion of additional materials such as food waste and construction and demolition waste. Landfill space would only be utilized to dispose of solid waste remaining after the diversion technologies have been developed to their fullest long term environmental, technological, and economic potential.

Alternative # 2 is identified in this Plan as the selected alternative for solid waste management in the County. It is the most feasible because it builds upon the existing recovery programs and infrastructure throughout the County, allows for growth and improvement, and clearly aligns with the established Goals and Objectives of the Plan.

THE SELECTED SOLID WASTE MANAGEMENT SYSTEM

The Selected Solid Waste Management System ("Selected System") must be capable of being developed and operated in compliance with state laws and rules pertaining to the protection of public health and the environment considering the available land in the county and the technical feasibility of, and economic costs associated with, the system. The selected system must be consistent with and utilize population, waste generation, and other Planning information.

Washtenaw County has selected a comprehensive approach to managing the County's solid waste and recoverable materials, as identified on pages 50-51. The Selected System addresses the Plan's purpose protect the air, land, water, and environment and promote the health, safety, welfare, and quality of life for the citizens of Washtenaw County. The Selected System developed will support proper management of waste and promote appropriate opportunities to divert materials from disposal through beneficial activities such as reuse, source reduction, recycling, composting, and other sustainable materials management practices. The Selected System shall be implemented in a cost-effective, environmentally sound, and publicly acceptable manner through programs, policies, partnerships, public engagement and education efforts that serve the county's residents, businesses, agencies, and institutions. The Selected System builds on the existing infrastructure throughout the County, and requires the implementation of new initiatives.

Goals and Objectives

Goal One: Create, implement, manage, and monitor an aggressive program to incrementally reduce the overall amount of municipal solid waste (MSW) generated per capita in Washtenaw County by 5% in the year 2022 and 10% by the year 2027, with a target of working towards zero waste.

Objective 1: Develop and/or support comprehensive programs aimed at reducing waste generation, such as source reduction, pollution prevention, environmental management systems, and other efforts that support sustainable materials management practices.

Objective 2: Investigate and evaluate economic, regulatory, and educational approaches to motivating citizens and businesses to reduce waste generation, such as pay-as-you-throw variable pricing systems and bans on disposal of specific materials.

Objective 3: Establish realistic and measurable goals for annual evaluation and investigate and implement measurement systems as needed.

Objective 4: Educate citizens and businesses on source reduction benefits and techniques, especially those targeted at creating less landfilled waste, reducing organic and household hazardous wastes at the source.

Objective 5: Establish annual goals to reduce the overall amount of municipal solid waste generated per capita in Washtenaw County.

Objective 6: Conduct annual review to measure progress made towards goals.

Goal Two: Create, implement, manage and monitor an aggressive program to increase municipal solid waste diversion rates from current levels to 38% in 2022 and 43% in 2027, with a target of 100% diversion.

Objective 1: Reuse, resale.

a. Develop and/or support programs that promote the reuse, donation and resale of used products.
b. Promote and educate about reuse and resale opportunities.

Objective 2: Recycling

a. Develop and/or support local recycling programs and incentives that provide convenient and accessible recycling opportunities for all citizens.
b. Encourage increased recycling within the commercial/industrial and institutional sectors and multi- family housing units.
c. Market development

    1. Work with government agencies and businesses to develop markets for recycled materials and organics.
    2. Pursue market development for special materials, including durable goods and electronics.
    3. Pursue cooperative programs for recycled-content purchasing.
    4. Encourage development of recycling-based manufacturing through local, regional, and state government economic development programs.

Objective 3: Organics Management

a. Develop and/or support comprehensive programs aimed at home composting initiatives and yard waste reduction.
b. Investigate and encourage the composting or other appropriate management of other organics including food and yard waste for residential and commercial sectors.

Objective 4: Special Material Handling

a. Continue to pursue recycling and disposal alternatives for problematic materials such as household hazardous waste, conditionally exempt small quantity generator waste, construction and demolition waste, and household generated medical waste.

Objective 5: Policy

a. Encourage the development of policies, ordinances, and regulations that support sustainable materials management at the County and local levels.

Objective 6: Access and Convenience

a. Investigate access and convenience in Washtenaw County as it relates to services available for the reduction, diversion, and disposal of MSW.
b. Ensure convenience and accessibility for any programs and services developed.

Objective 7: Establish realistic and measurable goals for annual evaluation and investigate and implement measurement systems as needed.

Goal Three: Develop, support, and monitor comprehensive education, outreach, and feedback programs to achieve the Goals of this Plan.

Objective 1: Education residents, businesses, schools, and institutions on appropriate handling and preparation of solid waste, including reuse, recycling, organics, and waste reduction.

Objective 2: Promote public education and awareness about key issues including solid waste reduction, reuse, diversion (recycling and composting), and disposal, and environmentally preferable purchasing.

Objective 3 Collaborate with private, public, and non-profit service providers and local units of government to enhance communication and education to residents, employees, and employers located within the county.

Objective 4: Establish regular opportunities for public feedback and participation in achieving Plan goals.

Objective 5: Establish realistic and measurable goals for annual evaluation and investigate and implement measurement systems as needed.

Goal Four: Ensure the safe, lawful, and efficient management of MSW.

Objective 1: Demonstrate and assure at least 10 years of capacity for non-recoverable refuse waste to meet the County's need using appropriate facilities inside and outside of the County.

Objective 2: Ensure the safe and environmentally sound collection, transportation, processing, on-site storage, and disposal of solid waste refuse and materials for diversion.

Objective 3: Encourage proper handling of problematic materials such as household hazardous waste, unregulated business was0te, and household generated medical waste.

Objective 4: Pursue programs aimed at decreasing illegal dumping.

Objective 5: Encourage the development of local ordinances and regulations for the collection of solid waste to take place in an efficient, safe, and timely manner.

Objective 6: Maintain regular communication with the appropriate regulatory agencies which enforce the safe and lawful management of solid waste, to remain current with regulations and conditions to support and/or facilitate solutions when necessary.

Objective 7: Collaborate with local and County agencies, industry, and non-profit organizations to minimize the impacts of sustainable solid waste management on local stakeholders and the public.

Goal Five: Operate collaboratively within the County and regionally outside of the County for a comprehensive sustainable materials management strategy.

Objective 1: Washtenaw County will assume the leadership role in the implementation of the goals and objectives of the solid waste management Plan.

a. The County shall create and facilitate targeted committees to implement the goals and objectives of the Plan.
b. County staff and the Board of Public Works will monitor, analyze, and recommend appropriate funding, educational, and regulatory actions to effectively implement the goals and objectives of the Plan, including direct County action, coordination of intergovernmental partnership opportunities, and local government support.

Objective 2: Enlist the support of all local units of government and other agencies to implement the Plan.

Objective 3: Continue to foster strong working relationships between governmental agencies, within the County and outside of the County.

Objective 4: Continue to build strong partnerships between the public, private, and non-profit sectors.

Objective 5: Facilitate the development of regional, cooperative services and programs to be implemented through the Plan's selected waste management alternatives.

Objective 6: Monitor and contribute to state and federal legislative developments relating to MSW.

Objective 7: Support development of state or regional goals for MSW diversion and strive to meet or exceed goals where possible.

Objective 8: Diversify and expand the capabilities of the current Countywide funding system for waste prevention and recycling program development.

Objective 9: Investigate and advise municipalities on alternative funding mechanisms for local recovery programs.

Objective 10: Establish realistic and measurable goals for annual evaluation and investigate and implement measurement systems as needed.

Selected System Components

Guiding Principles

The Selected System is built on the following principles that provided the foundation for both the Selected System and the development of the Plan Goals and Objectives. The principles were identified through the evaluation process of the current system and the results from the public feedback survey.

The two sources of input reflected one another in the following areas. The principles presented below are not listed in any specific order.

Access and Convenience
Programs and services that support proper disposal of waste and diversion of recoverable materials must be accessible and convenient for County residents, businesses, agencies, and institutions to utilize.

More Diversion and Recovery, Less Disposal
Additional programs and services will increase the diversion of recoverable materials, and may require additional infrastructure, funding, and outreach. Increasing diversion opportunities will contribute to a reduced need for disposal and preserve capacity at existing disposal facilities available to the County.

Education and Outreach
Education and outreach around available programs and services are necessary to ensure participation. Education and outreach can also contribute to an increase in participation as well as illustrating the impacts that programs and services make.

Data and Measurement
Measurement systems and processes will be investigated and implemented as needed to establish realistic and measurable goals for regular evaluation for successes, challenges, improvements, and opportunities.

Funding
Adequate funding is required to support the Selected System. Pages 119-120 provides a complete list of available funding options to support programs and services. Using a variety of available methods as well as developing an adequate reserve of funds will support programs and services in challenging times.

Coordination and Collaboration
Coordination and collaboration are opportunities to expand while managing costs. Working together can have a greater impact than an individual community pursuing programs on their own. This also applies within the County and outside of the County, where regional efforts and collaboration should occur to benefit as many users as possible.

Components of the Plan

The Objectives of the Plan are central to the Selected System, and prescribe the necessary components for the Selected System to be implemented. The Objectives presented here have been reorganized under the Guiding Principles and redundancies removed.

Access and Convenience

- Investigate access and convenience in Washtenaw County as it relates to services available for the reduction, diversion, and disposal of MSW.
- Ensure convenience and accessibility for any programs and services developed.

More Diversion and Recovery, Less Disposal

- Develop and/or support comprehensive programs aimed at reducing waste generation, such as source reduction, pollution prevention, environmental management systems, and other efforts that support sustainable materials management practices.
- Develop and/or support programs that promote the reuse, donation, and resale of used products.
- Develop and/or support local recycling programs and incentives that provide convenient and accessible recycling opportunities for all residents.
- Facilitate increased recycling within the commercial/industrial and institutional sectors and multi-family housing units.
- Collaborate with government agencies and businesses to develop markets for recycled materials and organics.
- Pursue market development for special materials, including durable goods and electronics.
- Pursue cooperative programs for recycled-content purchasing.
- Promote development of recycling-based manufacturing through local, regional and state government economic development programs.
- Develop and/or support comprehensive programs aimed at home composting initiatives and yard waste reduction.
- Investigate and encourage the composting or other appropriate management of other organics including food and yard waste for residential and commercial sectors.
- Continue to pursue recycling and disposal alternatives for problematic materials such as household hazardous waste, conditionally exempt small quantity generator waste, construction and demolition waste and household generated medical waste.
- Facilitate the development of policies, ordinances, and regulations that support sustainable materials management at the county, local, and state levels.

Data and Measurement

- Establish annual goals to reduce the overall amount of Municipal Solid Waste generated per capita in Washtenaw County.
- Conduct annual review to measure progress made towards goals.
- Establish realistic and measurable goals for annual evaluation and investigate and implement measurement systems as needed.
- Utilize systems made available from the state for data collection.

Education and Outreach

- Educate residents, businesses, schools, and institutions on appropriate handling and preparation of solid waste, including refuse, recycling, organics and waste reduction.
- Promote public education and awareness about key issues including solid waste reduction, reuse, diversion (recycling and composting), and disposal, and environmentally preferable purchasing.
- Promote and educate about reuse and resale opportunities.

- Educate residents and businesses on source reduction benefits and techniques, especially those targeted at creating less landfilled waste, reducing organic and household hazardous wastes at the source.
- Collaborate with private, public, and non-profit service providers and local units of government to enhance communication and education to residents, employees, and employers located within the county.
- Establish regular opportunities for public feedback and participation in achieving Plan Goals.

Funding

- Investigate, and strongly encourage implementation of economic, regulatory, and educational approaches to motivating residents and businesses to reduce waste generation, such as pay-as-you-throw variable pricing systems and other disposal restrictions.
- Diversify and expand the capabilities of the current Countywide funding system for waste prevention and recycling program development.
- Investigate and advise municipalities on alternative funding mechanisms for local recovery programs.

Collaboration

- Continue to foster strong working relationships between governmental agencies, within the County and outside of the County.
- Continue to build strong partnerships between the public, private, and non-profit sectors.
- Facilitate the development of regional, cooperative services and programs to be implemented through the Plan's selected waste management alternatives.
- Collaborate with local and County agencies, industry, and non-profit organizations to minimize the impacts of sustainable solid waste management on local stakeholders and the public.

Coordination

- Washtenaw County will assume the leadership role in the implementation of the Coals and Objectives of the Solid Waste Management Plan.
- The County shall create and facilitate targeted committees to implement the Goals and Objectives of the Plan.
- County staff and the Board of Public Works will monitor, analyze, and recommend appropriate funding, educational, and regulatory actions to effectively implement the Goals and Objectives of the Plan, including direct County action, coordination of intergovernmental partnership opportunities, and local government support.
- Enlist the support of all local units of government and other agencies to implement the Plan.
- Monitor and contribute to state and federal legislative developments relating to MSW.
- Support development of state or regional goals for MSW diversion and strive to meet or exceed goals where possible.
- Demonstrate and assure at least 10 years of capacity for non-recoverable refuse waste to meet the County's need using appropriate facilities inside and outside of the County.

- Ensure the safe and environmentally sound collection, transportation, processing, on-site storage, and disposal of solid waste refuse and materials for diversion.
- Educate and promote proper handling of problematic materials such as household hazardous waste, unregulated business waste, and household generated medical waste.
- Pursue programs aimed at decreasing illegal dumping.
- Facilitate and support the development of local ordinances and regulations for the collection of solid waste to take place in an efficient, safe, and timely manner.
- Maintain regular communication with the appropriate regulatory agencies which enforce the safe and lawful management of solid waste, in order to remain current with regulations and conditions to support and/or facilitate solutions when necessary.

IMPORT/EXPORT AUTHORIZATIONS

Washtenaw County has an Agreement for Disposal of Solid Waste with Advanced Disposal (formerly BFI in previous Plan). Through the agreement, Advanced Disposal agreed to a 25 year agreement to receive for disposal no more than 2 million tons of solid waste and excluded waste from all sources in any single year and no more than 9.1 million tons of solid waste and excluded waste over a rolling 5 year consecutive period.

During the term of the Agreement, Advanced Disposal agrees to accept for disposal at Arbor Hills Landfill all County solid waste, regardless of whether the waste is delivered to the landfill by the County, a local unit of government, a public authority, consortium, or any other public or private party.

The Agreement provides that neither the County nor any local unit of government is required to deliver any specified or minimum amounts of solid waste to the landfill.

County solid waste may be disposed of at other landfills if the disposal activity is consistent with the Washtenaw County Solid Waste Plan and the Solid Waste Plan of the receiving county.

Intercounty Transport of Solid Waste

The import and export of solid waste across jurisdictional boundaries of Washtenaw County are recognized only as described in this section.

Solid waste that is exported to a processing or transfer facility outside the County and subsequently imported back into the County is considered Washtenaw County waste, subject to verification as deemed necessary by the County.

Import Authorization

Through the host community agreement, the priority for importing waste into Washtenaw County is first for southeast Michigan, next for counties in the State of Michigan, and lastly, out of state waste. Table 13/14 lists counties in the State of Michigan that would be allowed to export waste to facilities in Washtenaw County.

Table 12. Authorized Imports of Solid Waste – Counties in Michigan

Alcona	Gratiot	Missaukee
Alger	Hillsdale	Monroe
Allegan	Houghton	Montcalm
Alpena	Huron	Montmorency
Antrim	Ingham	Muskegon
Arenac	Ionia	Newaygo
Baraga	Iosco	Oakland
Barry	Iron	Oceana
Bay	Isabella	Ogemaw
Benzie	Jackson	Ontonagon

Berrien	Kalamazoo	Osceola
Branch	Kalkaska	Oscoda
Calhoun	Kent	Otsego
Cass	Keewenaw	Ottawa
Charlevoix	Lake	Presque Isle
Cheyboygan	Lapeer	Roscommon
Chippewa	Leelenau	Saginaw
Clare	Lenawee	Sanilac
Clinton	Livingston	Schoolcraft
Crawford	Luce	Shiawasee
Delta	Macomb	St. Clair
Dickinson	Mackinac	St. Joseph
Eaton	Manistee	Tuscola
Emmet	Marquette	Van Buren
Genesee	Mason	Wayne
Gladwin	Mecosta	Wexford
Gogebic	Menominee	
Grand Traverse	Midland	

Export Authorization

A portion of the County's waste stream may be disposed of in other counties. Export of solid waste to licensed disposal facilities in the counties listed in Table 14 is explicitly recognized and authorized in this Plan Update for the 10-year Planning period. The basis for determining annual export averages will be the most recent consecutive five-year period that concludes at the end of the year of activity.

Authorized Conditions for Export

Export authorization is contingent upon having the export from Washtenaw County explicitly recognized in the receiving county's Solid Waste Management Plan Update.

Table 13. Current Export Volume Authorization of Solid Waste

Exporting County	Importing County	Authorized Quantity (Annual Gate CY)
Washtenaw	Jackson	250,000
Washtenaw	Kalamazoo	200,000
Washtenaw	Lenawee	750,000
Washtenaw	Livingston	750,000
Washtenaw	Macomb	1,500,000
Washtenaw	Monroe	1,500,000
Washtenaw	Oakland	2,000,000
Washtenaw	Wayne	2,000,000
Washtenaw	Alcona	Up to 100%
Washtenaw	Alger	Up to 100%
Washtenaw	Allegan	Up to 100%
Washtenaw	Alpena	Up to 100%
Washtenaw	Antrim	Up to 100%
Washtenaw	Arenac	Up to 100%
Washtenaw	Baraga	Up to 100%
Washtenaw	Barry	Up to 100%
Washtenaw	Bay	Up to 100%
Washtenaw	Benzie	Up to 100%
Washtenaw	Berrien	Up to 100%
Washtenaw	Branch	Up to 100%
Washtenaw	Calhoun	Up to 100%
Washtenaw	Cass	Up to 100%
Washtenaw	Charlevoix	Up to 100%
Washtenaw	Cheboygan	Up to 100%
Washtenaw	Chippewa	Up to 100%
Washtenaw	Clare	Up to 100%
Washtenaw	Clinton	Up to 100%

Washtenaw	Crawford	Up to 100%
Washtenaw	Delta	Up to 100%
Washtenaw	Dickinson	Up to 100%
Washtenaw	Eaton	Up to 100%
Washtenaw	Emmet	Up to 100%
Washtenaw	Genesee	Up to 100%
Washtenaw	Gladwin	Up to 100%
Washtenaw	Gogebic	Up to 100%
Washtenaw	Grand Traverse	Up to 100%
Washtenaw	Gratiot	Up to 100%
Washtenaw	Hillsdale	Up to 100%
Washtenaw	Houghton	Up to 100%
Washtenaw	Huron	Up to 100%
Washtenaw	Ingham	Up to 100%
Washtenaw	Ionia	Up to 100%
Washtenaw	Iosco	Up to 100%
Washtenaw	Iron	Up to 100%
Washtenaw	Isabella	Up to 100%
Washtenaw	Kalamazoo	Up to 100%
Washtenaw	Kalkaska	Up to 100%
Washtenaw	Kent	Up to 100%
Washtenaw	Keweenaw	Up to 100%
Washtenaw	Lake	Up to 100%
Washtenaw	Lapeer	Up to 100%
Washtenaw	Leelenau	Up to 100%
Washtenaw	Luce	Up to 100%
Washtenaw	Mackinac	Up to 100%
Washtenaw	Manistee	Up to 100%
Washtenaw	Marquette	Up to 100%
Washtenaw	Mason	Up to 100%
Washtenaw	Mecosta	Up to 100%
Washtenaw	Menominee	Up to 100%
Washtenaw	Midland	Up to 100%
Washtenaw	Missaukee	Up to 100%
Washtenaw	Montcalm	Up to 100%
Washtenaw	Montmorency	Up to 100%
Washtenaw	Muskegon	Up to 100%
Washtenaw	Newaygo	Up to 100%
Washtenaw	Oceana	Up to 100%
Washtenaw	Ogemaw	Up to 100%
Washtenaw	Ontonagon	Up to 100%

Washtenaw	Osceola	Up to 100%
Washtenaw	Oscoda	Up to 100%
Washtenaw	Otsego	Up to 100%
Washtenaw	Ottawa	Up to 100%
Washtenaw	Presque Isle	Up to 100%
Washtenaw	Roscommon	Up to 100%
Washtenaw	Saginaw	Up to 100%
Washtenaw	Sanilac	Up to 100%
Washtenaw	Schoolcraft	Up to 100%
Washtenaw	Shiawassee	Up to 100%
Washtenaw	St. Clair	Up to 100%
Washtenaw	St. Joseph	Up to 100%
Washtenaw	Tuscola	Up to 100%
Washtenaw	Van Buren	Up to 100%
Washtenaw	Wexford	Up to 100%

SOLID WASTE DISPOSAL AREAS

The following identifies the names of the existing disposal areas which will be utilized to provide the required capacity and management needs for the solid waste generated within the County for the next five years and, if possible, the next ten years. Pages 16-36 contain the descriptions of the solid waste disposal areas located within the County. Additional facilities within the County with applicable permits and licenses may be utilized as they are sited by this Plan, or amended into this Plan, and become available for disposal. Disposal areas outside of Michigan may be utilized if legally available for such use.

Washtenaw County has one licensed and operational Type II landfill within its borders – the Arbor Hills Landfill, owned and operated by Advanced Disposal. Washtenaw County's Host Community Agreement with Advanced Disposal that provides disposal capacity for all Washtenaw County generated solid waste; however, the County is under no obligation to deliver waste to the facility. Due to the regional nature of the flow of waste in southeast Michigan, and the ability of communities and commercial/industrial companies to secure their own waste services, it is recognized that waste generated from within Washtenaw County is disposed in landfills other than Arbor Hills. Washtenaw County has secured letters to assure capacity for the disposal of waste generated in Washtenaw County from facilities located outside of the County.

Detailed Descriptions of Solid Waste Facilities

Inventory and description of all solid waste disposal areas within the County or to be utilized by the County to meet its disposal needs for the Planning period.

An inventory of facilities to be utilized by the County for this Planning period is provided below, along with a page number where a detailed description can be found in the background database.

"Disposal Area" is defined by Act 451, Part 115 and the Administrative Rules to include the following: Municipal Solid Waste Landfill, Industrial Waste Landfill, Construction and Demolition Waste Landfill, Municipal Incinerator Ash Landfill, Municipal Solid Waste Incinerator, Processing Facilities, Transfer Station Facility, Waste Pile.

Also, included here are MSW landfill facilities located outside of the County used for disposal and facilities not regulated under Act 451, such as source separated materials recovery facilities and composting sites, which are noted with an asterisk (*)

Facility Name	**Page**
Municipal Solid Waste Landfill	
1. Arbor Hills Landfill (Operational)	X
2. Chelsea Sanitary Landfill (Closed)	X
3. City of Ann Arbor Landfill (Closed)	X
4. Carelton Farms Landfill, Wayne County (Operational)*	X
5. Sauk Trail Hills Landfill, Wayne County (Operational)*	X
6. Woodland Meadows RDF, Wayne County (Operational)*	X
Industrial Waste Landfill	NONE
Construction and Demolition Waste Landfill	NONE
Municipal Incinerator Ash Landfill	NONE
Municipal Solid Waste Incinerator	NONE
Processing Facilities	
1. Arbor Hills Material Recovery Facility (leased to Great Lakes Recycling)	X
2. City of Ann Arbor Material Recovery Facility	X
3. Omni Source Type III Materials Processing Center (leased to Recycle Ann Arbor)	X
4. Western Washtenaw Recycling Authority Materials Recovery Facility	X
5. Arbor Hills Compost Facility*	X
6. City of Ann Arbor Compost Facility*	X
7. City of Chelsea Compost Facility*	X
8. City of Milan Compost Facility*	X
9. City of Ypsilanti Materials Recovery Facility*	X
10. Washtenaw County Home Toxics Facility*	X
11. Ypsilanti Township Compost Facility*	X
12. Village of Barton Hills Compost Facility*	X
Transfer Station Facility	
1. City of Ann Arbor Transfer Station	X
2. City of Chelsea Transfer Station	X
3. City of Ann Arbor Drop-off Station*	X
4. City of Ypsilanti Drop-off Station*	X
Waste Pile	NONE

Solid Waste Collection Services and Transportation

The following described the solid waste collection services and transportation infrastructure which will be utilized within the County to collect and transport waste.

Details on the collection and transportation infrastructure are provided on page XX of the background database.

RESOURCE CONSERVATION EFFORTS

The following describes the Selected System's proposed conservation efforts to reduce the amount of solid waste generated throughout the County. The annual amount of solid waste currently or proposed to be diverted from landfills is estimated for each effort to be used, if possible. Since conversation efforts are provided voluntarily and change with technologies and public awareness, it is not this Plan's intention to limit the efforts to only what is listed. Instead residents, businesses, and industries are encouraged to explore the options available to their lifestyles, practices, and processes which will reduce the amount of materials requiring disposal.

Table 14. Estimated Diversion by Resource Conservation Efforts

	Estimated Diversion (tons/year)		
Effort Description	Current	5% increase	10% increase
Residential source reduction, recycling, and yard waste initiatives	48,116	50,521	52,927
Commercial recycling initiatives	26,100	27,404	28,709
Household Hazardous waste collection and treatment programs	233	245	257
Washtenaw County Totals	74,449	78,171	81,893

WASTE REDUCTION, RECYCLING AND COMPOSTING PROGRAMS

Volume Reduction Techniques

The following describes the techniques utilized and proposed to be used throughout the County which reduces the volume of solid waste requiring disposal. The annual amount of landfill air space not used as a result of each of these techniques is estimated. Since volume reduction is practiced voluntarily and because technologies change and equipment may need replacing, it is not this Plan amendment's intention to limit the techniques to only what is listed. Persons within the County are encouraged to utilize the technique that provides the most efficient and practical volume reduction for their needs. Documentation explaining achievements of implemented programs or expected results of proposed programs is attached.

Volume reduction techniques used to conserve air space are implemented by the private sector.

Overview of Resource Recovery Program

The following describes the type and volume of material in the County's waste stream that may be available for recycling or composting programs. How conditions in the County affect or may affect a recycling or composting program and potential benefits derived from these programs is also discussed. Impediments to recycling or composting programs which exist or which may exist in the future are listed, followed by a discussion regarding reducing or eliminating such impediments.

Recycling and Composting

The following is a brief analysis of the recycling and composting programs selected for the County in this Plan. Additional information on operation of recycling and composting programs is included in Appendix A. The analysis covers various factors within the County and the impacts of these factors on recycling and composting. Following the written analysis, the tables on pages 69-74 list the existing and proposed recycling, composting, and source separation of hazardous materials programs in the County and which will be continued as part of this Plan. It is not this Plan's intent to prohibit additional programs or expansions of current programs to be implemented beyond those listed.

Recycling

Recycling in Washtenaw County is readily available for single-family households. Two-thirds of the County's population are provided curbside recycling service through municipal or contracted collection (See Figure 5). The remainder of the County's population is serviced through either a preferred hauler arrangement, subscription service, or drop-off recycling. For residential recycling, drop-off recycling is more common where population density is low, whereas curbside service is offered where density is high.

Less prevalent across the County is multi-family and commercial recycling, and the commercial sector generates the majority of waste in the County. The City of Ann Arbor offers services to both sectors but not all communities offer the same level of services. To encourage commercial recycling, the County promotes a business recycling recognition program, known as the Waste Knot Program. Drop-off recycling locations are accessible to anyone in the County with sites in more than half the communities. In addition to drop-off locations, service providers operating in the County offer commercial recycling services for fee which county businesses may elect to pay for recycling collection.

There are three material recycling facilities in the County: Great Lakes Recycling, City of Ann Arbor, and Western Washtenaw Recycling Authority (WWRA). Great Lakes Recycling's facility processes commercial recyclables. The City of Ann Arbor is a publicly owned, privately operated facility. WWRA is a partnership of five municipalities (City of Chelsea, and Townships of Dexter, Lyndon, Manchester, and Lima).

In general, accurate data for recycling is not commonly tracked. Not many communities can provide data. Recycling rates can be projected, but actual data would be ideal to understand diversion rates related to recycling.

Organics – Yard Waste and Food Waste

Due to the state ban on yard waste disposal in landfills, yard waste diversion is common throughout the County. It is unclear if regular collection of yard waste occurs in areas with subscription based services, but communities with municipal or contracted collection typically have seasonal collection of yard waste. Some communities also provide a separate seasonal leaf collection program.

There continues to be a strong education and outreach effort to promote back yard composting and other waste reduction techniques such as grass-cycling (leaving grass clips on the lawn instead of bagging for collection).

Food waste composting is an emerging area for diversion. There is one DEQ registered compost facility located within the County that accepts food waste, and another facility in an adjacent county. With the availability of sites for food waste composting, there are opportunities to increase diversion of food waste from the landfill if programs can be developed.

Special Waste Handling

Washtenaw County provides a variety of programs that address wastes that require special handling. The County offers a household hazardous waste collection program at a permanent site, annual clean-up days, pharmaceutical take-back program, latex paint recycling program, used cooking oil recycling program, and shrink wrap recycling program. These are critical services that the County offers on behalf of all its communities and its residents, as the costs for each individual community to host similar events and collections would be exorbitant, and to keep additional materials from improper disposal or landfill.

DETAILS ON RECYCLING, COMPOSTING AND HOUSEHOLD HAZARDOUS WASTE PROGRAMS

All residents of Washtenaw County have access to recycling, yard waste programs, and household hazardous waste collection programs. The level of accessibility and convenience varies by community. The following set of tables provides additional information on local recycling, composting, and household hazardous waste programs. It is expected that each of these programs will continue to operate throughout the Plan implementation period, and enhancements will be made as deemed necessary.

Table 15: Inventory of existing curbside and yard waste collection programs and the items collected through each.

Table 16: Inventory of existing drop-off recycling programs and the items collected through each.

Table 17: Identification of management responsibilities for local recycling programs.

Table 15. Curbside Recycling Programs in Washtenaw County

Community	Newspaper	Cardboard	Magazines	Office Paper	Phone	Boxboard	Glass	Aluminum/T	Scrap Steel	#1-2 Plastics	#3,4,5,7	#6 (PS)	Plastic Bags	Styrofoam	Drink/Milk	Textiles	Ceramics	Motor Oil	Oil Filters	Auto	Household	White	Yard Waste
Ann Arbor City	•	•	•	•	•	•	•	•	•	•	•	•			•							*	•
Ann Arbor Twp.	•	•	•	•	•	•	•	•	•	•	•	•										*	
Barton Hills Village	•	•	•	•	•	•	•	•		•												•	•
Chelsea City	•	•	•	•	•	•		•		•	•	•											
Dexter City	•	•	•	•	•	•	•	•	•	•	•	•	•									•	•
Manchester Village	•	•	•	•	•	•	•	•		•	•	•	•									•	•
Milan City	•	•	•	•	•	•	•	•	•	•	•	•										•	•
Pittsfield Twp.	•	•	•	•	•	•	•	•		•	•	•	•									•	•
Saline City	•	•	•	•	•	•	•	•	•	•	•	•	•								•	•	•
Superior Twp.	•	•	•	•	•	•	•	•		•	•	•	•							•			•
Ypsilanti City	•	•	•	•	•	•	•	•	•	•	•	•			•			•					•
Ypsilanti Twp.	•	•	•	•	•	•	•	•		•	•	•	•		•								•

Note: all collections occur weekly
* By appointment only

Table 16. Drop-Off Recycling Programs in Washtenaw County

Community	Newspaper	Cardboard	Magazines	Office Paper	Phone Books	Boxboard	Glass	Aluminum/Tin	Scrap Steel	#1-2 Plastics	#3,4,5,7 Plastics	#6 (PS) Plastics	Styrofoam	Cartons	Textiles	Ceramics	Motor Oil	Oil Filters	Auto Batteries	Household	White Goods	Yard Waste	Collection Frequency[1]
Ann Arbor City	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	D
Barton Hills Village	•	•	•	•	•	•	•	•	•	•	•			•	•	•	•	•	•	•	•		D
Bridgewater Twp.	•	•	•	•	•	•	•	•		•	•	•					•		•			•	D
Chelsea City	•	•	•	•	•	•	•	•		•	•						•					•	D
Dexter Twp.	•	•	•	•	•	•	•	•		•	•						•					•	D
Freedom Twp.	•	•	•	•	•	•	•	•		•	•									•	•		D
Lima Twp.	•	•	•	•	•	•	•	•		•	•						•					•	D
Lodi Twp.	•	•	•	•	•	•	•	•		•	•				•				•		•	•	M
Lyndon Twp.	•	•	•	•	•	•	•	•		•	•						•					•	D
Manchester Twp.	•	•	•	•	•	•	•	•		•	•						•					•	D
Northfield Twp.	•	•	•	•	•		•	•		•	•												D
Salem Twp.	•	•	•	•	•	•	•	•		•	•											•	D
Saline Twp.	•	•	•		•	•	•	•		•	•												M
Sharon Twp.	•	•	•	•	•	•	•	•		•	•												D
Sylvan Twp.	•	•	•	•	•	•	•	•		•	•						•					•	D
Webster Twp.	•	•	•	•	•	•	•	•		•	•									•	•		D
York Twp.	•	•	•	•	•	•	•	•		•	•										•		M
Ypsilanti City	•	•	•	•	•	•	•	•		•	•			•			•		•	•	•	•	TW
Ypsilanti Twp.	•	•	•		•	•	•	•	•	•	•						•	•		•	•	•	D

[1]D=Daily, W=Weekly, TW=Tri-Weekly, M=Monthly;

Table 17. Management Responsibilities for Local Recycling Programs as of April 2016

Community	Single Family Residential Collector	Single Family Residential Processor	Drop-Off Vendor	Drop-Off Processor	Multi-Family Collection	Commercial Collection
Ann Arbor City	RAA	A2 MRF	RAA	A2 MRF	Municipal	Municipal/ Subscription
Ann Arbor Twp.	RS	A2 MRF	N/A	N/A	Subscription	Subscription
Augusta Twp.	WM	A2 MRF	WM	N/A	Subscription	Subscription
Barton Hills Vil.	Municipal	N/A	RRA	A2 MRF	Subscription	Subscription
Bridgewater Twp.	Subscription	N/A	WWRA	WWRA	Subscription	Subscription
Chelsea City	WWRA	WWRA	WWRA	WWRA	Subscription	Municipal
Dexter Twp.	Subscription	N/A	WWRA	WWRA	Subscription	Subscription
Dexter City	WM	A2 MRF	N/A	N/A	Subscription	Municipal
Freedom Twp.	Subscription	N/A	Modern		Subscription	Subscription
Lima Twp.	Subscription	N/A	WWRA	WWRA	Subscription	Subscription
Lodi Twp.	Subscription	N/A	RAA	A2 MRF	Subscription	Municipal
Lyndon Twp.	Subscription	N/A	WWRA	WWRA	Subscription	Subscription
Manchester Twp.	Subscription	N/A	WWRA	WWRA	Subscription	Subscription
Manchester Vil.	Steven's	A2 MRF	WWRA	WWRA	Subscription	Subscription
Milan City (pt.)	WM	A2 MRF	City	City	Subscription	None Provided
Northfield Twp.	Subscription	N/A	N/A	N/A	Subscription	None Provided
Pittsfield Twp.	RS	A2 MRF	RAA	A2 MRF	Subscription	Subscription
Salem Twp.	Subscription	N/A	N/A	N/A	Subscription	Subscription
Saline City	WM	A2 MRF	WM	A2 MRF	Subscription	Municipal
Saline Twp.	Subscription	N/A	N/A	N/A	Subscription	Subscription
Scio Twp.	Subscription	A2 MRF	RAA	A2 MRF	Subscription	Subscription
Sharon Twp.	Subscription	N/A	Modern	N/A	Subscription	Subscription
Superior Twp.	RS	A2 MRF	RAA	A2 MRF	Subscription	Subscription
Sylvan Twp.	Subscription	WWRA	WWRA	WWRA	Subscription	Subscription
Webster Twp.	Subscription	N/A	WWRA	WWRA	Subscription	Subscription
York Twp.	Steven's	N/A	RAA	A2 MRF	Subscription	Subscription
Ypsilanti City	Municipal	A2 MRF	RAA	A2 MRF	Subscription	Subscription
Ypsilanti Twp.	WM	Great Lakes Recycling	WM	Great Lakes Recycling	Subscription	Subscription

A2 MRF = Ann Arbor Materials Recovery Facility
Modern = Modern Waste
Municipal = services provided by the local city, township or village
RAA = Recycle Ann Arbor
RS= Republic Services
Subscription = no municipal services are provided; customer must subscribe individually
WM= Waste Management
WWRA = Western Washtenaw Recycling Authorit

Table 18. Management Responsibilities for Local Yard Waste Programs as of April 2016

Community	Residential Curbside Collection	Residential Curbside Processor	Drop-Off Location	Drop-Off Processor
Ann Arbor City	Municipal	Municipal	Municipal	Municipal
Ann Arbor Twp.	RS	N/A	City of Ann Arbor Compost Facility	City of Ann Arbor Compost Facility
Barton Hills Vil.	Municipal	Municipal	Municipal	Municipal
Chelsea City	Municipal	City of Chelsea	Municipal	City of Chelsea
Dexter City	WM	Tuthill Farms	Municipal	Municipal
Lodi Twp.	Subscription	N/A	Municipal	Advanced Disposal
Milan City (pt.)	WM	Tuthill Farms	N/A	N/A
Pittsfield Twp.	RS	N/A	N/A	N/A
Saline City	WM	Tuthill Farms	N/A	N/A
Superior Twp.	RS	N/A	Ypsi Twp	Ypsi Twp
Ypsilanti City	Municipal	Municipal	Ypsi Twp	Ypsi Twp
Ypsilanti Twp.	WM	N/A	Municipal	Municipal

A2 MRF = Ann Arbor Materials Recovery Facility
Modern = Modern Waste
Municipal = services provided by the local city, township or village
RAA = Recycle Ann Arbor
RS = Republic Services
Subscription = no municipal services are provided; customer must subscribe individually
WM= Waste Management
WWRA = Western Washtenaw Recycling Authority

Table 19. Household Hazardous Waste Collection Programs

Program	Antifreeze	Aerosols	Auto Fluids (besides	Motor Oil	Oil Filters	Household Batteries	Auto Batteries	Cleaners/Polishers	Pesticides	Herbicides	Fertilizers	Oil Based Paints	Water-based Paints	Solvents	Flammables	Fluorescent Bulbs	Sharps	Pharmaceuticals	Other
Washtenaw Co. Permanent HHW Facility[1]		■				■		■	■	■	■	■		■	■	■	■	■	■
Washtenaw County Regional Community Clean-up Events[2]		■				■		■	■	■	■	■		■	■	■	■	■	■
City of Ann Arbor Drop-Off Station	■		■	■	■	■										■			
City of Ypsilanti Drop-Off Station	■		■	■	■	■													
WWRA Motor-Oil Recycling Program			■	■															
Pharmaceutical Take-Back Program																		■	
Sharps Return Program																■			

[1] Washtenaw County Permanent HHW Facility also known as the County's Home Toxic Collection Center is located at 705 N. Zeeb Road, Ann Arbor, MI. Hours of operation vary by time of year.

[2] Washtenaw County offers Community Clean-up Events on Saturdays during spring, summer, and fall. Locations rotate around the County.

Table 20. Management Responsibilities and Additional Details of Household Hazardous Waste Programs

				Management Responsibilities		
Program	**Service Area**	**Collection Point**	**Collection Frequency**	**Dvmt.**	**Operation**	**Evaluation**
Washtenaw County Home Toxics Permanent Facility	Entire County	Drop-off	By Appt. & Monthly	Public	Public	Public
Washtenaw County Regional Community Clean-up Events	Entire County	Drop-off	3 wks/mth 3x/year	Public	Contract (Private)	Public
City of Ann Arbor Drop- Off Station	Entire County	Drop-off	Daily	Public	Contract (Non-profit)	Public
City of Ypsilanti Drop-Off Station	City Residents Only	Drop-off	3x/week	Public	Public	Public
WWRA Motor Oil Program	Entire County	Drop-off	Daily	Public	Public	Public
Washtenaw County Pharmaceutical Take-Back Program	Entire County	Drop-off	Daily	Private	Private	Private
Washtenaw County Sharps Return Program	Entire County	Drop-off	Daily	Public	Private	Public/ Private

IDENTIFICATION OF RESOURCE RECOVERY MANAGEMENT ENTITIES

The following identifies those public and private parties and the resource recovery or recycling programs for which they have management responsibilities.

Washtenaw County encourages a multi-faceted approach to resource recovery throughout the County. Public, private, and non-profit agencies all play a role in resource recovery programs.

PROJECTED DIVERSION RATES

The following estimates the annual amount of solid waste which is expected to be diverted from landfills as a result of the current resource recovery programs, and over the next 10 years.

Table 21. Projected Diversion Rates

Material	Projected Annual Tons Diverted		
	Current	5%	10%
Paper	22,837	23,979	25,121
Glass	9,212	8,984	9,412
Ferrous metals	6,119	6,425	6,731
Aluminum cans	880	924	968
Non-ferrous metals, aluminum (foil) and other metal and aerosol cans	1,696	1,780	1,865
Plastic	3,587	3,767	3,946
Other textiles, batteries, tires, carpet, light bulbs	6,675	7,008	7,342
Wood	0	6,992	7,325
Other	6,003	6,303	6,604
Food	11,431	12,003	12,575
Yard waste	2,862	3,005	3,148
Totals	71,303	74,868	78,433

MARKET AVAILABILITY FOR COLLECTED MATERIALS

The following identifies the volume of materials collected from local recovery programs that existing markets can utilize.

Table 22. Market Availability for Collected Materials

Material	In-State Markets	Out-of State Markets
Paper & Paperboard	100%	
Glass	100%	
Ferrous Metals	100%	
Aluminum	100%	
Other Non-Ferrous Metals	100%	
Plastics	100%	
Leather & Rubber	100%	
Textiles	100%	
Wood	100%	
Other	100%	
Food Waste	100%	
Yard Trimmings	100%	

EDUCATIONAL AND INFORMATIONAL PROGRAMS

It is often necessary to provide educational and informational programs regarding the various components of a solid waste management system before and during its implementation. These programs are offered to avoid miscommunication which results in improper handling of solid waste and to provide assistance to the various entities who participate in such programs as waste reduction and waste recovery. Following is a table of the programs offered or proposed to be offered in Washtenaw County.

Table 23. Educational and Informational Programs

Program Title	Program Topic [1]	Delivery Medium	Targeted Audience [2]	Program Provider
Green Room	1,2,3,4,5	Television	a,b,c,d	DPA
Issues of the Environment Radio Program	1,2,3,4,5	Radio	a,b,c,d	DPA
Master Composter	2,5	Presentations	a	DPA
Social Media	1,2,3,4,5	Online	a,b,c,d	DPA
Turning Trash to Treasure: Resource Guide	1,2,3,4,5	Online	a,b,c,d	DPA
Environmental Excellence Partnership Program/E2P2	1,4,5	Online, presentations	b, c	DPA
Website	1,2,3,4,5	Online	a,b,c,d	DPA
Zero Waste Washtenaw	1,4,5	Events	a,b,c,d	DPA

[1] Program Topic: 1= recycling, 2 = composting; 3 = household hazardous waste; 4 = resource conservation; 5 = volume reduction.

[2] Targeted Audience: a = general public; b = business; c = industry; d = students

TIMETABLE FOR SELECTED SYSTEM IMPLEMENTATION

The following table lists the implementation Plan. Descriptions for each step are described below the table.

Table 24. Implementation Table

SYSTEM COMPONENT	RESPONSIBLE PARTY	TIMELINE
Appoint Plan Advisory Committee (PAC)	BOC	3-6 months after Plan amendment approval
Prioritize Programs/Projects	PAC	6-12 months after appointment
Develop Action Plans	PAC, DPA	6-12 months after appointment
Pursue Funding Mechanisms to Support Plan Implementation	DPA	Within first two years
Milestone Reporting	DPA	Annual
Strategic Planning for Plan Implementation	DPA, PAC	Annual, with ongoing coordination
Stakeholder and Public Engagement	DPA	Twice per year

- **Appoint Plan Advisory Committee (PAC)**: recommendation to appoint a group of 5-9 advisors to County staff to provide input, guidance, oversight, and direction for Plan implementation. The PAC would be appointed by the Board of Commissioners. The participants appointed to the PAC shall be representative of the Solid Waste Planning Committee membership to ensure that the PAC shall include different types of stakeholders. The committee will meet with County staff on a schedule determined by the PAC. The meeting schedule can be adjusted as needed. Subcommittees of the PAC may be formed to further support county staff as they implement the Plan.
- **Prioritize Programs and Projects:** one of the first steps of the PAC will be to prioritize the next steps for the County to implement the amended Plan. The Plan outlines clear Goals and Objectives and guiding principles that will guide the PAC in their process. The PAC will ensure that each of the guiding principle areas are addressed each year (pages 52-53).
    - More Diversion and Recovery, Less Disposal
    - Education and Outreach
    - Data and Measurement
    - Funding
    - Coordination/Collaboration
- **Develop Action Plans**: once projects are prioritized, the PAC will task County staff to develop action Plans for implementation of the priorities. The development of the Action Plans will provide an outline of the next steps required to pursue Plan implementation which could

include steps such as data collection, research, meetings with public, meetings with municipalities, pursuit of funding mechanisms, development of ordinances, etc.

- **Develop Funding Mechanisms to Support Plan Implementation**: Programs and projects to support Plan goals require funding to support. Once projects are prioritized, funding must be addressed. Options for funding mechanisms are outlined in Appendix A on pages 119-120.
- **Milestone Reporting**: County staff will track, monitor and maintain information or data regarding progress on the Action Plans, and provide Milestone Reporting annually once action Plans are approved, reviewed with the PAC and distributed to the Board of Public Works, Board of Commissioners, and shared on the County's website. The County will utilize available data tracking resources (such as Re-TRAC, which is provided by the state), but also consider additional data collection options that will provide an accurate assessment of solid waste and recycling related activities within the county. For example, conducting annual surveys of municipalities and services provided to residents to produce annual community profiles; or request regular reporting from service providers operating in the county for tonnage information.
- **Strategic Planning for Plan Implementation:** Each year County staff along with the PAC will meet to develop goals and objectives related to Plan implementation for the coming year. This effort will include a review of the previous year's accomplishments and gaps in order to formulate the coming year's priorities. The County staff will then develop action Plans that will be reviewed for progress through Milestone Reporting.
- **Stakeholder and Public Engagement:** at least twice per year, the County shall offer opportunity for public participation/input about programs and projects. Public input and comments are welcome at any time, but to support the goals and objectives of the Plan, the County shall seek opportunities for more engagement through activities such as open houses, public surveys, public meetings, educational series, etc. In addition, the County will engage with local elected officials, within and outside of the County, along with the regional Planning agency (SEMCOG) for ongoing collaboration, dialogue and information exchange.

SITING REVIEW PROCEDURES

As provided for in Part 115 Section 11537 (a) of NREPA, this Plan demonstrates that the Planning area has a minimum of 10 years of available disposal capacity in the region. This means that the County does not have to utilize the siting mechanism outlined here until the County is no longer able to demonstrate 66 months of disposal capacity or until the County amends this Plan to provide for the annual certification process described in Part 115 Section 11538 (4) of NREPA.

Disposal Area Types in Washtenaw County

Solid waste disposal areas, as defined by Act 451, Part 115 and the Administrative Rules include: a) Municipal Solid Waste Landfills; b) Industrial Waste Landfills; c) Construction and Demolition Waste Landfill; d) Municipal Incinerator Ash Landfills; e) Municipal Solid Waste Incinerators; f) Processing Facilities; g) Transfer Station Facilities; h) Waste Piles. The solid waste disposal area types are either unauthorized or authorized under this Plan.

Unauthorized Disposal Area Types

An unauthorized solid waste disposal area is not allowed under this Plan. Any proposal to construct a new disposal area listed herein shall be deemed inconsistent with this Plan. An unauthorized solid waste disposal area is not eligible to go through the Siting Process unless it is reassigned from unauthorized to authorized. Reassignment of a disposal area from unauthorized to authorized will only be considered as part of a state mandated Plan update or as a free-standing Plan amendment. Unauthorized disposal areas under this Plan are:

- Municipal Solid Waste Landfill
- Industrial Solid Waste Landfill
- Construction and Demolition Waste Landfill
- Municipal Incinerator Ash Landfill
- Municipal Solid Waste Incinerator
- Waste Piles

Authorized Disposal Area Types

Authorized solid waste disposal areas are allowed under this Plan. Authorized disposal area types will only be deemed consistent upon receiving a letter of support from the host community or county in which they are sited. Expansions of authorized disposal area facilities will only be considered for consistency as part of a state mandated Plan update or as a free-standing Plan amendment, unless considered exempt. Authorized disposal areas under this Plan are:

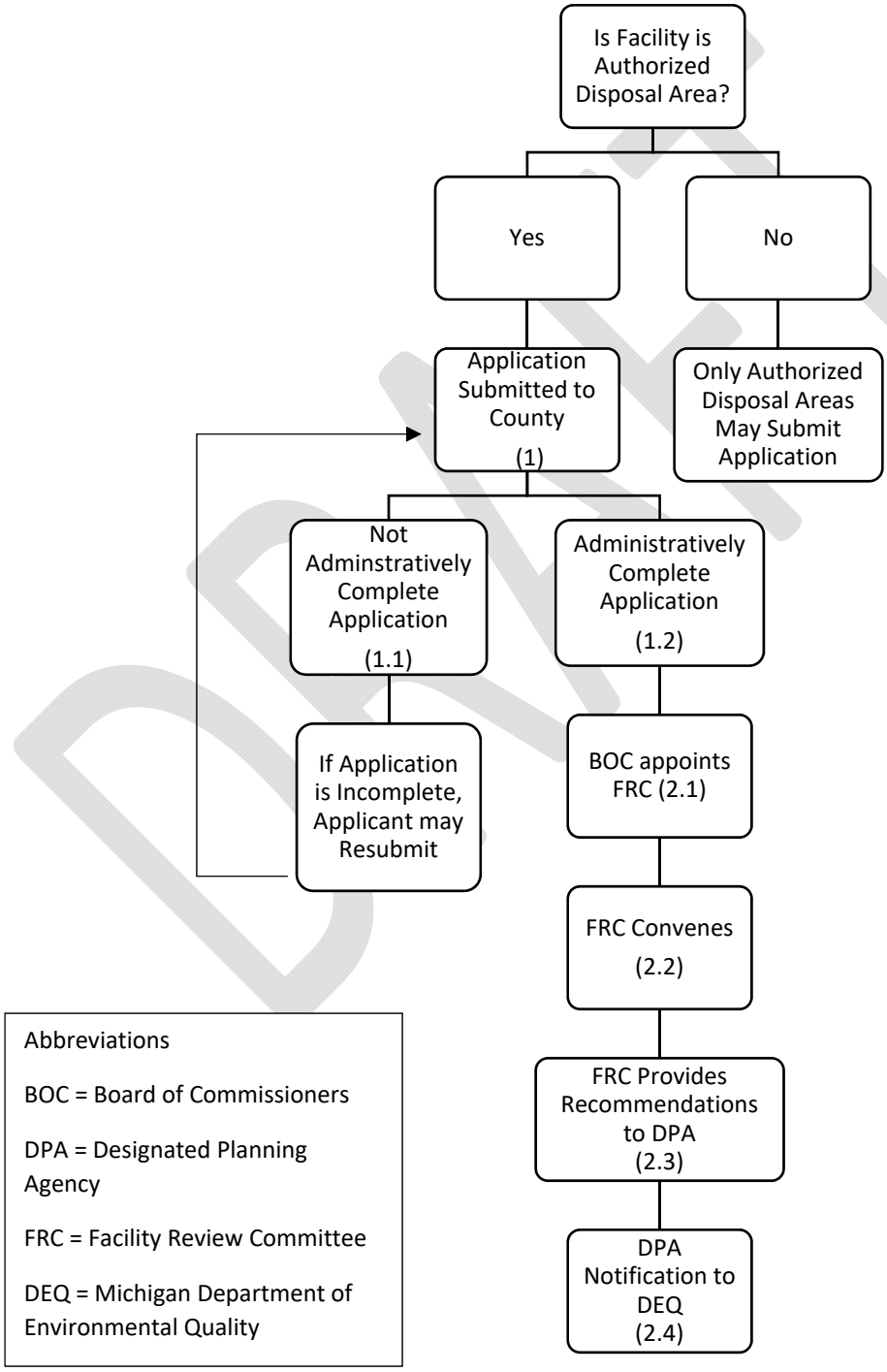
- Processing Facilities
- Transfer Stations

Siting Criteria and Process

The siting review process has been established in Washtenaw County to provide a forum for reviewing proposed facilities prior to the MDEQ permit or license application process to ensure compliance with

the County's Plan and to determine whether the proposed facility meets the criteria necessary to issue a letter of consistency with the approved Plan. Suggested timing is provided throughout this process; however, it is recognized by the County that there are variables that cannot be controlled or accounted for. Any significant changes to proposed timing or foreseeable delays will be communicated by the County, in a timely manner, to all parties involved. The siting criteria process with be held in compliance to the Open Meetings Act, P.A. 267 of 1976.

Overview Chart of Siting Process



Exemptions

A. **Type B Transfer Stations**

Type B Transfer Stations are defined in Part 115 as facilities that accept less than 200 uncompacted cubic yards of solid waste per day or that are not designed to accept waste with mechanical compaction devices.

Type B Transfer Stations designed to accept less than 60 uncompacted cubic gate yards of waste per day are not subject to this siting process. Facilities proposed to accept 60 uncompacted cubic gate yards per day or less will be considered automatically consistent with this Plan.

Facilities capable of accepting over 60 uncompacted gate yards per day must follow the standard siting process outlined herein.

B. **Expansions of Existing Transfer Stations and Processing Facilities**

Expansions of existing transfer stations and processing facilities are required to follow the siting process outlined herein unless the expansion will increase the existing physical size of the facility by 50% or less.

If the conditions described above are met, expansions of existing processing and transfer station facilities will be automatically considered consistent with this Plan.

1. Initiation of Siting Process

To initiate this process, the applicant shall provide the County with an application for a new facility that is an authorized disposal area. Only facilities included in the Plan as an authorized disposal area may apply. The contents of the application are provided under the section "**Criteria for an Administratively Complete Application".**

Along with the application, the applicant shall submit a minimum of 15 copies of the application, printed double sided, along with an application deposit of $25,000 to the Washtenaw County Division of Public Works (DPW). The deposit will cover costs associated with the application review, including but not limited to:

1. Staff time spent on review-related activities
2. Conducting required public meetings and related services
3. Publication and mailing of notices and printing of documents
4. Consultant fees for specialized services relating to project review
5. If the applicant must reapply, the costs associated with another application review will be covered by the initial application deposit until the funds of the initial deposit are exhausted.

Costs incurred above and beyond the initial deposit will be charged to the applicant and any remainder will be refunded.

At the time of proposal submittal, all documentation needed to demonstrate compliance with the application guidelines and evaluation criteria must be submitted. The facility developer/owner must also submit two copies of their construction permit application. The Public Works Director will review the application to determine whether it is administratively complete.

Within 60 days, the County will review the application to determine if it is administratively complete**.**

1.1 Process for Denied Application

If the application is not administratively complete, the County will notify the applicant in writing to provide a statement of what is incomplete or requires more information in the application. Once corrected, the applicant may reapply.

1.2. Process for Approved Application

If application is approved by County based on its submitted application, the application will be forwarded to a Facility Review Committee.

2. Facility Review Committee (FRC) Process

If the application is determined to be administratively complete, the county will send written notification to following parties:

- Facility developer or owner
- County Board of Commissioners
- Local unit of government for the host community
- Any local unit of government up to a 3-mile radius of the proposed site, both within or outside of county borders; and
- The heads of any county departments, including but not limited to the Washtenaw County Road Commission, Environmental Health, and Public Health division.

Copies of application will be provided as follows, with remaining copies maintained by the DPW. At least one copy will be made available to the public at the office of the DPW.

- Three copies to the host community; and
- One copy to each member of the Facility Review Committee

2.1 Establish a Facility Review Committee

The Public Works Director, with approval from the Board of Public Works, shall notify the Board of Commissioners who will appoint a Facility Review Committee (FRC).

The FRC membership will be comprised of seven (7) individuals. Every effort shall be made to staff this committee with members from the current or past SWPC and representing the following areas:

- A member of the Washtenaw County Board of Commissioners, or their designee, which could be any other county elected official or county staff person.

- An elected official of the host community's government recommended by its board and council.
- A local government representative, not from the host community, but representing the type (city or township) of host community;
- Two general public representatives who are residents of the county, but not residents of the host community;
- An environmental-interest group representative; and.
- An elected official of any municipality located within 3 miles of the active work area of the proposed site. In the event that there is more than one municipality located within 3 miles of the active work area, these municipalities will work together to choose only one person to represent those municipalities.

The DPW will also serve as staff to the Facility Review Committee to ensure that the requirements and procedures of the facility review process are satisfied. Other County departments and local units of government in the county will be consulted during the review process whenever issues require their expertise and input into the process.

The Facility Review Committee will convene its first meeting within 60 calendar days following appointment by the BOC. The Facility Review Committee will, at its first meeting, select a chairperson from its membership who will be responsible for implementing the requirements of the solid waste facility review process. The chairperson will conduct the meetings of the Facility Review Committee.

The DPW will publish a notice of a public meeting in a widely distributed newspaper that includes the host community in which the proposed facility is to be located in compliance to the Open Meetings Act, P.A. 267 of 1976. The public notice will include the date, time, location, and purpose of the meeting and advise the public that a copy of the administratively complete is available for inspection and copying at the DPW.

2.2 Public Meetings of Facility Review Committee

All meetings of the Facility Review Committee will be held in accordance with the Open Meetings Act which include the requirements that the meeting be open to the public, minutes be kept and filed, a quorum must be present for decision-making, and the purpose of the meeting be stated. The meetings will be conducted as follows:

- Purpose and agenda of meeting;
- Names and roles of those conducting the meeting;
- Requirements of Part 115 and local solid waste facility review process;
- Time limit for presentations and remarks from members of the audience;
- Summary of meeting, decisions made, and further actions to be taken; and
- Any other matters deemed appropriate by the Facility Review Committee.

The first meeting will serve the following purposes:

- Public presentation of the proposal for developing an authorized solid waste facility;
- Information-gathering for decision-making by the Facility Review Committee;

- Recommendations from the host community's Planning Commission regarding proposed facility's compliance with local ordinances, including zoning and land use Plans;
- Statement of any concerns and issues, as raised by interested parties;
- Presentation of a report on the proposed facility from the independent consultant hired to assist in the facility review process;
- Identification of any conditions or variances that are necessary to address special local concerns; and
- Determination of the ability of the proposed site to meet County Plan requirements.

If the Facility Review Committee can determine that the proposed facility is consistent and complies with the County Plan during the first meeting, then a further meeting need not be scheduled. If this determination cannot be made at the first meeting, then additional meetings may be scheduled as needed in compliance to the Open Meetings Act, P.A. 267 of 1976.

Subcommittees of the Facility Review Committee can be formed to deal with specific issues at the discretion of the Facility Review Committee.

If the County's staff fails to communicate any deficiencies in the application to the developer or owner within ninety (90) days of the application's submission, the application will be deemed "administratively complete," and staff must submit the application to the Facility Review Committee upon the further request of the developer. The fact that an application has been deemed administratively complete at the staff level; however, shall not preclude the Facility Review Committee or DPA from subsequently recommending or deciding that the proposed facility is not consistent with the County's Plan in whole or in part because the application is incomplete.

The Facility Review Committee must complete its review and take final action on the application within 120 calendar days after the application is determined to be administratively complete.

2.3 Final Action by Facility Review Committee

A) **The FRC will determine one of the following actions:**

A.1. Find that the facility or facility expansion is not consistent with the County Plan. The Facility Review Committee must include the reasons why it is recommending that the facility or facility expansion is not consistent with the County's Plan; or

A.2. Find that the facility or facility expansion is consistent with the County Plan; or

A.3. Find that the facility or facility expansion is consistent with the County Plan, subject to the conditions, agreements, and/or variances recommended by the Facility Review Committee.

If the Facility Review Committee fails to make its determination within one hundred twenty (120) days of submission without notifying all parties of a delay in writing ahead of time, the proposed facility or facility expansion will be deemed to be recommended by the Facility Review Committee as "consistent with the County's Plan".

2.4 Notification of Recommendation

If the FRC finds the facility or facility expansion is consistent with the County Plan, the DPA will issue the letter of consistency, which is effective for one (1) year from the date of issuance. If the construction permit application is not submitted to or received by the MDEQ within this one (1) year period, the letter of consistency becomes null and void. This limitation should be stated on the letter of consistency, although the failure of the letter to contain this limitation shall not extend the life of the letter.

The fact that a facility or facility expansion is determined or deemed "consistent with the County Plan" shall not be binding on the MDEQ, which shall review the decision or deemed decision of the Solid Waste Planning Committee and/or the Facility Review Committee to ensure compliance with the Plan criteria and review procedures and may determine that the facility or facility project is not consistent with the Plan.

CRITERIA FOR AN ADIMISTRATIVELY COMPLETE APPLICATION

An administratively complete application shall include all the items identified below. The required information shall be used in this Site Review Process to apply the minimum siting criteria as provided for in Part 115 Section 11538 (3) of NREPA. Some of the requirements for an administratively complete application are for informational purposes in order to assist in completing the Siting Review Process.

1. Type of Facility (processing facility, transfer station)
2. Legal description of all parcels included in the proposed disposal area.
3. Name, address and telephone number for:
    a. The applicant and its parent company, if any;
    b. Property owner of the site (if different);
    c. Operator of the proposed disposal area (if different);
    d. Designer/Engineer and other consultants for the proposed disposal area; and
    e. Designated contact for the Siting Review Process.
4. A statement that the applicant is the owner of all the parcels involved in the application or, if the owner of any of the parcels is different than the applicant, documentation in the form of land contracts, purchase agreements, or other binding legal instruments which substantiate the applicant's ability to proceed with development and operation of all parcels involved in the application.
5. General site location map(s). The general site location map(s) shall include more than one drawing where required for clarity. One set of the general site location map(s) shall be drawn at a scale and of such accuracy that one can readily interpret the general site location map(s). Another set of the general site location map(s) shall be reduced so each sheet shall fit on 8 1/2 by 11 inch, or 8 1/2 by 14 inch, paper. Such general site location map(s) shall be designed and prepared by a registered professional architect, landscape architect, engineer, land surveyor, or community Planner. The general site location map(s) shall include the following information:
    a. The parcel(s) within the general site location map, identified by parcel lines and location including dimensions, angles and size, correlated with the legal description of said parcel(s).
    b. The scale, north point, boundary dimensions, topography, and natural features such as woodlots, streams, rivers, lakes, drainage and similar features.
    c. Existing man-made features such as roads, buildings, structures, high tension towers, pipelines, existing utilities such as water and sewer lines, excavations, bridges, culverts, drains and easements, and shall identify adjacent properties and their existing uses including:
        i. Access roads to the site along with all highways and County Roads;
        ii. Proposed access point(s) to the site;
        iii. Location of any public use airports licensed by the Bureau of Aeronautics Michigan Department of Transportation that are within ten thousand (10,000) feet of the proposed active disposal area;
        iv. Location of public and private water wells within one mile of the proposed active disposal area and showing established/approved wellhead protection areas;

v. Residences, commercial establishments, industries, institutions including schools, churches, hospitals and historic or archaeological sites within one mile of the proposed active disposal area; and
vi. Surface drainage patters, including all drains regulated by the Washtenaw County Water Resources Commissioner's office within one-mile radius of site boundaries.

d. Current zoning at the site and for adjacent land uses.
e. Boundaries of all local units of government.

6. A detailed site Plan or Plans describing 1) the site as it exists, and 2) the site in use as a solid waste disposal area. The site Plan shall include more than one drawing where required for clarity. One set of the site Plans shall be drawn at a scale not to be greater than one (1) inch equals twenty (20) feet nor less than one (1) inch equals two hundred (200) feet, and of such accuracy one can readily interpret the site Plan. Another set of the site Plan shall be reduced so each sheet shall fit on 8 1/2 by 11 inch, or 8 1/2 by 14 inch, paper. Such site Plan shall be designed and prepared by a registered professional architect, landscape architect, engineer, land surveyor, or community Planner. The site Plan shall include the following information:
   a. The parcel(s), identified by parcel lines and location including dimensions, angles and size, correlated with the legal description of said parcel(s).
   b. The scale, north point, boundary dimensions, existing topography (at least two (2) feet contour intervals), and existing natural features including woodlots, streams, rivers, ponds, lakes, wetlands, high risk erosion areas, slopes over 25%, beach, sand dunes, drainage and similar features, including:
      i. One-hundred-year flood plains (as identified by DNR flood plain maps and as defined in the Part 115 Administrative Rules) within the boundaries of the site;
      ii. Lands regulated under the Farmland and Open Space Preservation Act, 1974, Part 361 of NREPA, as emended, that are within the boundaries of the site;
      iii. Location of surface water within the boundaries of the site;
      iv. All wetlands (regulated and non-regulated) within the boundaries of the site;
      v. Location of drains within the boundaries of the site;
      vi. Topography information based on USGS datum, or selected on-site elevations; and
      vii. Soil analysis based on the National Cooperative Soil Survey maintained by the Natural Resources Conversation Service. If such survey is not completed for the site, then generalized soil analysis data regarding the soils and their adaptability to the use must be submitted.
   c. Location and boundary dimensions of existing man-made features within the boundaries of the site including buildings, structures, high tension towers, pipelines, water wells, existing utilities including water and sewer lines, excavations, bridges, culverts, drains, easements and any known existing contamination.
   d. The location and boundary dimensions of proposed changes within the boundaries of the site including:
      i. Solid waste processing and disposal areas;
      ii. On site roads, driveways, sidewalks and other vehicular and pedestrian circulation features within and adjacent to the site including staging area for

trucks waiting to use the facility, parking spaces in the off-street parking areas and the identification of service lanes and service parking;

iii. Main and accessory buildings, their relation one to another and to any existing structures on the site, the height of all buildings and square footage of floor space, finished floor and grade line elevations;

iv. Open spaces, landscaping and buffering and security features, greenbelts, fences and walls;

v. Connections to existing utilities and proposed extensions thereof;

vi. Soil erosion and sediment control measures including preventative soil erosion devices or measures, both during and after any site work related to the development, when required;

vii. Interior and exterior areas and structures to be used for storage, use, loading/unloading, recycling, or disposal of hazardous substances;

viii. Underground and above ground storage tanks for such uses as fuel storage, waste oil holding tanks, chemical storage, hazardous waste storage, collection of contaminated storm water or wash water, and all similar uses;

ix. Exterior and interior drains, on-site sewage systems, dry wells; catch basins; retention/detention areas; sumps and other facilities designed to collect, store or transport storm water or wastewater including point of discharge for all drains; and

x. Any other man-made features not specifically described above.

e. Conceptual engineering Plans for construction of the facility.

7. A written narrative that shall include the following information:

a. Name and type of solid waste facility.

b. General description of the facility and how it functions (for informational purposes in the Permit Review Process) including the types and quantities of waste to be delivered to the facility, the targeted service area (to include specific communities, major commercial and industrial establishments, institutions, and waste haulers potentially served by the facility), useful life and capacities of the facility, description of how each type of material will be handled at the facility, the eventual disposition of the materials to be handled by the facility, the proposed operating schedules (days and hours), a description of any resource recovery, recycling and composting activity Planned for the site, the expected employment of the facility, a discussion of the economic and engineering feasibility of the final use Plan for the site, and the applicant's rationale for developing the facility.

c. Summary of the results of the DEQ advisory analysis (if completed), with responses to any points raised in the advisory analysis and a copy of the advisory analysis attached as an exhibit.

d. Summary of the results of an Environmental Permits Checklist (with a copy attached as an exhibit), with discussion regarding any required permits along with current permit status documentation including either copies of received permits attached as exhibits, letters of intent to approve and issue a permit, letters of understanding for concurrent approval (issuing a permit) from those agencies or summary of discussions held with authorities responsible for issuing those permits. The site Plans should be drawn to

show design/placement as required for compliance with each of the applicable permits. Permits to be covered where applicable include:

i. Well permit,
ii. Type II water supply permit,
iii. Type III water supply permit,
iv. Onsite sewage disposal permit,
v. Soil erosion permit,
vi. Land division or subdivision approval,
vii. Waste disposal or storage or monitor wells permit(s),
viii. Sand dune mining permit,
ix. Permit to cut forest products,
x. Forestry use or special use permit,
xi. Easements for utilities and public agencies (on state or federal lands),
xii. Dam construction permit,
xiii. Certificate of Public Convenience and necessity for pipelines,
xiv. Air quality installation permit, operating permit,
xv. National Pollutant Discharge Elimination System permit,
xvi. Groundwater discharge permit,
xvii. Wastewater collection and treatment facilities construction permit,
xviii. Great Lakes Shorelands permit,
xix. Inland Lakes and Streams permit, and
xx. Wetlands permit.

e. An inventory of public services (fire protection, sewer, water, sanitation, emergency services/response, quasi-public utility companies (gas, electric, telephone)) showing:
   i. Public services which are required by the solid waste facility,
   ii. Public services which exist to service the site of the solid waste facility.
f. Statements relative to the impact of the proposed development on soil erosion, shoreline protection, wildlife habitat, air pollution, water pollution (ground and surface), noise and the scale of development in terms of the surrounding environment.
g. Other narrative statements necessary which specifically address the siting standards listed in part two of this chapter.
h. Other narrative statements necessary regarding design and operation of the proposed facility in response to applicable requirements of County and local ordinances and rules/regulations.
i. Nuisance Mitigation Plan in the form of a detailed narrative to address Planned mitigation steps for the following:
   i. Litter;
   ii. Odor;
   iii. Dust;
   iv. Noise;
   v. Vibration;
   vi. Pests and diseases;
   vii. Flammable or explosive materials;
   viii. Emergency response;

ix. Limiting access (inc. fencing, gates, natural barriers, or other methods);
x. Restricting access in loading, unloading, and handling areas;
xi. Handling bulky items;
xii. Collecting, storing, and removing liquid waste;
xiii. Removing or confining salvaged materials at the end of each business day;
xiv. Contingency in the event of a Plant malfunction or facility breakdown;
xv. Facility/equipment maintenance and cleaning; and
xvi. Storm water management Plan and maintenance schedule.

j. List and describe any and all MDEQ and U.S. EPA infractions or violations from the past five years.
k. List and describe relationship, services, and interactions with other communities including the host community and any community up to a three-mile radius of any part of the facility property, also known as "Good Neighbor Plan". This can include regular communications to neighboring communities, special collection events or usage for neighboring communities, investment or donations into community projects and programs that help to offset negative impacts or bring benefit to the community.
l. Description of fire suppression system or Plan.

Minimum Standard Siting Criteria

Minimum Standard Siting Criteria are considered minimum standards that any proposed facility must meet. Each criterion listed below must be answered in the affirmative in order for a facility to fulfill the Minimum Standard Siting Criteria requirements. Detailed descriptions of each criterion follow the yes/no checklist below.

Minimum Standard Siting Criteria Evaluation Checklist

	YES	NO	CRITERION (See detailed descriptions following checklist)
A			Site Ownership
B			Frontage on Appropriate Roads
C			Distance from Wetlands
D			Distance from Farmland and Open Space Part 361 NREPA Lands
E			Distance from Designated Historic Sites
F			Distance from 100 Year Flood Plains
G			Distance from Water, Beaches
H			Distance from Water Well Serving a Dwelling
I			Distance from Specified Building Types
J			Distance from Land Conservancy Parcels
K			Distance from Schools and Educational Establishments
L			Distance from Certain Recreational Facilities
M			Distance from MDEQ Natural Features Inventory Lands
N			Distance from Specified Types of Natural Resource Lands
O			Distance from Certain Additional Recreational Lands
P			Design Incorporates Woodland Protection Plan with Signed Statement
Q			Design Incorporates Nuisance Mitigation Plan with Signed Statement
R			Design Incorporates Certain Setback Requirements with Signed Statement
S			Analysis Submitted Documenting Availability of Required Public Services
T			Signed Statement to Abide by Certain Regulatory Requirements
U			Signed Statement to Abide by Certain Non-locational Zoning Requirements
V			Demonstration of Responsiveness and Corrective Action
W			Good Standing with Good Neighbor Plan
X			Fire Suppression System or Plan

Minimum Standard Siting Criteria Detailed Descriptions

A. The site and respective parcel must be owned by the applicant or under long term lease (20 years or greater) from a public agency.
B. The proposed site frontage on or direct access to a paved county primary road or state trunk line.
C. No part of the site and respective parcel(s) is located within or less than 100 feet from a regulated wetland as defined by Part 303 of P.A. 451 of 1994, as amended (being the Wetlands part of the Michigan NREPA, M.C.L. 324.30301 et. seq.)
D. No part of the site and respective parcel(s) is located within or less than 100 feet from land enrolled under the Farmland and Open Space Preservation Act, 1974, Part 361 of NREPA.
E. No part of the site and respective parcel(s) is located within or less than 100 feet from land that is a designated historic or archaeological area as defined by the State Historic Preservation Officer (SHPO) or by local historic preservation districts.
F. No part of the site and respective parcel(s) is located within or less than 100 feet from one-hundred-year flood plains (as identified by Michigan DNR flood plain maps and as defined in the Part 115 Administrative Rules).
G. No part of the site and respective parcel(s) is located within or less than 300 feet from the boundary edge of:
    1. Any surface water (as identified by Michigan DNR surface water maps and as defined in the Part 115 Administrative Rules); and
    2. Beach contiguous to a lake or stream
H. No part of the site and respective parcel(s) is located within or less than 100 feet from a water well which services a dwelling (which is drilled by a licensed well driller and a well log is filed with the Geological Survey Division of the DEQ and County Health Department) in existence on the date the disposal area application was found complete.
I. No part of the site and respective parcel(s) is located within or less than 300 feet from dwellings, duplexes, apartment buildings, hospital, medical care facilities and foster care facilities in existence on the date the disposal area application was found complete.
J. No part of the site and respective parcel(s) is located within or less than 300 feet from lands which are held by a land conservancy or which have development restrictions held by a land conservancy, either of which were in existence on the date the disposal area application was found complete.
K. No part of the site and respective parcel(s) is located less than 1000 feet from the boundary edge of schools and education establishments in existence on the date the disposal area application was found complete.
L. No part of the site and respective parcel(s) is located less than 300 feet from the boundary edge of certain recreation facilities identified below:
    1. Snowmobile and all-terrain vehicle trails which are marked and signed and receive care, grooming with public funds;
    2. Horse, bicycle, hiking and ski trails which are marked and signed and receive care, grooming with public funds;
    3. Abandoned rail road right-of-ways when owned by a railroad company or a public agency;
    4. The parcel boundary of state game area;

5. The parcel boundary of municipal and county parks with recreation facility improvements;
6. A national park or recreation area designated by the U.S. Department of Interior;
7. A national scenic river designated by the U.S. Department of Interior; and
8. A special interest area as designated by the U.S. Forest Service.

M. No part of the site and respective parcel(s) is located within or less than 300 feet from land listed on the MDNR Natural Features Inventory, as determined by the MDNR through the Environmental Review process for compliance with Act 365, Endangered Species Protection, of the NREPA as amended.

N. No part of the site and respective parcel(s) is located within or less than 300 feet from land regulated under parts 351 through 361 of P.A. 451 of 1994, as amended (being the Wilderness and Natural Areas, Sand Dunes, Biological Diversity, Natural Beauty Roads, Sanctuaries, Farmland and Open Space preservation part of the Michigan NREPA, M.C.L. 324.35101 et. seq. through 324.35101 et. seq.) and part 511 of P.A. 451 of 1994, as amended (being the Commercial Forests part of the Michigan NREPA, M.C.L. 324.51101 et seq.

O. No part of the site and respective parcel(s) is located less than 300 feet from the boundary edge of certain recreation lands:
   1. The parcel boundary of a state park;
   2. The parcel boundary of day, summer and retreat camps;
   3. Federally designated wild and scenic river corridors;
   4. State designated natural river's water's edge; and
   5. The parcel boundary of arboretums, sanctuaries established under statute.

P. Applicant's Proposal includes a Woodland Protection Plan designed to protect woodlands and other trees on site and includes a written and signed statement from the Applicant indicating that they will abide by and remain in compliance with the Woodland Protection Plan at all times. Submittal by the applicant of this Woodland Protection Plan and the signed statement is required to meet this criterion. The adequacy of the submittal will not be used to determine if this criterion has been satisfied.

Q. Applicant's Proposal includes a Nuisance Mitigation Plan designed to mitigate nuisances identified under Administratively Complete application; Section 7. i. and includes a written and signed statement from the Applicant indicating that they will abide by and remain in compliance with the Nuisance Mitigation Plan at all times. Submittal by the applicant of this Nuisance Mitigation Plan and the signed statement is required to meet this criterion. The adequacy of the submittal will not be used to determine if this criterion has been satisfied.

R. Applicant's Proposal demonstrates that the facility as designed and constructed will incorporate the following setback, buffering, screening and service access requirements and includes a written and signed statement from the Applicant indicating that they will abide by and remain in compliance with these requirements at all times. Submittal by the applicant of this signed statement is required to meet this criterion. Vegetation belt, buffer, screening and service access area shall meet standards which are not less than:
   1. Vegetation Belt: A vegetation belt of five (5) feet from the parcel line toward the center of the parcel will be maintained in woody Plant vegetation to provide visual screening from roads and adjacent property. The vegetation belt will not include any

improvements, buildings or fences except for an entrance drive(s), utilities and identification signs.

2. Buffers: Measuring toward the center of the disposal area property, but not within the 5 foot vegetation belt, a buffer shall be established which:
    a. Shall not be occupied by any structure, storage of equipment, materials, operations, or by similar activities.
    b. Shall consist of the following for any side of the parcel that is adjacent to an industrial or commercial zoned area:
        - a buffer area setback of fifty (50) feet, or
        - a berm four (4) feet or more high, not sloped greater than (1) vertical for each of the same two units horizontal, or
        - a solid wall four (4) feet, or more, in height, or
        - a proportionately adjusted combination of the above.
    c. Shall consist of the following for any side of the parcel that is adjacent to all other uses:
        - a buffer area setback of one hundred (100) feet, or
        - a buffer area setback of fifty (50) feet followed by a berm four (4) feet, or more high not sloped greater than (1) vertical for each of the same two units horizontal, or
        - a buffer area setback of twenty-five (25) feet followed by a solid wall four (4) feet, or more, in height.

S. An analysis has been submitted that defines the public services which are required by the solid waste disposal area, that inventories existing public services (fire protection, sewer, water, sanitation, County emergency services/response, and utilities including gas, electric, telephone) available at the site boundaries and that documents that the existing public services are the same as or exceed the public services required by the solid waste disposal area. Submittal by the Applicant of this analysis is required to satisfy this criterion. The adequacy of the submittal will not be used to determine if this criterion has been satisfied.

T. Applicant has submitted a written and signed statement that the disposal area will abide by and remain in compliance with applicable parts of the Michigan Subdivision Control Act; Michigan Soil Erosion and Sedimentation Control Act; Michigan Construction Code; applicable state air and water pollution standards; local wellhead protection ordinances, applicable building codes, state and local health codes, local noise ordinances and local junk ordinances as determined with the advice of appropriate state and local officials and as specified in Section III of the Solid Waste Plan, Local Ordinances and Regulations. Submittal by the Applicant of this signed statement is required to satisfy this criterion. The adequacy of the submittal will not be used to determine if this criterion has been satisfied.

U. Applicant has submitted a written and signed statement that the disposal area will abide by and remain in compliance with any applicable part of the respective zoning ordinance's regulations dealing with: parcel size, road frontage, setback requirements, buffering and screening, off street parking, signs, as specified in Section III of the Solid Waste Plan, Local Ordinances and Regulations but not subject to zoning regulation of location of a solid waste disposal area as a

land use. Submittal by the Applicant of this signed statement is required to satisfy this criterion. The adequacy of the submittal will not be used to determine if this criterion has been satisfied.

V. Demonstration of prompt corrective action to any issues, violations or citations incurred while operating at any company owned facility within the state of Michigan.

W. Demonstration of community relations efforts with host community and neighboring communities that may be impacted by operations at proposed facility as it relates to the facility's good neighbor Plan.

X. Applicant will provide a description and Plan to address fires at the facility and on facility property. Applicants at a minimum should follow specifications by the National Fire Protection Association, and offer description of back-up systems in the case of failure.

SOLID WASTE MANAGEMENT COMPONENTS

The following identifies the management responsibilities and institutional arrangements necessary for the implementation of the Plan's Enforceable Program and Process (as described in this document's Selected Waste Management System). Also included is a description of the technical, administrative, financial, and legal capabilities of each identified existing structure of persons, municipalities, counties, and state and federal agencies responsible for solid waste management including Planning, implementation, and enforcement.

The Washtenaw County Board of Commissioners (BOC) is ultimately responsible for County Solid Waste Planning activities. Through the adoption of a Plan update or amendment, the BOC authorizes the County Board of Public Works (BPW) to implement the Plan. In addition, the BOC will appoint any committee or task force designated as part of this Plan to assist with the implementation of the Plan.

The BPW is authorized by the BOC to serve as the Designated Planning Agency (DPA) for the County. The BPW is involved with all aspects of the County Solid Waste Plan, including planning, implementation, and enforcement.

The Washtenaw County Department of Public Works (DPW) is responsible for the administrative coordination of the County Solid Waste Program on behalf of the Board of Public Works. As described in the Timetable for Implementation (page 78), the County will appoint a Plan Advisory Committee to serve in support of the DPW and Plan implementation. Persons who serve on the committee will be from the private, non-profit, and public sector as well as groups with environmental interests within Washtenaw County.

Technical Capabilities

The DPW provides staffing and resources to support several programs designed to reduce waste and pollution in the county. A few of the programs managed by the DPW include the Home Toxics Reduction Program, Community Clean-up Days, and Waste Knot Business Recognition Program. The DPW also coordinates solid waste management and Planning, education and outreach, and zero-waste event services.

Administrative Capabilities

The DPW is responsible for the administrative coordination of County solid waste programs. This includes program execution, measurement and administration including but not limited to data/information collection, management, and analysis; annual reporting on county programs and services; customer service, stakeholder engagement, and technical support to county residents, businesses, institutions, and local units of government. Staffing for programs and projects is based on available budget and priorities.

Financial Capabilities

The funding for programs coordinated by the DPW is made possible by partnerships, grants, and revenues received for sale of commodities and the host community agreement with the landfill located within the County. To fulfill the goals and objectives of this Plan, the County will be seeking additional funding sources and partnerships to ensure that long-term funding is available if current sources are no longer available in the future. Funding sources are described on page 119 in Appendix A.

Legal Capabilities

The approved Act 451 Solid Waste Management Plan provides the DPA the authority to implement and enforce any and all portions of the Act 451 Plan.

IDENTIFICATION OF RESPONSIBLE PARTIES

The following section identifies the roles that the Designated Planning Agency and other stakeholders will play regarding planning, implementation, and enforcement of this Plan Update. Following the narrative description is a listing that correlates with the standard format provided by the MDEQ.

Washtenaw County recommends an integrated solid waste management strategy that involves both the public and private sectors. Several agencies are identified as stakeholders in this system, playing a role in planning, implementation, and/or enforcement, as identified below.

State Government: The State of Michigan, through the Solid Waste Management Unit of the Department of Environmental Quality (MDEQ), is involved in the Planning, implementation, and enforcement of Washtenaw County's Plan. The MDEQ also conducts permitting and licensing, and monitors construction and operation of private sector facilities in the County.

Washtenaw County Board of Commissioners: The Washtenaw County Board of Commissioners (BOC) is ultimately responsible for County Solid Waste planning activities. The BOC has the authority to adopt county-wide ordinances for the licensing and regulation of solid waste activities that are not in conflict with state and federal law; however, the BOC cannot regulate disposal areas beyond the scope of what the MDEQ would allow under section 11538(8) of Part 115. Through adoption of this Plan Amendment, the BOC authorizes the County Board of Public Works to implement the Plan. In addition, the BOC will appoint the Plan Advisory Committee.

Washtenaw County Board of Public Works: The Washtenaw County Board of Public Works (BPW) is a seven-member board appointed by the County BOC. The BPW is authorized by the BOC to serve as the Designated Planning Agency for the County. The BPW is involved in all aspects of the County Solid Waste Plan, including Planning, implementation, and enforcement.

The BPW may also continue to make available the County's credit, through the Department of Public Works (DPW), to enhance the security of bonds issued for facility development. The BPW may enter agreements with a local unit or groups of local units, as it has with the Western Washtenaw Recycling Authority. In this arrangement, the DPW would nominally own the project and the local unit(s) would be required to arrange for operation and maintenance of the project and repay the debt service and other associated costs.

The BPW may continue to make use of its legal position, given the County's control of the Solid Waste Plan, to facilitate strategy implementation by acting as a contracting agent for local municipalities or authorities. In this role, the BPW could act as a sponsor of joint ventures between authorities, facilitating cooperation among local municipalities, and providing a means to negotiate terms with the private sector for services such as hauling contracts, landfill tipping fees, landfill capacity, processing capacity, materials markets, and county-wide programs (e.g., household hazardous waste collection, education, and technical assistance).

Finally, the BPW may continue to secure operational funding for this expanded role from one or more sources, including, but not limited to, the imposition of fees for services provided and revenues received through its agreement with the owner of Arbor Hills Landfill.

Washtenaw County Department of Public Works (DPW):

The County's Department of Public Works oversees projects including municipal water and sewer, lake management, solid waste, and recycling. Most projects are funded through the creation of special assessment districts using PA 185 of 1957. The DPW is housed within the Water Resource Commissioner's Office, and is responsible for the administrative coordination of County solid waste programs and is the designated solid waste planning agency for the County. This includes program execution, measurement, and administration including, but not limited to, data and information collection, management, and analysis; annual reporting on County programs and services; customer service, stakeholder engagement, and technical support to County residents, businesses, institutions, and local units of government.

Municipal Governments:

The cities, villages, and townships, either individually or working together, may assume a financing, procurement, regulatory, and administrative role in arranging solid waste management services for their jurisdictions to comply with the Plan. Municipalities may elect to take any of the following actions for the safe management of wastes:

- Develop financing structures for programs and facilities through the tax base, special assessments, user fees, or other mechanism;
- Adopt a waste hauler licensing system in which licenses are contingent upon certain requirements and regulations;
- Require separation of solid waste (i.e., separation of yard waste, trash, and recyclables)
- Require haulers to direct solid waste to specified facilities;
- Take corrective measures to prevent illegal dumping;
- Collaborate with other communities to form an authority to provide the financing, construction and operation of material recovery systems;
- Provide information and educational initiatives to promote awareness of solid waste management issues within the community, and encourage participation in local programs;
- Other as appropriate.

Waste Generators:

All waste generators (residential, commercial, and industrial) will be encouraged to make changes in their materials procurement, handling, and disposal practices to encourage:

- Reduction in the amounts and toxicity of waste generated;
- Purchasing of goods made from environmentally preferable products;
- Separation of recyclables and compostables from mixed waste;
- Arranging for transportation of recyclable/compostable materials to processing facilities for marketing;
- Eliminating illegal dumping of wastes;

- Safe landfill disposal of remaining waste.

Commercial and industrial waste generators are encouraged to enhance the above measures through aggressive information and education initiatives.

Solid Waste Management Industry:

Private haulers and facility operators will be utilized throughout the system for materials collection, transportation, processing, and disposal, in addition to municipal and non-profit entities that offer similar services.

Material Recovery Industry:

Private sector profit/non-profit processors and dealers of secondary materials could be utilized to effectively operate and maintain the material recovery system.

Washtenaw County Consortium for Solid Waste Management:

The Washtenaw County Consortium for Solid Waste Management ("Consortium") was formed in 1988 to cooperatively review and discuss solid waste management issues throughout the County. Since that time, the group has continued to play a key role in Washtenaw County's Solid Waste Management Strategy. Some of their most successful projects include illegal dumping ordinances, yard waste reduction initiatives, phonebook recycling, and the sharps return program.

Resource Conservation:	**Responsible Parties:**
Source or Waste Reduction-	DPW, local communities, waste generators
Product Reuse-	DPW, local communities, waste generators
Reduced Material Volume-	DPW, local communities, waste generators
Increased Product Lifetime-	DPW, local communities, waste generators
Decreased Consumption-	DPW, local communities, waste generators
Resource Recovery Programs:	
Composting-	Public and private haulers and processors
Recycling-	Public and private haulers and processors
Energy Production-	Not applicable
Volume Reduction Techniques:	DPW, local communities, waste generators
Collection Processes:	Public and private haulers and processors
Transportation:	Public and private haulers and processors
Disposal Areas:	
Processing Plants-	Public and private operators
Incineration-	Not applicable
Transfer Stations-	Public and private operators
Sanitary Landfills-	Public and private operators
Ultimate Disposal Area Uses:	MDEQ

LOCAL ORDINANCES AND REGULATIONS AFFECTING THE SOLID WASTE DISPOSAL AREAS

This Plan's relationship to local ordinances and regulations within the County is described in the option(s) marked below:

_____ 1. Section 11538.(8) and rule 710 (3) of Part 115 prohibits enforcement of all County and local ordinances and regulations pertaining to solid waste management disposal areas unless explicitly included in an approved Solid Waste Management Plan. Local regulations and ordinances intended to be part of this Plan must be specified below and the manner in which they will be applied described.

_____ 2. This Plan recognizes and incorporates as enforceable the following specific provisions based on existing zoning ordinances.

_____**X**_____ 3. This Plan authorizes adoption and implementation of local regulations governing the following subjects by the indicated units of government without further authorization from or amendment to the Plan.

Regulations meeting these qualifications may be adopted and implemented by the appropriate local governmental unit without additional authorization from, or formal amendment to, the Washtenaw County Solid Waste Management Plan, unless the area of regulation is covered by a host community agreement. Allowable areas of regulation include:

1. Certain ancillary construction details, such as landscaping and screening.
2. Hours of operation.
3. Noise, litter, and dust control.
4. Operating records and reports.
5. Facility security.
6. Monitoring of waste accepted and prohibited.
7. Composting and recycling.

CAPACITY CERTIFICATIONS

Every county with less than ten years of capacity identified in their Plan is required to annual prepare and submit to the DEQ an analysis and certification of solid waste disposal capacity and validly available to the County. This certification is required to be prepared and approved by the County Board of Commissioners.

X This County has more than 10 years capacity identified in this Plan and an annual certification process is not included in this Plan.

Ten years of disposal capacity has not been identified in this Plan. The County will annually submit capacity certifications to the DEQ by June 30 of each year on the form provided by the DEQ. The County's process for determination of annual capacity and submission of the County's capacity certification is as follows.

APPENDIX A

Additional Information Regarding the Selected Systems

- Evaluation of Recycling
- Detailed Features of Recycling and Composting Programs
- Coordination Efforts
- Costs and Funding
- Evaluation Summary of the Selected System
- Advantages and Disadvantages of the Selected System

EVALUATION OF RECYCLING

The following provides additional information regarding implementation and evaluation of various components of the Selected System.

In order to evaluate the current system and identify needs for future programming, the Solid Waste Planning Committee conducted a "S.W.O.T" process --- identifying strengths, weaknesses, opportunities, and threats of the current solid waste management system. This process spanned the course of several meetings, a summary of which follows:

SWOT Discussion Topics
Washtenaw County Solid Waste Planning Committee
Summary/Compilation of All Sessions

The following specific areas were discussed:

1. **Solid Waste Collection & Disposal**

Strengths:

- Lots of regional landfill capacity
- Very accessible and low costs
- Very few landfills
- Competitive environment for service providers

Weaknesses:

- No clear incentive programs for waste diversion
- Reluctance by municipalities to switch to more efficient single hauler contracts
- Too frequent collection of solid waste
- Lack of data to understand effectiveness of clean-up days, drop-off station diversion
- Cheap disposal challenges waste diversion efforts
- Too many trucks on the road; impact on infrastructure
- Public opposition to landfill siting and operations

Opportunities:

- Organics collection
- Better data collection and metrics related to diversion costs and benefits
- Expanding landfill will keep prices low with regional competition
- Get recyclables out of trash
- Find a way to “require” recycling from various trash haulers

Threats:

- Commodity prices
- Landfills are too cheap
- Lobby to bury organics

2. <u>Residential Recycling</u> (Drop-Off & Curbside)

<u>Strengths:</u>

- Availability of single stream, curbside services, and use of carts
- Comprehensive programs accept numerous materials between curbside and drop-off programs
- Urban and suburban single family units receive good service
- All single family and multi-family units in Ann Arbor have recycling
- City of Chelsea's "pay as you throw" trash service encourages recycling
- Current programs reduce dependence on landfill

<u>Weaknesses:</u>

- Materials accepted are not uniform across the entire county
- Poor measurement of diversion by recycling
- Competing messages from coordinating public and private groups
- Lack of partnerships in county
- Contamination in recycling stream
- Lack of education to residents
- Lack of funding and financing for programs
- Lack of legislation and state support
- Different levels and no consistency of services across the county
- Costs for curbside service in rural areas is more expensive compared to urban/suburban service areas

<u>Opportunities:</u>

- Residents are willing to do the right thing
- Options for bulky waste and other materials not collected at curbside
- Opportunity for food waste diversion
- More education that is county wide
- More consistent messages and services
- Participation incentives for residents
- Construction and Demolition materials
- Instate markets for materials like plastic and paper
- Options for reporting and tracking data
- Opportunities for partnerships
- Online information more accessible
- Governor's recycling support

<u>Threats:</u>

- End markets
- Commodity prices
- Cheap landfill rates
- Lack of funding

- Lack of willingness to introduce taxes to support services
- Need to change mindsets, attitudes, and behaviors of all stakeholders

3. Commercial Recycling

Strengths:

- Ordinances to mandate recycling (similar to Ann Arbor) is a strong driver
- If done correctly, program can lower costs for the business
- County's Waste Knot business recognition program
- Services are available from service providers

Weaknesses:

- No County ordinance in place
- Limited resources to support commercial recycling effort from data, staffing and funding
- Lack of incentives to entice businesses
- Challenges within businesses- employee turnover, costs, absentee site managers, contracts for janitor services do not include recycling or education
- Commercial recycling program
- More challenges for small businesses
- Understanding of voluntary versus required programs

Opportunities:

- Opportunities for collaboration
- Pilot programs with County, Recycle Ann Arbor, WISD food waste and recycling
- Work to improve regional opportunities and participation and recovery in Ann Arbor
- Develop resources and support such as posters and education materials, partnering with county sanitarians to hand out materials, and local case studies or voluntary certifications.

Threats:

- End markets
- High contamination
- Long term and short term costs are high
- Lack of municipal support
- Accessibility – are services available?
- Space constraints for recycling

4. Yard Waste/Food Waste/Composting

Strengths:

- City of Ann Arbor collection diverts a lot of leaf waste from particular places
- Ann Arbor compost site has capacity for growth and is well managed

- City of Chelsea is also making efforts in compost
- Yard waste infrastructure is strong
- Keeps methane out of the landfill
- Food waste is gaining interest from residential and commercial sectors
- Ann Arbor currently has a residential food waste diversion
- Food waste programs in UM residence halls

Weaknesses:

- Limited access to yard waste services
- Lack of infrastructure for food waste collection and processing
- Food waste currently not allowed in stream
- Commercial programs are limited or do not have access
- County is lagging behind in yard waste services
- Ann Arbor could be a model

Opportunities:

- Markets for finished yard waste compost: MDOT, landscapers, residential/homeowners
- Options for food waste in residential stream and special events and outdoor festivals
- Service providers can get on board
- New technologies for food waste are available such as biodigesters
- Food waste is large portion of the waste stream (and large weight)
- Momentum and interest in the community, such as Farm to School projects

Threats:

- Improper management of compost facilities that lead to odors, complaints
- Similar concerns around residential collection (odors)
- Competing interests with landfills
- Infrastructure for food waste composting is lacking

5. Construction & Demolition waste

Strengths:

- Access for recovery through Recycle Ann Arbor's Drop Off Station, Reuse center and C&D facility
- No C&D landfills in the County
- C&D recycling can add points towards LEED certification process

Weaknesses:

- No expectation, requirement or incentive for diverting C&D
- Limited awareness to the value of C&D diversion
- Requires a lot of capital to start and run a C&D facility
- Contamination from hazardous materials like lead

- LEED points are very minimal
- Lack of information to include in contracts

Opportunities:

- County could adopt an ordinance to require minimum level of recovery on jobs of a certain size
- More C&D infrastructure
- Expand current options at drop off station, and other locations
- Training and certification of contractors and building operators
- Large amount of material available to be recovered
- Conduct a feasibility study within the county

Threats:

- Cheap landfill rates
- Costs to recover C&D are high
- Lack of understanding of the benefits
- It is a hard business to operate and make work

6. County Coordinated Programs

Strengths:

- Large variety of materials accepted
- Community clean up days are well attended and is convenient for most users
- Cost per user continues to decrease
- Vital function for some communities
- Great program
- Radio and cable programs are excellent
- Public-private partnerships
- County website information

Weaknesses:

- Long wait times at community events
- Clean up days operating costs are expensive
- Saturday volunteers are key to success at Zeeb Road
- Limited access
- More hours or operation on Saturday could reduce wait times

Opportunities:

- Pilot Custodian Recycling Certification
- Create template posters and brochures on key issues/programs in multiple languages to assist with flattening cardboard boxes
- Require communities that receive any funding or support from County to include a free language translator program on its website.

- Review costs and benefits of community clean up versus other service delivery models
- Opportunities with schools on recycling education and outreach
- Outsource service to make more accessible
- Have two sites in the county added for more convenience
- More hours or operation on Saturdays to reduce wasted time.

Threats:

- Lack of funding for maintaining current initiatives or adding new ones
- More diversion could equate to more costs in a down market

The Solid Waste Planning Committee also summarized the proper components of a solid waste management system to be successful. The rating system for each component was determined as high, moderate, or low and is described below.

- High: indicates that the component is strong for Washtenaw County. For example, under "Collection", with 67% of the population covered by regular collection services, collection is considered high.
- Moderate: indicates that the component could use some improvement. For example, under "Policy", there are policies in place, but they are limited indicating that more could be implemented, or those in place could be strengthened or expanded upon.
- Low: indicates that the component is not satisfactory, or is not controlled by the County. For example, under "End Markets", there are not any end markets located in the County (so a low rating), and the strength of end markets is not something the County has direct control over.

Programs should attempt to achieve "high" rankings in at least 4/6 of the categories to ensure a successful program; therefore, one component is not more important than others, it is the relationship across these factors working together that produce best results for programs. The following table is a review of Washtenaw County's program aligned with these components.

Table 25. Key Components Evaluation Summary

Key Component	Details	Rating
Collection	67% of county population are covered by contracted or city provided services.	High
Processing	In-county – City MRF, WWRA Out county - ReCommunity	High
End Markets	Current markets are not ideal; Glass is challenge; Not necessarily something County can control	Low
Education & Engagement	From Community Profiles, four communities provided information about providing education/outreach to residents. City of Ann Arbor - $3.06 per household; Pittsfield Twp - $0.02 per household; City of Saline – Qtrly residential newsletter; Superior Twp - $0.30 per household, paid by hauler. Public survey feedback and public comment indicate the residents are not always aware of County programs, when asked.	Low/ Moderate
Supporting Policy	State Policies: Yard Waste Ban Local Policies: City of AA Commercial recycling ordinance; Pay (or Save) as You Throw (PAYT)	Moderate/ Low
Public –Private Partnerships	WCCSWM, County programs such as Pharmaceutical Take-back, Boat Shrink Wrap program	Moderate/ High

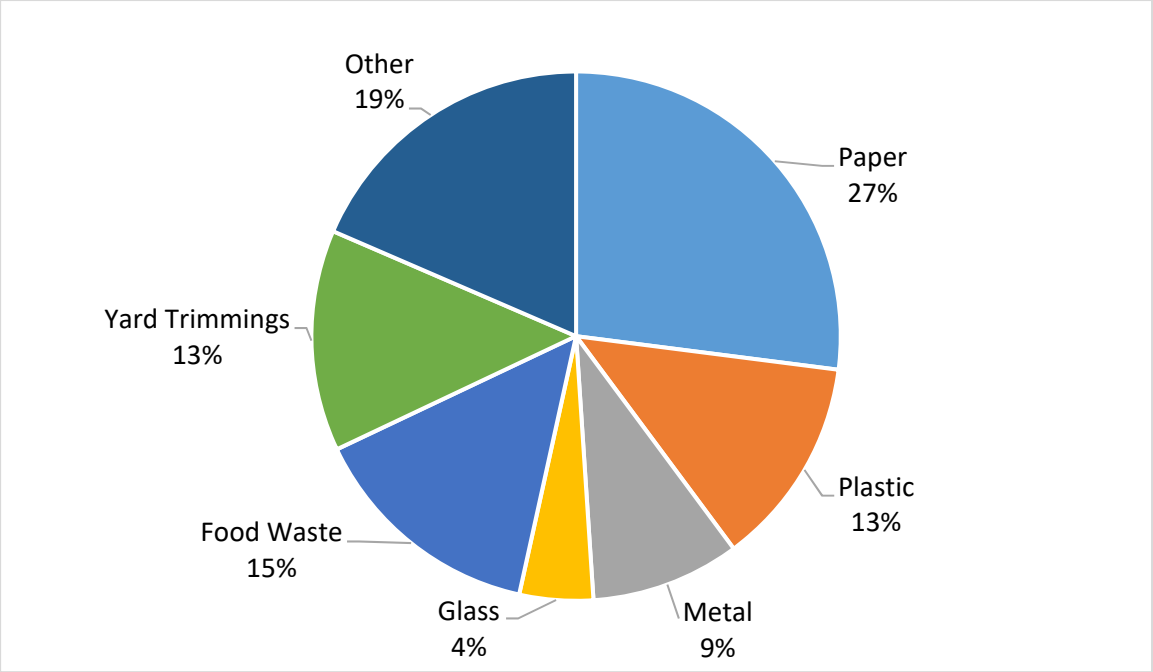
DETAILED FEATURES OF RECYCLING AND COMPOSTING PROGRAMS

Kinds and volume of material in solid waste stream that will be recycled or composted. Details regarding equipment selection, site availability and selection and composting operating parameters.

Currently, Washtenaw County does not track the amount of different types of materials being recycled and composted throughout the County. Part of the Plan amendment calls upon development of improved data collection and measurement.

Figure 7 categorizes the County's total waste generation (in tons) for 2015 by material by applying the EPA's 2013 data on MSW Generation. The "other" category includes wood waste, rubber, textiles, leather, tires, and batteries.

Figure 7. Washtenaw County MSW Generation Estimated with EPA 2013 Data



Existing data from the Michigan Recycling Index (MRI) Report (May 2015) and the Environmental Protection Agency (EPA) can provide guidance in setting goals toward increasing diversion and recovery. The MRI report identified the composition of the recycling stream by material gathered from programs across the state (Fig. 8). The EPA data on recycling rates of selected products highlights the potential to recover more compared to what is currently going on statewide (Fig. 9). As Washtenaw County's data and measurement evolves, this information can be applied.

Figure 8. Percent Composition of Recycling Material in the State of Michigan 2015

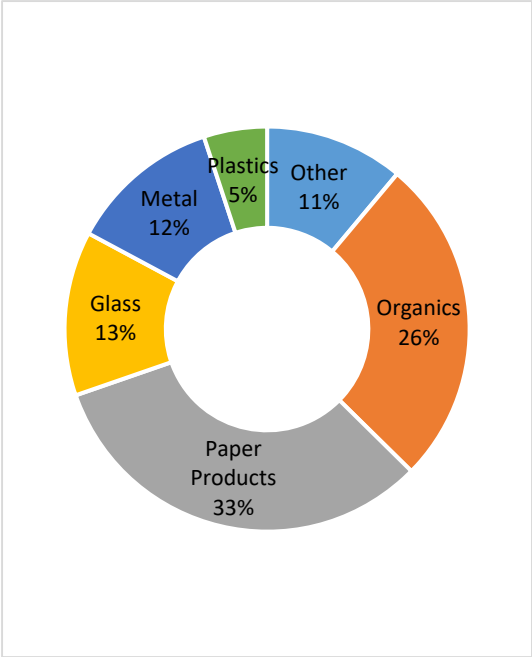
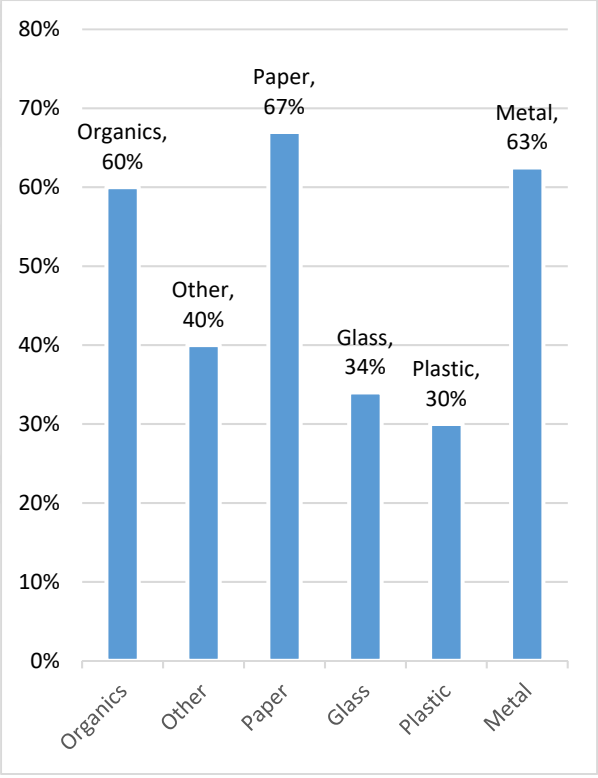


Figure 9. Recycling Rates of Selected Products - EPA 2013



Details regarding equipment selection, site availability and selection and composting operating parameters.

Details are expressed in other sections of Plan.

- Overview of Resource Recovery Programs: 66-67
- Facility Descriptions: 16-36

COORDINATION EFFORTS

Solid Waste Management Plans need to be developed and implemented with due regard for both local conditions and the state and federal regulatory framework for protecting public health and the quality of the air, water, and land. The following states the ways in which coordination will be achieved to minimize potential conflicts with other programs and, if possible, to enhance those programs.

It may be necessary to enter into various types of agreements between public and private sectors to be able to implement the various components of this solid waste management system. The known existing arrangements are described below which are considered necessary to successfully implement this system within the County. In addition, the proposed arrangements are recommended which address any discrepancies that the existing arrangements may have created or overlooked. Since arrangements may exist between two or more private parties that are not public knowledge, this section may not be comprehensive of all of the arrangements within the County. Additionally, it may be necessary to cancel or enter into new or revised arrangements as conditions change during the Planning period. The entities responsible for developing, approving, and enforcing these arrangements are also noted.

Ultimate responsibility for implementing the Solid Waste Management Plan rests with the Washtenaw County Board of Commissioners as part of its duties of general governance. The BOC has charged the Washtenaw County Department of Public Works (DPW) with monitoring the Plan and ensuring the intent of the Plan is followed.

COSTS AND FUNDING

The following identifies potential funding sources that could be utilized to meet the necessary management, capital, and operational and maintenance requirements for each applicable component of the solid waste management system.

Each community within Washtenaw County facilitates its own method of coordinating solid waste collection and disposal. Many communities allow their residents to individually contract with a service provider. Some communities choose to negotiate a community contract with a service provider to collect and dispose of a community's waste. A few communities have chosen to funds their own services through a combination of the following funding options. The Washtenaw County Department of Public Works supports many community programs with the Advanced Disposal capacity fee that is collected by the County.

1. **Volume Based Fee Structures (commonly referred to as "Pay-As- You-Throw")**

   Generators pay in proportion to the amount of waste they set out for collection. Volume based rate systems typically require that residents purchase special bags or stickers, or they offer generators a range of service subscription levels. When generators pay for the amount of waste they produce, they have an incentive to reduce it.

2. **Special Assessments through Public Act 185 and Public Act 188**

   Municipalities, or the Washtenaw County Board of Public Works at the request of a municipality, could establish special assessments, to fund local solid waste and recycling programs. The special assessment must be linked to a benefit to the property owner and would be collected through the property tax bill.

3. **Hauler licensing**

   With its existing authority under the state Public Health Code, the County may adopt policies or ordinances to regulate haulers and establish associated fees for public health purposes; or, with the participation of individual local units of government, the County may create a licensing program and establish fees for haulers operating within the County.

4. **Countywide ordinances**

   Under the County's existing authority, the County has the ability to adopt policies or ordinances in furtherance of Plan goals, such as to establish fees for landfill surcharges and County provided services, or with the participation/cooperation of individual local units of government for other solid waste and recycling related programs.

5. **Public Act 138 (limited to residential households)**

   A county, through an inter-local agreement with municipalities, may impose a surcharge on households within the county of not more than $2.00 per month or $25 per year per household for waste reduction programs and for the collection of consumer source separated materials for recycling, composting, or household hazardous waste.

6. Matching contributions of funds from municipalities

Pooling of resources from municipalities may be an option to fund regional programs.

7. **Other financing mechanisms as identified**
    a. Product Stewardship and/or Extended Producer Responsibility (EPR policies have been shown to significantly decrease costs to local governments for end-of-life management of a myriad of products, including electronic waste, hazardous household waste, latex paint, pharmaceuticals, carryout containers, etc. This approach shifts the cost burden from tax-funded local governments to the producers.
    b. Private-public partnerships can provide long-term, sustainable funding mechanisms.

EVALUATION SUMMARY OF THE SELECTED SYSTEM

The solid waste management system has been evaluated for anticipated positive and negative impacts on the public health, economics, environmental conditions, siting considerations, existing disposal areas, and energy consumption and production which would occur because of implementing this Selected System. In addition, the Selected System was evaluated to determine if it would be technically and economically feasible, whether the public would accept this Selected System, and the effectiveness of the educational and informational programs. Impacts to the resource recovery programs created by the solid waste collection system, local support groups, institutional arrangements, and the population in the County in addition to market availability for the collected materials and the transportation network were also considered. Impediments to implementing the solid waste management system are identified and proposed activities that will help overcome those problems are also addressed to assure successful programs. The Selected System was also evaluated as to how it relates to the Michigan Solid Waste Policy's goals. The following summarizes the findings of this evaluation and the basis for selecting this system:

Environmental Conditions and Public Health

Positive impacts to the County's environmental condition are expected to occur because of the Selected System. The continuing and increased emphasis on waste reduction and reuse will decrease the amount of materials being landfilled and recycled. The decrease in materials being disposed of in area landfills will reduce the need for a County's landfill space. Increased composting will produce nutrient rich material for agricultural uses, potentially reducing the amount of chemicals being used.

Siting Considerations

The Selected System prioritizes diversion of recoverable materials over disposal to reduce the need for landfill space. Siting of a new landfill or incinerator will only be considered for determination of consistency as part of a state-required Plan update process or through a Plan amendment.

Existing Disposal Areas

The Selected System will have positive impacts on existing disposal areas. An increased emphasis will be placed on waste reduction and reuse for solid waste management, with landfilling being used as a last resort option. This process will help to maximize the County's use of landfill space and reduce the impact on the communities both within and neighboring the County.

Energy Consumption and Production

The Selected System's emphasis on waste reduction and reuse could potentially cause a decrease in energy consumption; by reducing and reusing waste items, the energy needed to produce and transport new materials is decreased. Landfill gas systems can produce energy by capturing and burning some of the methane.

Technical/Economical Feasibility

The Selected System is both technically and economically feasible for Washtenaw County. The County currently has the infrastructure in place to support recycling activities and access to facilities for waste landfilling options. The revenue the County receives from the Advanced Disposal, Inc. landfill provides funding for various waste reduction, reuse, and recycling activities. The Pay-As-You-Throw option of waste reduction will also provide economic incentives to County residents to employ more waste

reduction and recycling practices. Furthermore, placing an emphasis on recycled-content product purchasing could create more markets for recyclable materials, thereby increasing the economic viability of recycling.

Public Acceptance

It is anticipated that the Selected System will meet with public acceptance as demonstrated through the public feedback survey made available during the Planning process. Residents of both Washtenaw County and surrounding communities provided input about strengths, weaknesses, opportunities, and threats of the current system. The feedback was included as part of the development of the Selected System, and aligns with Goals and Objectives developed in this Plan. Furthermore, Washtenaw County is an environmentally conscious county. It is anticipated that residents will embrace a system that puts an increased emphasis on waste reduction, reuse, and recycling, using landfilling as a last resort option for disposal.

Effectiveness of the Educational and Informational Programs

Education and outreach already occurs at a local and County level, and this Plan seeks to build on the existing outlets, as well as identify areas for improvement to increase awareness and understanding of waste and recycling throughout the county to all audiences from households to businesses to government.

Impediments to Implementing the Selected System

The encumbrance of measuring waste reduction and reuse could impede the successful implementation of the Selected System. The difficulty in measuring the success of the waste reduction initiatives could prove to be an obstacle in defining which areas of the program need extra attention. If specific areas of weakness cannot be identified, then the success of the program might be compromised. An increased public education effort will need to take place in order to ensure a successful program. Furthermore, a method for more consistent and regular measurement will have to be developed and implemented.

Other Impacts

External factors will also play a role to increase diversion across the County. These external factors include partnerships, private investments, and market stability. Collaboration across County municipalities and neighboring counties and their communities will also be important to achieving the Goals and Objectives of this Plan.

ADVANTAGES AND DISADVANTAGES OF THE SELECTED SYSTEM

Each solid waste management system has pros and cons relating to its implementation within the County. Following is an outline of the major advantages and disadvantages for this Selected System.

ADVANTAGES:

- Clearly aligns with the established Goals and Objectives of the Plan.
- Material is diverted from the waste stream and prevented from landfill disposal.
- Reduced stress on natural resources, thereby extending the supply of raw materials.
- Avoided landfill disposal costs of diverted materials can be substantial.
- Land requirements for recycling and composting are minimal to moderate.
- Diverting organic materials to compost production and soil application is environmentally sound.
- There are no documented environmental hazards resulting from waste reduction and composting.
- An emphasis on purchasing recycled content products can create and expand markets for recycled materials.
- Collaboration can increase potential for new opportunities, shared costs, and working with communities within the County and with adjacent counties.
- Access and convenience can lead to increased diversion and improved user satisfaction of programs.

DISADVANTAGES:

- Data collection can be expensive.
- Quantifying waste reduction is very difficult.
- Public participation is required.
- Adequate education, ongoing promotional programs, and market development are required.
- Organization and implementation problems may exist with new programs.
- Cost-effectiveness varies with waste reduction, recycling, and composting programs depending on developing technologies, market value, volume of materials handled, and public participation.
- Landfills are a land-intensive disposal option.
- Creating new public education programs dealing with waste reduction are resource and labor intensive activities.

APPENDIX B
NON-SELECTED SYSTEMS

NON-SELECTED SYSTEMS

Before selecting the solid waste management system contained within this Plan update, the County developed and considered other alternative systems. The details of the non-selected systems are available for review in the County's repository. The following section provides a brief description of these non-selected systems and an explanation why they were not selected.

ALTERNATIVE #1: LARGE SCALE INCINERATION

One alternative that was considered and subsequently discarded was large-scale incineration. This option is not viable in Washtenaw County because the environmental degradation and human health risks associated with the operation of incinerators far outweigh the benefits.

The incineration of municipal solid waste can cause adverse health and environmental effects through air emissions, toxic ash residue, and the destruction of materials that could be recycled. The ash by-product from incineration still requires landfilling. This ash requires special handling and disposal due to its toxic nature. Air pollution and odor problems can be marginally reduced with the use of pollution control equipment, but this equipment is expensive and only reduces pollution to legally acceptable levels.

Advantages:

- Electricity or steam is produced, helping to offset operational and maintenance costs
- Minimal land requirements

Disadvantages:

- Although sophisticated, mechanical systems have demonstrated operating difficulties
- Utilizes natural resources
- The cost-effectiveness of energy generation has not been proven
- Particulates and toxic fume emissions contribute to air pollution
- Environmental hazards associated with the disposal of bottom and fly ash from incinerators
- Design, operational procedures, and site development are complex under present regulations
- Public sentiment against incinerators can make siting and development difficult
- High maintenance requirements

SYSTEM COMPONENTS:

The following briefly describes the various components of the non-selected system.

RESOURCE CONSERVATION EFFORTS:

This system's primary focus is on incineration and no additional conservation efforts are proposed.

VOLUME REDUCTION TECHNIQUES:
This system utilizes incineration as a volume reduction technique. Incineration is viewed as a very effective way to reduce the volume of municipal solid waste.

RESOURCE RECOVERY PROGRAMS:
This system does not utilize resource recovery. Although the incineration of waste can be utilized to capture energy, practices such as reduction, reuse, and recycling are not put to use.

COLLECTION PROCESSES:
Each municipality in the County is responsible for coordinating its own collection of disposable and recyclable materials. This can be done by either the municipality itself, or through a private waste hauler.

TRANSPORTATION:
Municipalities and/or individuals coordinate transportation of municipal solid waste. Transportation can be provided by the municipality, or by the contracted private waste hauler. Large-scale incineration eliminates the need for transportation to locations other than the incinerator.

DISPOSAL AREAS:
Washtenaw County's municipal solid waste is disposed at different landfills in southeast Michigan. This system would create lower disposal requirements because of the large-scale waste reduction provided by incineration.

INSTITUTIONAL ARRANGEMENTS:
Currently, solid waste management is shared between the public, private, and non-profit sectors. In the case of this alternative, current collection, processing, and disposal infrastructure will need to be reduced and/or modified to accommodate an incineration system.

EDUCATIONAL AND INFORMATIONAL PROGRAMS:
Educational efforts, focused primarily on recycling and composting, are in practice throughout the County. Because the non-selected system does not utilize recycling and composting, current educational programs need to be modified to reflect the new incineration program component.

CAPITAL, OPERATIONAL, AND MAINTENANCE COSTS:
There are currently no large scale, licensed, and permitted municipal solid waste incinerators operating within the County. Siting, developing, and operating a new facility would be cost prohibitive.

EVALUATION SUMMARY OF NON-SELECTED SYSTEM:
The non-selected system was evaluated to determine its potential of impacting human health, economics, environmental, transportation, siting and energy resources of the County. In addition, it was reviewed for technical feasibility, and whether it would have public support. Following is a brief summary of that evaluation along with an explanation for why this system was not chosen for implementation.

Human and Environmental Health:
The non-selected system is based on incineration, which diverts items from landfill disposal. The decrease in landfilled items reduces the need for additional landfill space. However, incineration has raised concerns about the levels of toxic materials emitted by incinerator smokestacks and the levels of heavy metals found in incinerator ash, and the resulting decrease in ambient air quality.

Economics:
The non-selected system is not an economically feasible option for the County due to the high cost of siting, constructing, and operating a new incinerator facility. Incineration also greatly reduces the market for recovered materials, causing this sector of the County's economy to weaken.

Transportation:
The non-selected system will not demand an increase in the County's transportation infrastructure.

Siting:
The non-selected system will require the siting and development of a new facility; however, incinerators are an unauthorized disposal area under this Plan.

Energy Resources:
The non-selected system has the potential to harness energy from the burning of waste. However, the non-selected system will also decrease the amount of resource recovery and reuse occurring within the County, both of which reduce the amount of energy put into production of new goods.

Technical Feasibility:
The design and construction of a new incinerator facility is a technically feasible option for County solid waste disposal.

Public Acceptance:
Washtenaw County has long been viewed as progressive concerning matters of the environment, and residents within the County expect a certain level of environmental improvement. However, large-scale incineration does not achieve this level because it does not provide any enhancements to the current system and because it is expected to degrade air, water, and land quality throughout the County. Therefore, this system would most likely be met with skepticism and strong opposition.

ALTERNATIVE #2: SANITARY LANDFILL ONLY

Alternative #2 would utilize sanitary landfilling as the sole method of municipal solid waste management. This alternative was not selected because it does not allow the County to foster and expand its many waste reduction, reuse, and recycling programs. Through these programs, the County is reducing both the amount of landfill space required in the future and long-term disposal costs. The County and its local communities have made significant investments to design, implement, operate, maintain, and expand programs that increase sustainable materials management, waste prevention and recovery rates. As such, it is more practical to adopt a Plan that maximizes waste diversion rather than disposal. A sole reliance on sanitary landfilling would be a poor use of the existing infrastructure and equipment in the County.

While modern landfills are well-engineered and actively managed compared to unregulated dumping grounds of the past, using landfilling as a primary means of solid waste management increases the occurrence of adverse human and environmental health effects. The increased volume and complexity of the solid waste stream has increased concerns regarding environmental and public health hazards both while actively operating and also once closed, reducing public acceptance of this disposal option.

Advantages:

- Abundance of landfill space in Southeastern Michigan
- County has guaranteed landfill capacity for a minimum of 10 years within the county, with additional capacity available at landfill facilities located in other counties
- Low tipping fees make disposal at landfills an attractive option

Disadvantages:

- Land-intensive option
- Once used as a sanitary landfill, the value of land is low and future use options are limited
- Potential exists for adverse effects on the quality of life and property values of neighbors
- Design, site development, and operational procedures are complex under present regulations
- Waste transportation can be economically inefficient and ecologically harmful
- Public sentiment can further reduce available sites
- Long-term monitoring of site required after facility is closed
- Increased potential for groundwater contamination

SYSTEM COMPONENTS:

The following briefly describes the various components of the non-selected system.

RESOURCE CONSERVATION EFFORTS:

The non-selected system requires the destruction of large tracts of land, which disturbs ecological habitats and environmental health. As a result, sole reliance on sanitary landfilling does not incorporate any sustainable materials management efforts.

VOLUME REDUCTION TECHNIQUES:
This system does not incorporate any volume reduction techniques.

RESOURCE RECOVERY PROGRAMS:
This system does not incorporate any resource recovery programs, for which the County has a strong infrastructure in place. Recycling programs would quickly become obsolete, demanding a shift in solid waste management practices, such as elimination of materials recovery facilities.

COLLECTION PROCESSES:
Each municipality in the County is responsible for coordinating its own collection of municipal solid waste. This can be done by either the municipality itself, or through a private waste hauler. Collection infrastructure will not decrease in size, but will require modification to eliminate recycling collection programs.

TRANSPORTATION:
Municipalities and/or individuals coordinate transportation of MSW. Transportation can be provided by the municipality or by a contracted private waste hauler. This alternative will not demand an increase in the County's transportation infrastructure. In fact, it will remain the same or decrease due to the elimination of curbside collection routes and recycling drop-off programs.

DISPOSAL AREAS:
Washtenaw County's MSW is disposed at different landfills in southeast Michigan. Because the non-selected system eliminates the current diversion rate, the amount of landfill space needed in the future will increase. This may demand additional disposal areas in the future.

INSTITUTIONAL ARRANGEMENTS:
The institutional arrangements necessary for this alternative are currently in place throughout the County.

EDUCATIONAL AND INFORMATIONAL PROGRAMS:
Educational efforts, focused primarily on recycling and composting, are in practice throughout the County. Because the non-selected system does not support the enhancement or expansion of waste reduction, recycling, and composting activities, no new programs need be enacted and some existing programs may be discarded.

CAPITAL, OPERATIONAL, AND MAINTENANCE COSTS:
Capital costs will not be incurred because all aspects of the non-selected system are currently in place.

EVALUATION SUMMARY OF NON-SELECTED SYSTEM:
The non-selected system was evaluated to determine its potential of impacting human health, economics, environmental, transportation, siting and energy resources of the County. In addition, it was reviewed for technical feasibility, and whether it would have public support. Following is a brief summary of that evaluation along with an explanation why this system was not chosen for implementation.

Human and Environmental Health:
The non-selected system is based solely on landfilling. Although reliance on landfilling increases the potential for land contamination, land disposal is provided by modern landfills that have successful methods for prohibiting the migration of leachate outside of their boundaries.

Economics:
This alternative is economically feasible because all aspects are currently in practice within the County.

Transportation:
The non-selected system will not impact transportation within the County because the infrastructure is already in place.

Siting:
Based on available disposal capacity at the time of this Plan, this alternative does not require the siting of any new facilities (sanitary landfills, incinerators, transfer stations, or materials recovery facilities); however solely utilizing landfills to handle all waste and recyclables may require additional facilities to be sited in the future.

Energy Resources:
This modern landfill uses a methane gas recovery system to turn landfill byproducts (methane gases) into useful resources (energy). However, the non-selected system will not increase the levels of waste reduction and reuse within the County. Waste reduction and reuse, unlike recycling and landfilling, reduce the need for new products, which saves production energy.

Technical Feasibility:
This alternative is technically feasible.

Public Acceptance:
The public made it very clear that more landfills are not the solution. Throughout the planning process, the public provided extensive feedback and opposition to the only landfill in Washtenaw County. To rely on landfills as the sole option of handling waste would be met with strong opposition.

ALTERNATIVE #3: WASTE REDUCTION, RECYCLING, AND COMPOSTING W/ SANITARY LANDFILL THAT MAINTAINS CURRENT RECOVERY LEVELS

Alternative # 3 is essentially maintaining the current system of waste reduction, recycling, composting and disposal that is currently in place. It utilizes existing programs and infrastructure, and maintains current recovery levels.

Alternative #3 was not selected because the County has made a commitment to further reduce the volume of solid waste through enhanced waste prevention, reuse, recycling and composting initiatives. New and expanded programs coupled with technological advancements will allow the County to achieve an improved diversion rate during the span of this Plan.

Advantages:

- Utilizes existing infrastructure and equipment
- Allows for participation from County residents
- Current system is designed to meet the needs of the community

Disadvantages of maintaining current system and recovery levels:

- Current recovery levels are not at the optimal point for maximum waste diversion

SYSTEM COMPONENTS:

The following briefly describes the various components of the non-selected system.

RESOURCE CONSERVATION EFFORTS:

While the non-selected system's primary focus is on recycling, various waste reduction and reuse efforts are also incorporated. Waste reduction and reuse reduce the amount of energy put into the production of new goods, which conserves raw materials and energy. A diversion rate of 30% or more may also reduce the need for future landfill space, which would save large tracts of land from destruction.

VOLUME REDUCTION TECHNIQUES:

This alternative does not incorporate volume reduction techniques.

RESOURCE RECOVERY PROGRAMS:

The non-selected system has a diversion rate goal of 33%, which is the current diversion rate. All 28 County municipalities have access to curbside and/or drop-off recycling programs, operated by either the municipality itself, a private hauler, or both. The County currently has a very strong infrastructure in place for resource recovery. In order to move beyond a 33% diversion rate, participation rates will need to increase.

COLLECTION PROCESSES:

Each municipality in the County is responsible for coordinating its own collection of recyclable materials. This can be done by either the municipality itself, or through a private waste hauler. The infrastructure for collection is already in place.

TRANSPORTATION:
Transportation of both municipal solid waste and recyclables is coordinated by municipalities and/or individuals, and is already in place for the County. Transportation can be provided by the municipality or by the contracted private waste hauler. The volume of transportation traffic may increase with population growth, or with increased community participation in recycling programs.

DISPOSAL AREAS:
Washtenaw County's municipal solid waste is disposed at different landfills in southeast Michigan.

INSTITUTIONAL ARRANGEMENTS:
The institutional arrangements necessary for this alternative are currently in place throughout the County.

EDUCATIONAL AND INFORMATIONAL PROGRAMS:
Educational efforts, mainly aimed towards recycling and composting, are in practice throughout the County. Since the non-selected system does not require the expansion or enhancement of waste reduction, recycling, and composting activities, no new types of programs need be enacted.

CAPITAL, OPERATIONAL, AND MAINTENANCE COSTS:
Capital costs will not be incurred because all aspects of this alternative are currently in place. Other operational and maintenance costs are covered by the municipalities and/or revenue from the Arbor Hills Landfill.

EVALUATION SUMMARY OF NON-SELECTED SYSTEM:
The non-selected system was evaluated to determine its potential of impacting human health, economics, environmental, transportation, siting and energy resources of the County. In addition, it was reviewed for technical feasibility, and whether it would have public support. Following is a brief summary of that evaluation along with an explanation for why this system was not chosen to be implemented.

Human and Environmental Health:
This system places heavy emphasis on resource recovery, which diverts items from landfill disposal. The decrease in landfilled items reduces the need for additional landfill space, therefore decreasing the potential for adverse human and environmental health impacts through ground and surface water contamination. In addition, modern landfills have greatly improved methods for prohibiting the migration of leachate outside of their boundaries. Also, the Home Toxics Reduction Program allows citizens to easily remove toxic substances from their homes without jeopardizing the health of the local environment.

Economics:
This alternative is economically feasible because all aspects are currently in practice within the County.

Transportation:
The non-selected system will not impact transportation within the County because the transportation infrastructure is already established.

Siting:
This alternative will not require the siting of any new facilities (sanitary landfills, incinerators, transfer stations, or materials recovery facilities) due to its non-expansive nature.

Energy Resources:
The non-selected system utilizes sanitary landfills. This modern landfill uses a methane gas recovery system to turn landfill byproducts (methane gases) into useful resources (energy). However, waste reduction and reuse levels will remain constant within the County. These reduce the need for new products, whose manufacture requires energy input, thereby causing energy usage to decrease only slightly in the County.

Technical Feasibility:
Since the non-selected system is already in place within the County, it is a technically feasible option.

Public Acceptance:
This alternative consists only of activities already in place within the County. It requires no expansion or enhancement of these practices. Washtenaw County has long been viewed as progressive concerning matters of the environment and residents within the County expect a certain level of environmental improvement. However, the current system of waste reduction, recycling, and composting with sanitary landfilling does not achieve this level because it does not provide any enhancements. Therefore, it is believed that this system will be widely accepted throughout the County.

APPENDIX C
PUBLIC PARTICIPATION AND APPROVAL

This section documents the public participation and approval process, which is in currently ongoing. The section will be completed before submitting the final Plan amendment document to MDEQ.

This section will include the following:

- Description of the Public Involvement Process including dates of meetings, copies of public notices, documentation of approval from solid waste Planning committee, BOC, and municipalities.
- Planning Committee Appointment Procedure
- Planning Committee Meeting Dates
- Planning Committee Members
- Public Notices & Related Documents

Similar information is currently available on Washtenaw County's website: http://bit.ly/2lsdCpZ

APPENDIX D
ATTACHMENTS

- Plan Implementation Strategy
- Resolutions (None)
- Listed Capacity
- Map of Disposal Areas
- Intercounty Agreements (None)
- Special Conditions (None)
- Other Attachments:
    - Overview of Solid Waste Planning Process
    - Glossary of Terms
    - Summary of Public Feedback Survey
    - Host Community Agreement

PLAN IMPLEMENTATION STRATEGY

The following discusses how the County intends to implement the Plan and provides documentation of acceptance of responsibilities that will be performing a role in the Plan.

The adoption of this Plan by the Washtenaw County Board of Commissioners is intended as a demonstration of the County's acceptance of responsibilities for implementing the Plan with roles and responsibilities as described in the Selected Management Section pgs. 52-106.

RESOLUTIONS

The following are resolutions from the County Board of Commissioners approving municipality's request to be included in an adjacent County's Plan.

No requests were made.

LISTED CAPACITY

Documentation from landfills that the County has access to their listed capacity.

Documentation will be attached ahead of 90-day public comment period.

MAPS

Maps showing locations of solid waste disposal facilities used by the County.

Figure 10– Facility locations within Washtenaw County

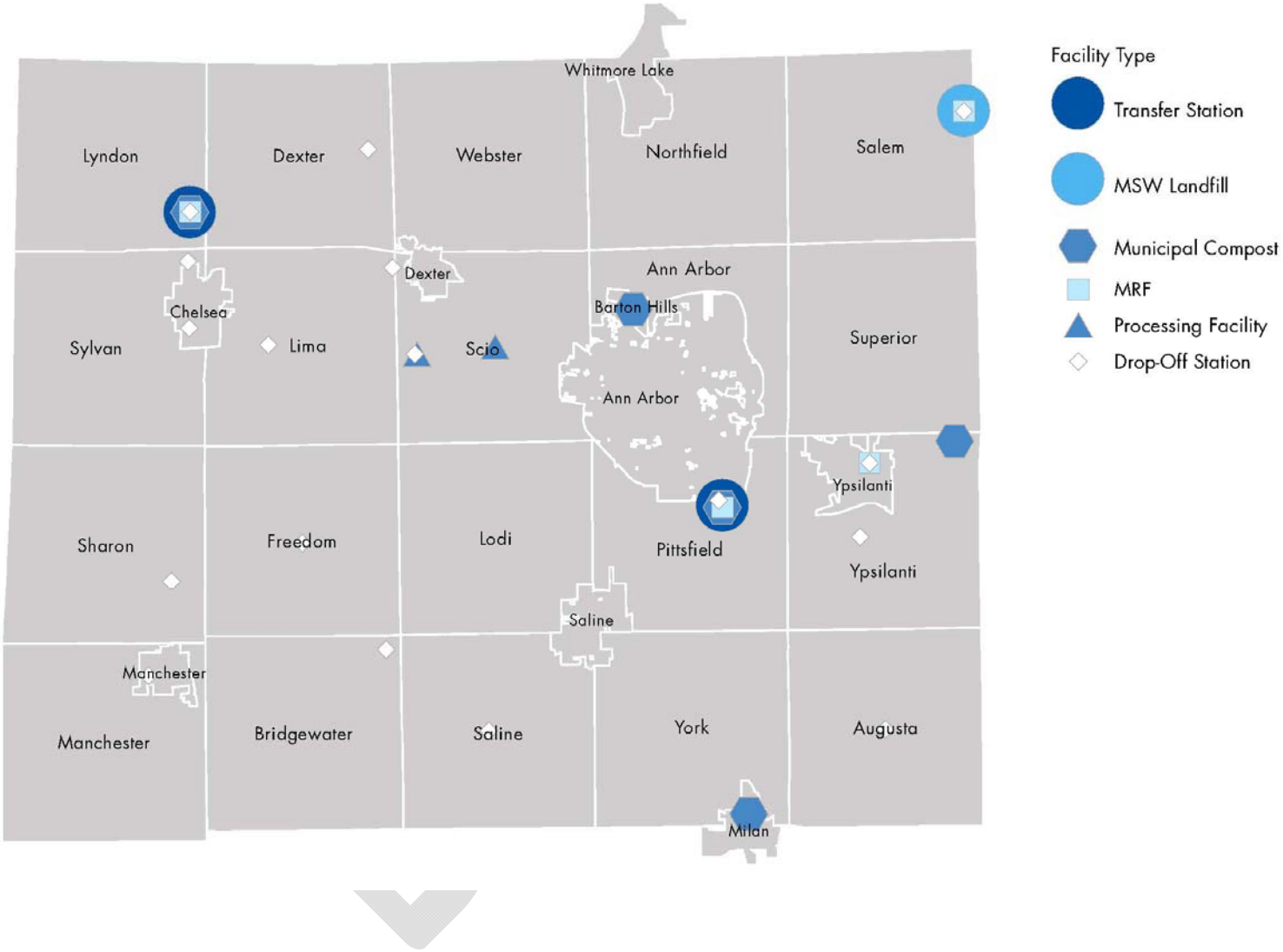
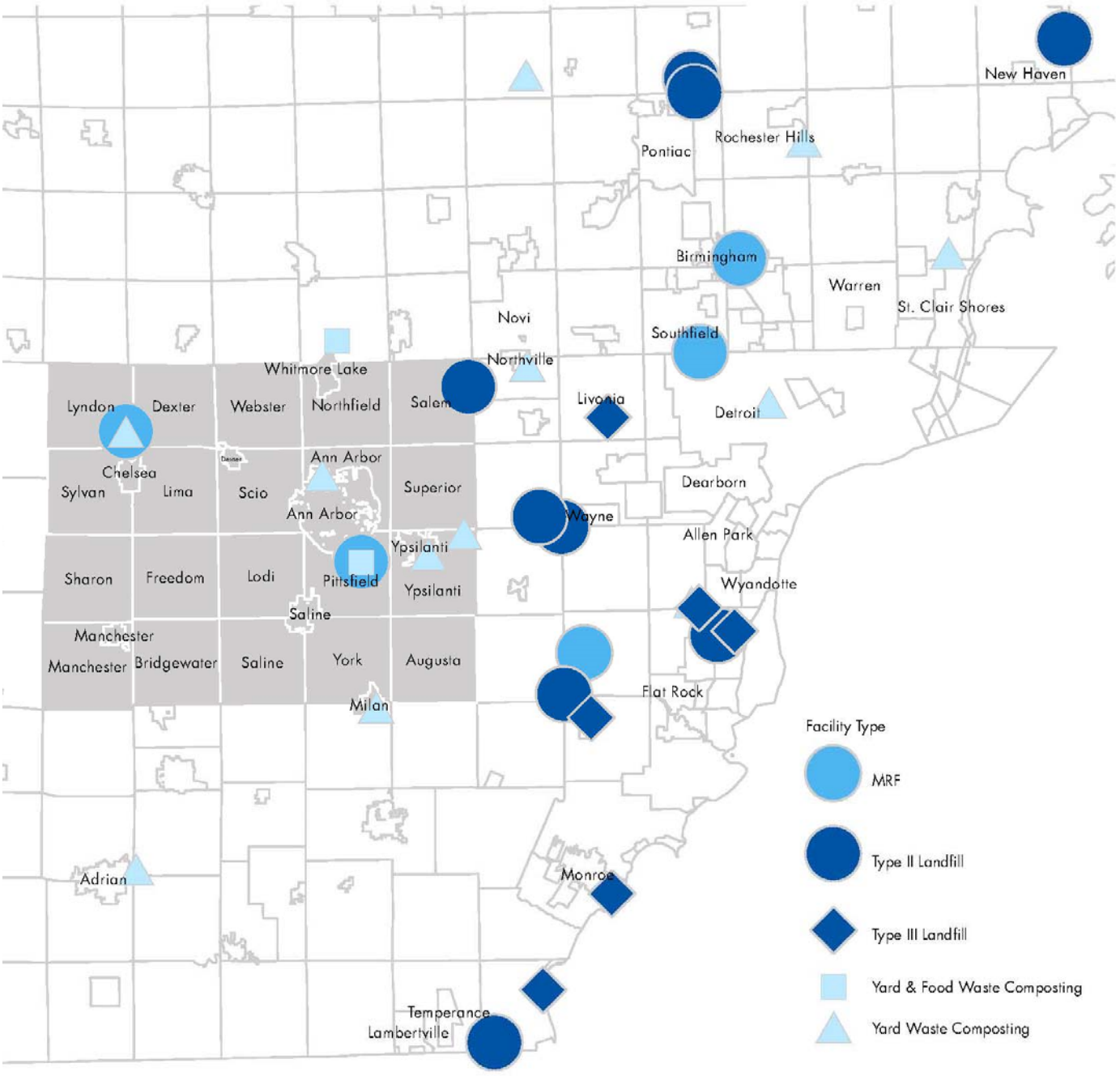


Figure 11 – Regional Snapshot of Facilities that Can Accept County Waste, Recyclables, Compostables



INTERCOUNTY AGREEMENTS

Copies of Inter-County Agreements with other Counties (if any).

There are no Inter-County Agreements.

SPECIAL CONDITIONS

Special conditions affecting the import or export of solid waste.

There are no special conditions affecting the import or export of solid waste.

OTHER ATTACHEMENTS

OVERVIEW OF PLANNING PROCESS (2015-2017)

The Washtenaw County Solid Waste Planning Committee (SWPC) was convened in August 2015 to prepare a solid waste management Plan amendment in response to a request to expand the Arbor Hills Landfill. In September 2016, the Arbor Hills Landfill withdrew its option to request an expansion, however by opening the Plan, the County continued to be committed to the update of outdated sections of the county's 1999 Plan.

During the time the SWPC was convened, the committee was presented with feedback from the public about the current and future impacts of the landfill. Where appropriate, the Planning process incorporated concerns and considerations into the Plan amendment including restating that landfills are an unauthorized disposal area, and amending the siting review process to include additional requirements regarding relationships with facilities and the surrounding communities. The following summarizes the primary issues raised during the Planning process that the committee was cognizant of:

- Landfill area population has changed. When the Arbor Hills Landfill first began operations, much of Northville Charter Township was largely undeveloped. The mostly rural area included Wayne County's specialized tuberculosis care facilities, women's incarceration sites, prison work farms, etc. However, as Wayne County closed and sold these properties, densely-populated residential neighborhoods and schools were constructed.

- Landfill operations can affect the community's quality of life. The large landfill operations create problems with truck traffic, noise, dust, and odors. Residents, school administrators, and public park users reported that there are several days each month that people are unable to remain outside their homes and have cancelled outdoor recess and sporting events due to strong landfill odors.

- Public health concerns. Residents are worried about the potential exposures to toxic chemicals from an active landfill affecting themselves at-home and to children from the region attending local schools and park events. Residential subdivisions now exist as close as 1000 feet to the current landfill and an elementary school with over 500 students is located within 2000 feet. Athletic fields and community gardens are also nearby.

The Solid Waste Planning Committee recognizes that future actions at Arbor Hills Landfill have the potential to incur benefits or setbacks for four key entities: Salem Township, Washtenaw County, Advanced Disposal, and Northville Township. Looking ahead, the SWPC offers the following observations which are also reflected in the goals and objectives of the Plan amendment.

- Regional collaboration is important as waste transcends government boundaries.
- Funding for programs should be diversified and anticipate the eventual closure of the landfill in the county.
- Facilities and their owners can and should strive to be good neighbors.

GLOSSARY OF TERMS

Composting: mixture of decayed or decaying organic matter used to fertilize soil such as leaves, grass clippings, brush, and food waste.

Drop-Off Site: A method of collecting recyclable or compostable materials in which the materials are taken by individuals to collection sites and deposited into designated containers.

End Markets: Mills, manufacturers and other facilities, which acquire recyclable materials for conversion to new products or raw materials.

Environmental Management Systems: is a set of processes and practices that enable an organization to reduce its environmental impacts and increase its operating efficiency.

Hazardous Waste: Waste material that may pose a threat to human health or the environment, the disposal and handling of which is regulated by federal law.

Materials Recovery Facility (MRF): Any type of facility used for separating, sorting or processing waste in order to segregate materials with value (e.g. aluminum, glass, plastics). They type of processing conducted at a MRF can range widely from buildings in which recyclables are sorted primarily by hand, to mechanical facilities that attempt to recover recyclables from mixed solid waste (sometimes called a "dirty MRF").

Municipal Solid Waste (MSW): solid waste and recyclables resulting from the operation of residential, commercial, industrial, governmental, or institutional establishments that would normally be collected, processed, and disposed of through a public or private solid waste management service. Municipal solid waste does not include hazardous waste, sludge, industrial waste managed in a solid waste management facility owned and operated by the generator of the industrial waste for management of that waste, or solid waste from mining or agricultural operations.

Non-recoverable refuse: portion of the waste stream that is not able to be recovered through current waste diversion or recycling practices and therefore must be disposed.

Organics: means material containing carbon compounds and typically originating from Plant or animal sources, which may be degraded by other living organisms.

- **Food waste:** any food that is grown and produced for human consumption but ultimately is not eaten.
- **Yard waste**: grass clippings, yard vegetation, sod without dirt, and leaves. The State of Michigan prohibits yard waste from being disposed of in the landfill.

Pollution Prevention: a practice that reduces, eliminates, or prevents pollution at its source. Pollution prevention approaches can be applied to all potential and actual pollution-generating activities.

Recycling: The systematic collection, sorting, decontaminating and returning of waste materials to commerce as commodities for use or exchange. Recycling also means to use, reuse or reclaim a material. It does not include incineration.

Reuse: Reutilization of a material in an environmentally sound manner that will not result in a hazard to human health or the environment.

Source Reduction: means the practice of minimizing waste through responsible product design, production, purchasing and consumerism, to reduce or prevent the generation of waste.

Sustainable Materials Management: systematic approach to using and reusing materials more productively over their life cycle, from the point of resource creation to material disposal.

Transfer Station: means any storage or collection facility which is operated as a relay point for solid waste which ultimately is to be transferred to a central solid waste management facility.

Type II Landfill: An on-land disposal facility designed and operated to accommodate general types of solid waste, such as garbage and rubbish, but not hazardous waste.

Type III Landfill: An on-land disposal facility designed and operated to accommodate large volumes of certain solid waste that has minimal potential for groundwater contamination.

Waste Generation: This term refers to the amount (weight, volume, or percentage of the overall waste stream) of materials and products as they enter the waste stream and before materials recovery, composting, or combustion takes place.

Zero Waste: Zero Waste is a goal that is ethical, economical, efficient and visionary, to guide people in changing their lifestyles and practices to emulate sustainable natural cycles, where all discarded materials are designed to become resources for others to use. Zero Waste means designing and managing products and processes to systematically avoid and eliminate the volume and toxicity of waste and materials, conserve and recover all resources, and not burn or bury them. Implementing Zero Waste will eliminate all discharges to land, water or air that are a threat to planetary, human, animal or plant health.

SUMMARY OF PUBLIC FEEDBACK SURVEY

Currently available online. http://bit.ly/2oGrShD.

HOST COMMUNITY AGREEMENT