

Genesee County

Solid Waste Management Plan

DRAFT

2021 Plan Amendment Cover Page

The Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), Part 115, Solid Waste Management, and its Administrative Rules, requires that each County have a Solid Waste Management plan Update (plan) approved by the Michigan Department of Environment, Great Lakes, and Energy (EGLE). Section 11539a requires EGLE to prepare and make available a standardized format for the preparation of these plan updates. This document is that format. The plan should be prepared using this format without alteration. Please refer to the document entitled "Guide to Preparing the Solid Waste Management Plan Update" for assistance in completing this plan format.

Date Submitted to EGLE: XX/X/XXXX

If this County includes more than a single County, list all counties participating in the plan: N/A

The following lists all the municipalities from outside the County who have requested and have been accepted to be included in the plan, or municipalities within the County that have been approved to be included in the plan of another County according to Section 11536 of Part 115 of the NREPA. Resolutions from all involved County boards of commissioners approving the inclusion are included in Appendix E.: N/A

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Genesee County Solid Waste Ordinance

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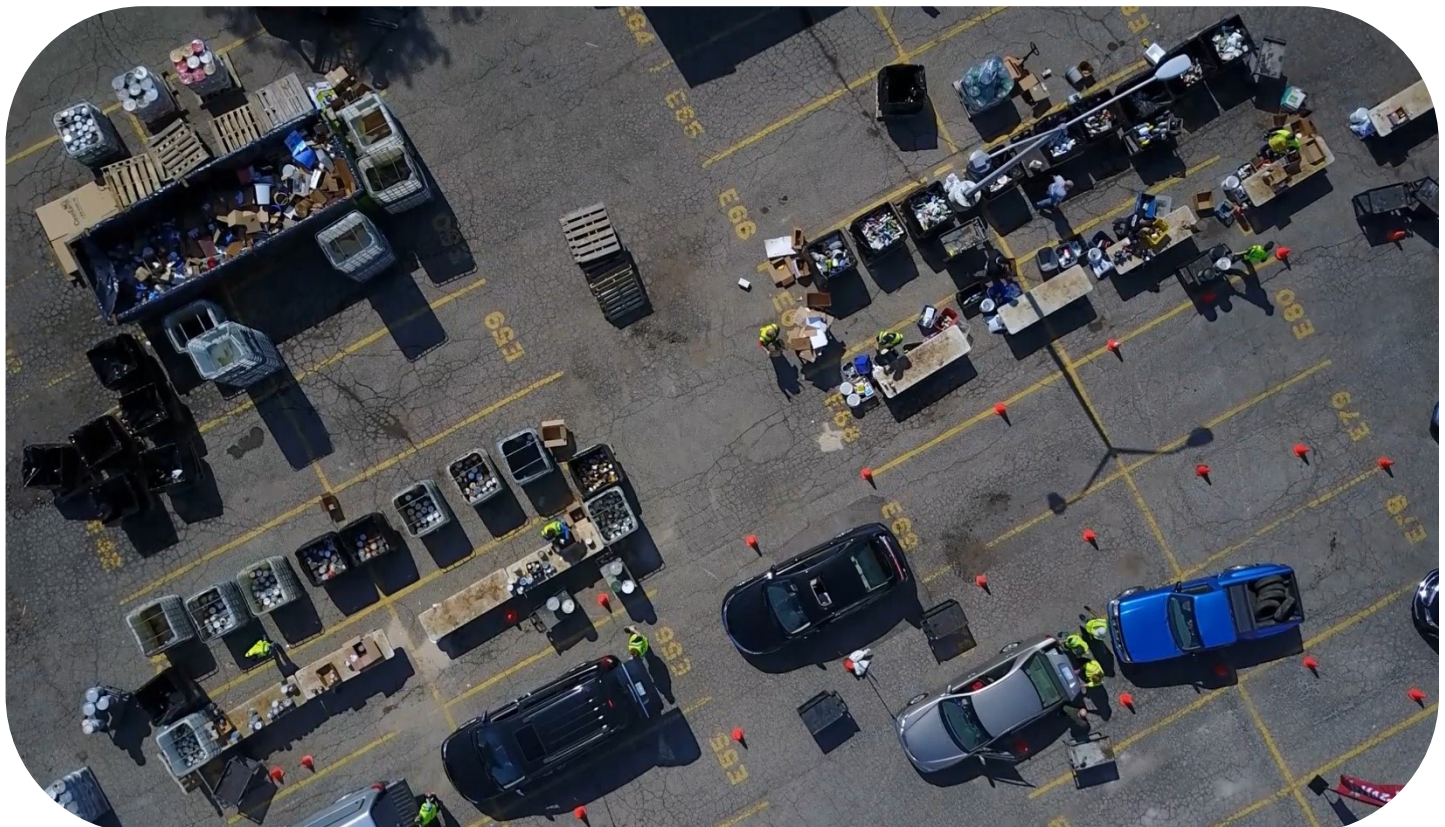
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Executive Summary

The following summarizes the solid waste management system selected to manage solid waste within the County. In case of conflicting information between the executive summary and the remaining contents of the plan update, the information provided in the main body of the plan amendment found on the following pages will take precedence over the executive summary.

Over the last several years, approaches to solid waste planning across the country have evolved significantly. Technological advancements and the general need to conserve resources for economic, public health and environmental reasons have helped shape dynamic solid waste programs. The Genesee County Solid Waste Plan and corresponding programs have been serving the residents and businesses of the County for decades to ensure efficient disposal and materials management services as well as provide educational opportunities. This amendment of the Genesee County Solid Waste Plan will not only continue to ensure those core principles, but will also expand upon the plan and programs to help reap the greatest sustainable benefits in the solid waste system.

The plan is organized according to the Michigan Department of Environment, Great Lakes, and Energy's (EGLE) regulations for solid waste plans. While following those guidelines, the plan also incorporates additional sections (technical reports) that are vital to understanding the importance of solid waste and materials management in Genesee County, as well as seeking to deliver detailed and measurable implementation steps for improving solid waste system planning. It should be noted that information contained in the body of this plan takes precedence over any information in the four technical reports.



Overall View of the County

Genesee County is located in Southeast Michigan. It is bordered to the north by Saginaw and Tuscola Counties; to the east by Lapeer County; to the south by Oakland and Livingston Counties; and to the west by Shiawassee County. The County covers approximately 636 square miles of which 50% is urban or built and 50% is rural or undeveloped.

Higher concentrations of population and residential areas are primarily in the Cities of Flint and Burton, as well as the townships of Grand Blanc, Flint, Genesee, and Mt. Morris as portrayed in Technical Report 1 in the Appendix. **Figure 1**, below, shows a general view of the County based on 2020 data. Economic data is also provided in Technical Report 1 for each municipality showing their total contributing percentage of employment to each industry. The City of Flint accounts for most of the economic activity, followed by Flint and Grand Blanc Townships. Overall, in the County, 49.4% of employment is accounted for in the Service sector, followed by Retail, Government and Finance which each make up between 10 to 12% of total employment.

Waste in Genesee County comes from a variety of sources; in general, the majority of non-hazardous waste generated is municipal solid waste or MSW, which includes residential, commercial, and industrial land uses. The rest of the waste is made up of construction and demolition debris or CDD and industrial special wastes or ISW. The total annual waste generation (CY) is projected to be about the same at 1,284,719 cubic yards in 2017 and 1,284,727 in 2045. The residential and industrial sections are projected to decrease while the commercial sector is projected to increase by 2.3%.

Conclusions

Current population and land use trends show that population in the County will slightly decrease and waste generation will stay about the same over the next 25 years. Genesee County's waste stream is currently managed by the private sector, while the County enforces the rules and regulations of the Genesee County Solid Waste Ordinance as well as implementation of the selected solid waste system.

While the management of the waste stream is acceptable, the Solid Waste Management Planning Committee has concluded that improvements can be made to the overall system to help further reduce waste, consolidate services to reach cost benefits, and to continue education efforts and create new programs for waste diversion.

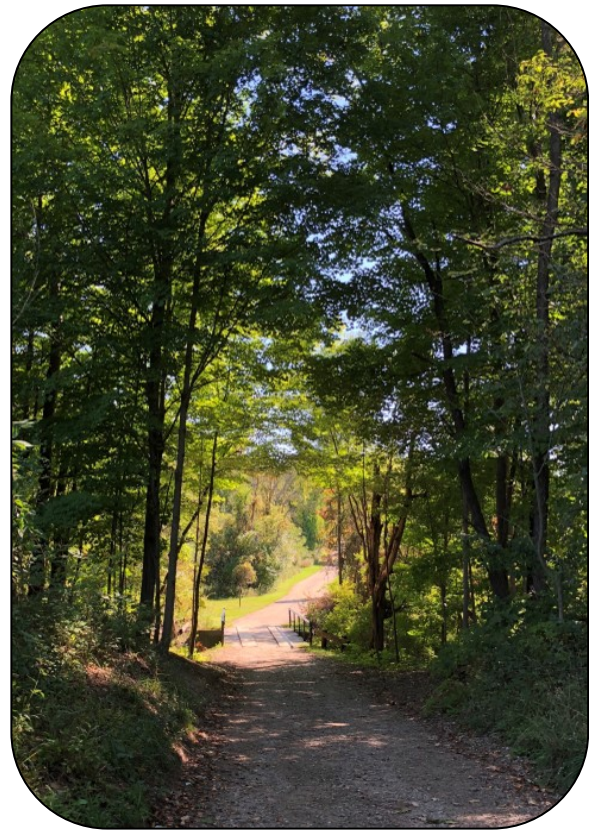


Figure 1 Employment in Genesee County

Pop	# of			Econ M	Econ O	Econ T	Econ F	Econ R	Econ W	Econ S	Econ G
2020	Employees	U&B %	UND %	%	%	%	%	%	%	%	%
405,553	209,887	50%	50%	6.8%	5.7%	2.8%	10.2%	11.3%	2.9%	49.4%	10.9%

*U & B = Urban and Built, UND = Undeveloped, Econ M = Manufacturing, Econ O = Other, Econ T = Transportation, Warehousing & Real Estate, Econ F = Finance, Insurance & Real Estate, Econ R = Retail Trade, Econ W = Wholesale Trade, Econ S = Service, Econ G = Government. Figure A in the Appendix expands on this table to show all municipalities.

Source: 2020 Census Data and Genesee County LUG Employment Calculations

Selected Alternatives

The following summary describes all the solid waste management systems considered by Genesee County and how each alternative will help meet the needs and goals established in this plan. The current predominant method of waste management in Genesee County is disposing of waste at four major Type II municipal solid waste landfill sites, which includes one located in Shiawassee County and one located in Saginaw County. An additional Type III landfill is approved for inclusion in the plan under certain conditions, but will not accept municipal waste. This landfill will only accept wastewater sludge and biosolids from Genesee County owned wastewater treatment plants. The details of the selected alternatives are in the following section.

Summary of Selected Alternative

System Components

The current system for waste management in Genesee County is based on a plan that includes land-filling, recycling, composting, and other materials management strategies, such as reusing and reducing. Because Genesee County has an established solid waste management system, the following goals will serve as the means to enhance and improve the current system. These goals were created by the Solid Waste Management Plan Committee (SWMPC) and focus on materials management, education, and waste reduction:

- Implement and maintain an integrated materials management plan to ensure a healthy environment and financially sound solid waste system.
- Improve education and awareness of recycling, composting, and reuse of materials to support overall diversion of waste in the County.
- Implement a sustainable materials management program with the main objective of reducing the overall amount of waste generated in Genesee County. Utilize resource conservation technologies such as recycling and composting.
- Develop a materials management program that helps retain and attract economic development in Genesee County.

Plan Summary

This Genesee County Solid Waste Plan amendment is an opportunity for significant changes to develop within the solid waste program that would foster increased sustainable practices to ultimately lead to a decrease in waste generation in the County. The plan addresses issues from the current system to provide policies and recommendations for an improved system. In order for this plan to be successful, the County will evaluate goals and actions set forth in this plan on a regular basis, as well as have an open dialogue with communities about their role in the plan.

The plan includes the most important details from the four (4) technical reports that will help the reader understand the existing and future solid waste system. For more information, the technical reports are also listed in Appendix E of this plan.

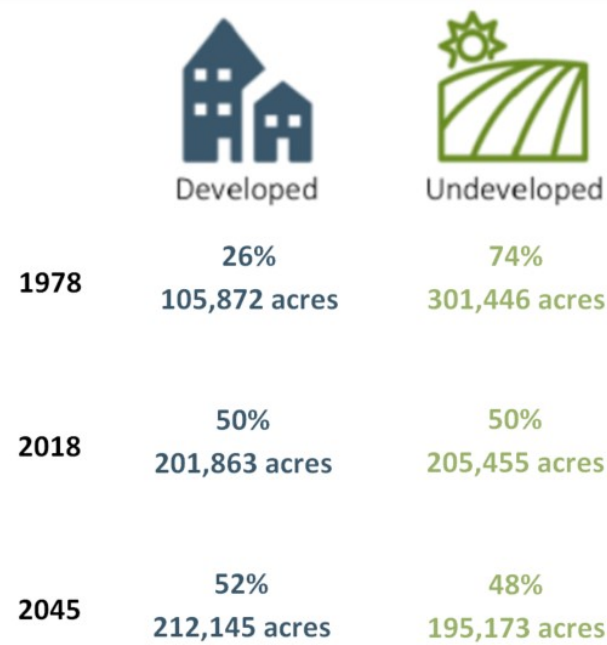


Background of the County

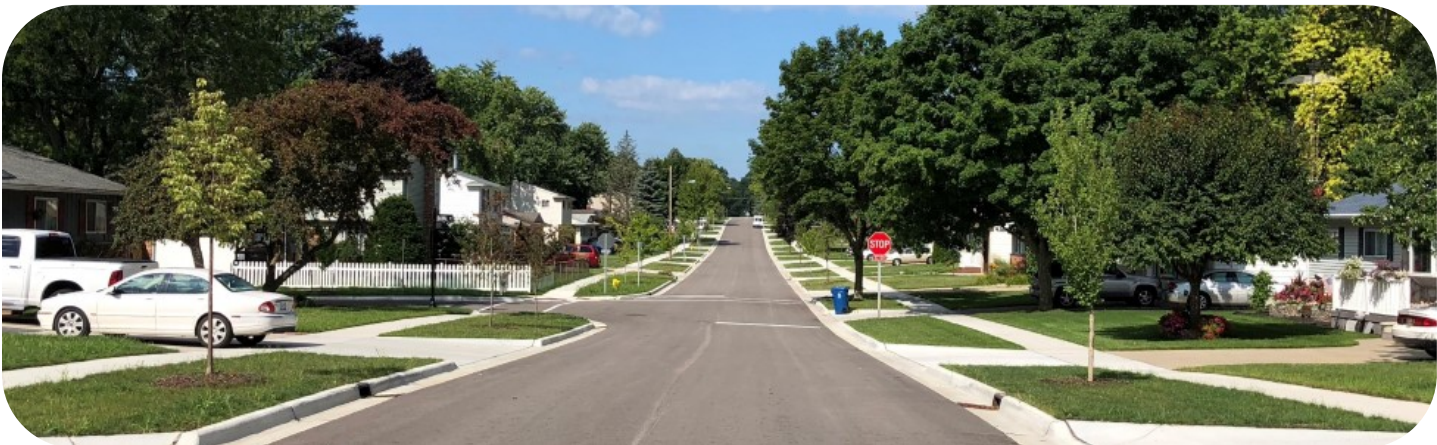
In 2018, GCMPC performed an analysis of the past and current land use trends in Genesee County. The results of this analysis show that of the 407,318 acres that make up Genesee County, about 50% of those acres are agricultural and other undeveloped land (see **Figure 2**). However, mainly due to residential development in our rural townships, agricultural land is depleting. Of the remaining land uses, the single family residential (SFR) use dominates the landscape. A total of 80% of the “built” environment in Genesee County is comprised of SFR development. Land use trends in the County have relied heavily on land consumption with the majority of development occurring on agricultural lands and other open spaces. Part of the County consists of single-family residential developments, therefore residential waste accounts for 32% of the total waste generated in the County. It is important to take into consideration land development trends when projecting solid waste capacity in Genesee County. Possible increases in waste generation may result from the residential sector if these land use trends should continue. To accurately estimate the existing and future generated solid waste stream in the County, population and employment data was gathered. Genesee County has used population and employment data from a combination of sources that include the U.S. Census Bureau and projections made by GCMPC that were part of the Genesee: Our County, Our Future Plan (2020). The population growth rate between 2014 and 2045 was found to be slightly lower than expected, changing from 412,895 to 407,870 over a 30 year period. Employment on the

other hand, is projected to increase over this same period from 191,542 to 221,643. While Manufacturing, Retail Trade, and Wholesale Trade jobs will all decrease over this same period, Services, Transportation and Public Utilities, Government, and Other jobs are expected to increase. The Services sector is substantially going to increase, resulting in an overall County estimate of about 32,000 more jobs by the year 2045. These projections significantly affect commercial waste generation estimates as each industry sector produces different amounts of waste per employee. For more detailed information and analysis, please refer to Technical Report 1.

Figure 2 Genesee County Built Environment



Source: Genesee: Our County, Our Future, Land Use Technical Report



Genesee County Solid Waste

Overall, population in Genesee County is projected to slightly decrease from 408,868 people in 2017 to 407,870 people in 2045. The total annual waste generation (CY) is projected to be about the same at 1,284,719 cubic yards in 2017 and 1,284,727 in 2045. The residential and industrial sections are projected to decrease while the commercial sector is projected to increase by 2.3%.

Imported and Exported Waste Volumes

Part of the purpose of the Solid Waste Plan is to determine current and future landfill capacity in the County. One of the key determinants of landfill capacity and waste volumes in the County is imported and exported waste. Staff utilized the Michigan Department of Environment, Great Lakes, and Energy's Reports of Solid Waste Landfilled in Michigan from 2016 through 2020 to determine the average imported and exported waste volumes. The total numbers include municipal, industrial, and construction and demolition waste. Refer to Technical Report 1 for more information.

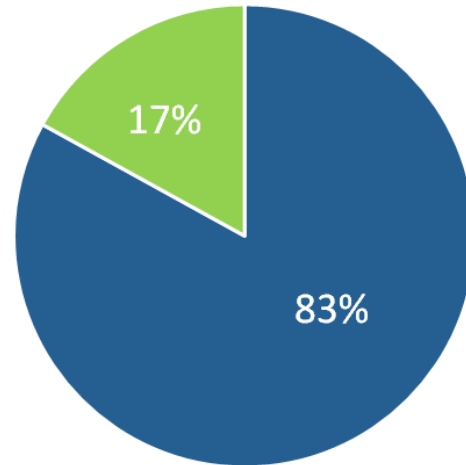
Landfill Capacity

Landfill capacity is based on current waste entering the landfills as well as waste disposal projected into the future. These factors are compared to permitted disposal capacity listed by each landfill to determine an estimated landfill capacity. Currently the two public use landfills in Genesee County have a combined estimated lifetime of 26 years. This capacity accounts for waste that is not only coming from Genesee County, but waste that is being imported into the County from Michigan counties, other states, and Canada. While almost 83% of Genesee County waste was taken to County landfills between 2016-2020, imported waste still accounts for approximately 65% of total waste entering the County landfills. **Figure 3** shows another relationship between imported and exported waste in the County over the same five year period. **Figure 4**, on the next page, indicates that the amount of waste Genesee County generates and sends to our own landfills is not the sole indicator of capacity, rather that the County imports a large amount of waste which reduces landfill capacity here. Landfill capacity is mostly driven by the waste market, where importing

waste is a driver of a successful operation.

If the landfills were to only take Genesee County waste, the total combined lifetime would be 55.32 years, depending on site area that is permitted, instead of 26 years. Please refer to Technical Report 2 for more information.

Figure 3 Percent of Genesee County Waste Generated/Disposed vs Exported (2016-2020)



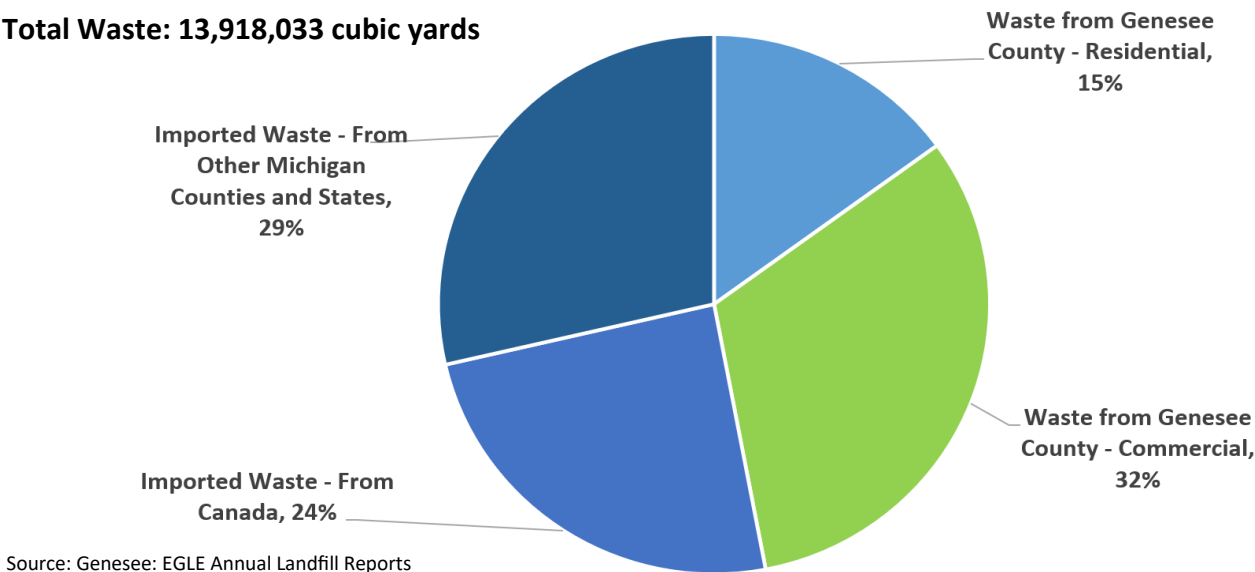
■ Waste Generated & Disposed of in Genesee County
■ Total Genesee County Waste Exported

Source: EGLE Annual Landfill Reports



Figure 4 Waste Disposed in Genesee County Landfills (2016-2020)

Total Waste: 13,918,033 cubic yards



Source: Genesee: EGLE Annual Landfill Reports

Economic Value of Recycling

As shown in **Figure 5**, Genesee County supports a total of 5,383 employees through various recycling services, making up a small portion of total County employment. Recycling employment has greatly decreased since the last plan update due to the closure of businesses in these sectors in Genesee County. The majority of recycling employment is found in the Wholesale and Retail sector, where there are 2,742 employees making up 51% of the total recycling employment. Based on the data found through staff’s analysis, it is evident that the recycling sector could be improved in Genesee County’s economy. Additional policies and programs that support and increase recycling efforts in the County would clearly benefit to this area of employment.

Figure 5 Genesee County Summary Recycling Employment Data	
Type	Employment
Collection Businesses	639
Process and Manufacture	1,131
Wholesale and Retail	2,742
Supporting Businesses	871
TOTAL	5,383

Source: U.S. Census and North American Classification System (NAICS)



Diversion in the County

Genesee County Diversion Rate Study

Genesee County's work with Resource Recycling Systems (RRS) provided staff crucial information on the status of waste diversion in the County. Through the 2019 Solid Waste Evaluation Study, RRS determined the County-wide diversion rate to be 9%, which includes waste diverted through recycling and composting. To identify the County's diversion rate, RRS collected data from Material Recovery Facilities (MRF) such as Resource Recovery and Recycling Authority of Southwest Oakland County (RRRASOC) and composting facilities like Country Oaks Landscape Supply in Burton. MRFs are plants that separate and prepare recyclable materials to be sold to end users for processing. MRFs track the quantity of recyclables collected from waste haulers, such as Republic Services and Emterra Environmental, and thus were able to identify recyclables coming from Genesee County. This recycling data is then combined with the quantity of yard waste that was delivered to local composting facilities generated from Genesee County. Once this information was compared to garbage generated and landfilled from Genesee County, RRS was able to establish the 9% diversion rate. However, recycling accounts for only 6% of the diversion rate

Genesee County Recycling Participation Survey

2019 Recycling Participation Survey

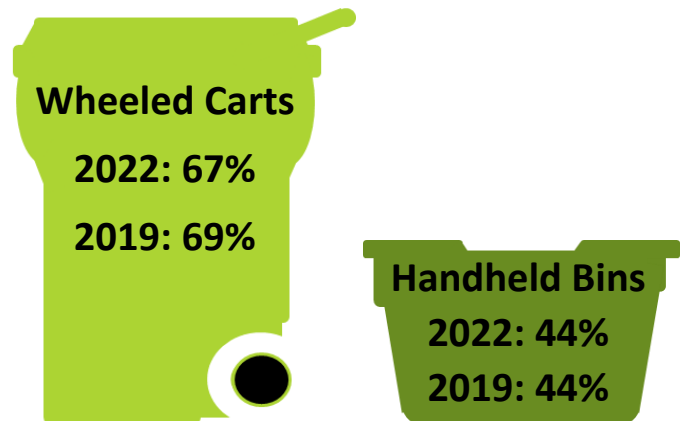
In 2019, GCMPC conducted a survey throughout all communities within the County that utilize curbside recycling services. This survey was done to gauge the rate of participation throughout Genesee County. Understanding participation rates provides an analysis of what types of services are the most effective as well as determines where recycling services and education may need to be improved. Gathering this data also assists staff in better understanding how recycling participation has changed in the County over time. The results of the 2019 survey showed that there was a residential recycling participation rate of 53% for all of the communities surveyed. Staff also concluded that participation in communities that were provided handheld bins was 44% and participation in communities that were

provided wheeled carts was 69%, as shown in **Figure 6**. This is compelling evidence to suggest that communities with carts for recycling will have an overall higher recycling participation rate and thus a higher diversion rate.

2022 Recycling Participation Survey

A recycling participation study was conducted again in 2022 using an identical methodology. The results of this study determined a participation rate of 52%, which was relatively the same rate determined in the 2019 study. Similarly, staff was also able to determine that the participation rate of communities with bins stayed the same at 44%, but the participation rate of communities with carts decreased by 2% to 67% compared to 2019. The results of the 2022 survey indicated other trends in recycling throughout the County. For example, in cities, the recycling participation rate tended to be 3% higher than in more rural areas like townships and villages. The communities with higher participation rates included the City of Linden and the City of Fenton. The communities with lower participation rates included the City of Flint and Mt Morris Township.

Figure 6 Recycling Participation Rates



Source: Genesee: Our County, Our Future, Recycling Report

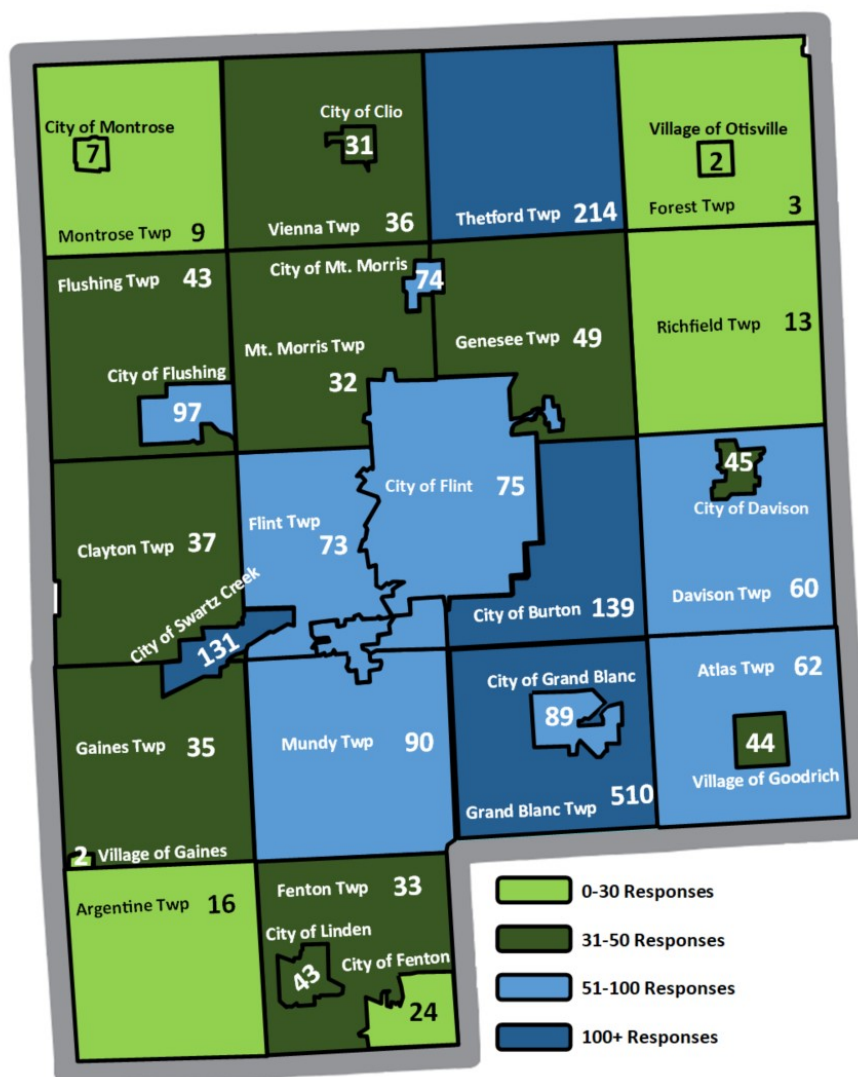


Solid Waste Evaluation Surveys

In 2018, staff developed a community-wide survey to hear from residents and community leaders. The start of the survey indicated the official kickoff for the development of the Genesee: Our County, Our Future plan. This plan was intended to be a vision for the county that incorporates an analysis of necessary components when planning for a community's future needs. Included in this plan are topics related to land use, transportation, housing, environment, and infrastructure. In the first ten weeks, 1,079 surveys were completed, representing almost every community in the County. Similarly, in 2019, Genesee County staff partnered with Resource Recycling Systems (RRS) to develop two surveys in order to gain a public perspective about the effectiveness of our solid waste system. The first survey was a Public

Input Survey and was sent out to the residents of Genesee County. Staff received over 2,000 survey responses, as shown in **Map 1**. The second survey was distributed to the local units of government in Genesee County. Of the communities contacted, staff received a total of 26 responses representing 17 communities. Upon completion of the surveys, RRS provided data analysis to GCMPC staff for further solid waste system developments. Through these surveys, it is clear that the residents of Genesee County believe that recycling is important and are eager to utilize the opportunities available to them to recycle. However, they also believe that there could be more improvements made to increase the collection of recyclable materials. Refer to Technical Report 2 for more information regarding the results.

Map 1 2019 Public Input Survey Responses by Community: Genesee County, Michigan



Source: Genesee County Public Input Survey Analysis

Planning For Our Future

In collaboration with the Solid Waste Management Planning Committee (SWMPC), staff was able to analyze the current solid waste system through a visioning process. The goal of this process was to provide the committee with an opportunity to discuss current issues of the solid waste system and how it could potentially be improved for the future. This process ultimately led to the identification of current solid waste system deficiencies as well as development of goals and objectives for the Solid Waste Management Plan.

It is a requirement for Genesee County to select a plan for the solid waste management system. Based on the goals and previous mentioned analysis, the plan calls for inclusion of recycling, land-filling and education in resource recovery to manage the waste system. The following alternative system strategies show varying levels of volumes based on their percentage goal of the waste stream. These were used for the purpose of

determining which alternative system percentages would be attainable over the next 10 years.

In order to meet the goals of the plan, alternative systems were evaluated for their effectiveness. One of the most vital components of the solid waste system is to increase awareness of recycling opportunities to Genesee County residents and businesses. The accompanying [list](#) identifies means by which that can be accomplished; some of these activities are already practiced regularly in the County:

- Annual County-Wide Newsletter
- Commercial & Residential Waste Assessments
- E-mail Distribution List
- Events throughout the County
- Flyers
- School Presentations
- Social Media
- Workshops/ Presentations



Genesee County Solid Waste Plan: Introduction

Goals and Objectives

To comply with Part 115 and its requirements, the Genesee County Solid Waste Plan established an Enforceable Program and Process that is directed towards goals and objectives based on the purposes stated in Part 115, Section 11538.(1)(a), 11541.(4) and the State Solid Waste Policy adopted pursuant to this Section and Administrative Rules 711 (b)(i) and (ii). At minimum, the goals must reflect two major purposes of Materials Management Plans:

1) To utilize to the maximum extent possible the resources available in Michigan's solid waste stream through source reduction, source separation and other means of resource recovery and;

2) To prevent adverse effects on the public health and environment resulting from improper solid waste collection, transportation, processing, or disposal, so as to protect the quality of air, the land, and ground and surface waters.

This Materials Management Plan works toward the following goals through actions designed to meet the respective goals in which they support:

Goal One

Implement and maintain an integrated materials management plan to ensure a healthy environment and financially sound solid waste system.

a. Monitor solid waste imports and exports to track long term disposal capacity.

b. Improve data collection of all materials in Genesee County. Communities are encouraged to request monthly or quarterly reports from their waste hauler. Be sure to only collect data that has a practical use in solid waste management.

c. Use data to show successes as well as shortcomings to implement continuous improvement strategies.

Goal Two

Improve education and awareness of recycling, composting, and reuse of materials to support overall diversion of waste in the County.

a. Evaluate best practices from other communities for education programs. Pursue and implement grant funding for education.

b. Expand the recycling education program beyond presentations in the classroom to include a recycling curriculum that is an available resource for County residents. Connect recycling concepts to market sustainability.

c. Provide increased outreach to the adult population. This would include updating community websites, social media pages, and making presentations with current information about recycling and composting specific to each community. Encourage partnerships and communication with waste collectors.

d. Educate and advise people of the environmental, social, and cost benefits of reducing waste generation and recommendations for doing so (e.g. Pay-As-You-Throw, etc.)

Goal Three

Implement a sustainable materials management program with the main objective of reducing the overall amount of waste generated in Genesee County. Utilize resource conservation technologies such as recycling and composting.

- a. Recommend a residential curbside recycling program in the County that uses best practices.
- b. Offer to conduct waste assessments to evaluate volumes of waste and recommend methods to increase recycling and composting as well as cost savings.
- c. Evaluate the Genesee County Solid Waste Ordinance annually in terms of enforcement strategies, fee changes, and reporting notices.

Goal Four

Develop a materials management program that helps retain and attract economic development in Genesee County.

- a. Examine the best practices used by other organizations to formulate a plan for tracking revenue and expenditures for materials management programs and potential facility operations.
- b. Collaborate with local communities and businesses to reduce costs and increase management opportunities for recycling and hard to dispose materials.



Solid Waste in the County

This section elaborates on the sources of waste generation within Genesee County and indicates the total quantity of solid waste generated to be disposed and diverted. This information is a crucial factor in determining future landfill capacity as well as an indicator of where additional efforts need to be made to help divert waste from the landfills.

Sources of Waste Generation

Waste in Genesee County comes from a variety of sources; in general, the majority of non-hazardous waste generated is municipal solid waste or MSW, which includes residential, commercial, and industrial land uses. The rest of the waste is made up of construction and demolition debris or CDD and industrial special wastes or ISW.

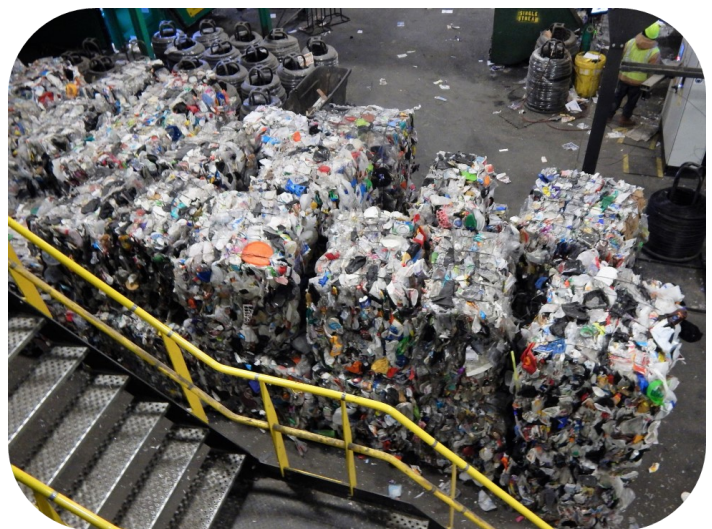
Residential Waste Generation

Residential waste generation for Genesee County is determined based on the Annual Reports of Solid Waste Landfilled in Michigan, provided by the Department of Environment, Great Lakes, and Energy (EGLE). These reports provide data on the origins of waste within the state broken down by County. Data on waste that is imported to and exported from Genesee County can also be found within each report. EGLE provides staff with invaluable resources every year in the form of these reports.

Commercial Waste Generation

Commercial waste generation for the County was one of the more difficult data pieces to account for in the development of this plan as commercial and industrial waste contracts are typically between two private entities. With local data not available, staff reviewed a variety of data sources and methodologies. Staff concluded that national data averages for commercial waste generation and diversion may not accurately reflect our areas trends, however, the methodology used by Washtenaw County in their Solid Waste Plan Update in 2017 to develop their commercial waste generation and diversion estimates seemed sound and could be used to calculate Genesee County quantities. County staff used the results of the Washtenaw County plan to determine the commercial waste generation for Genesee County.

The Washtenaw County methodology was developed by surveying a sample of local businesses regarding their waste and diversion quantities. They used the sample data to make assumptions regarding specific business sectors such as per employee waste generation quantities and diversion rates. The benefit of this methodology is that when projecting future waste generation and diversion quantities for industries one can better account for shifts in the economy, such as a workforce moving from a manufacturing-based economy to a service-based economy, that may dramatically increase or decrease waste generation and diversion. These quantities and rates determined by Washtenaw County were used with Genesee County industry sector employee data and employment projections to calculate current and future waste and diversion quantities for the County. This data was then used to create growth factors for future years for waste and diversion quantities. Recognizing that the quantities generated from this methodology are estimates, staff concluded that the growth factors themselves were developed from a sound methodology and should be used for further analysis in the development of the plan.



To estimate commercial waste generated in the year 2020, staff subtracted residential waste quantities provided by the Annual EGLE Landfill reports from the EGLE Municipal Solid Waste (MSW) generation total for Genesee County.

Total Municipal Solid Waste - Residential Waste = Commercial Waste

This quantity is identified as the base quantity of commercial waste generated for the plan. The calculated growth factor percentages were applied to this base quantity to generate future commercial waste generation. The commercial waste generation growth factor percentages were calculated from the corresponding industry sector charts listed in the appendix of Technical Report 1. The Waste Generation Rate and Work Days columns in **Figure 7** were taken from the Washtenaw County plan and used to determine the Total Commercial Waste Generated Percent Increase in **Figure 8**.

Total Waste Generated

Figure 9 details the total waste generated for 2017 in Genesee County, as well as waste generation projections through 2045 using population projections from the Genesee: Our County, Our Future plan. This estimated rate of waste generation gives the County an idea of how to plan for increases in waste and look for methods to help reduce waste generation.

Figure 7 Commercial Waste Generation Rate

Industry	Waste Generation Rate lbs./employee/day	Work Days
Manufacturing	8.6	6.33
Other	8.6	5
Transportation	7.29	5
Finance	8.6	5
Retail	5.55	6.44
Wholesale	7.29	6.43
Service	8.6	5.71
Government	8.6	5

Source: Washtenaw County Solid Waste Management Plan

Figure 8 Commercial Waste Generated % Increase

Year	Total Commercial Waste Generated % Increase
2020	-
2025	0.50%
2030	0.08%
2035	0.22%
2040	0.19%
2045	0.21%

Source: GCMPC Waste Generation Table and EGLE Annual Landfill Reports

Overall, population in Genesee County is projected to slightly decrease. The total annual waste generation (CY) is projected to be about the same at 1,284,719 cubic yards in 2017 and 1,284,727 in 2045. The residential and industrial sections are projected to decrease while the commercial sector is projected to increase by 2.3%.

Figure 9 Total Waste Generated (cubic yards per year)

Sector	2017	2020	2025	2030	2035	2040	2045
Residential*	405,384	404,289	403,642	403,481	403,763	404,409	404,814
Commercial	413,518	417,943	420,032	420,410	421,335	422,136	423,211
MSW Sub-total	1,028,111	1,030,333	1,029,965	1,028,861	1,028,861	1,028,330	1,028,047
Construction / Demolition	203,853	240,000	203,985	203,943	203,928	203,922	203,910
Industrial Special Waste	52,755	52,793	52,789	52,778	52,775	52,773	52,770
Total Annual Cubic Yards	1,284,719	1,287,125	1,286,740	1,285,582	1,285,193	1,285,025	1,284,727
Population	408,868	405,553	402,253	401,362	402,689	405,931	407,870
Pop Growth Rate (%)	N/A	-0.27%	-0.16%	-0.04%	0.07%	0.16%	0.10%

*Does not include multi-family data

Source: Genesee: Our County, Our Future, 2045 Employment Projections

Genesee County does not anticipate any problems associated with managing the stream of solid waste generated in the County. In **Figure 10**, approximately 1,284,719 cubic yards of waste are generated in Genesee County annually (approximately 3,520 cubic yards/day), based on 2017 data. Roughly, 115,624 cubic yards of that generated waste is diverted from the waste stream, annually, through various resource conservation efforts. This leaves approximately 1,169,095 cubic yards of waste needing disposal on a yearly basis.

Figure 10 Total Genesee County Waste	
Total Waste Generated (annually)	1,284,719 cubic yards
Total Waste Diverted (annually)	115,624 cubic yards
Total Waste Needing Disposal (annually)	1,169,095 cubic yards

Source: GCMPC Waste Generation Table and EGLE Annual Landfill Reports

Solid Waste Disposal Area Summaries

This plan must include an inventory and description of all solid waste disposal areas within the County. Also included are facilities to be utilized by the County to meet its disposal needs for the planning period.

In November 2021, GCMPC requested that all waste disposal, transfer station, recycling, and compost facility owners submit description surveys about their facilities for the Plan amendment. Staff collected facility information from three in county landfills, two out of county landfills, four transfer stations, one recycling center, and one compost facility. The facility descriptions are provided for the purpose of showing that Genesee County can continue to dispose of waste in those locations over the next 26

years. There are two Type II landfills in operation that are located in Genesee County and one Type III landfill that will only operate if there are changes to state or federal disposal regulations related to PFAS. Brent Run and Citizens Disposal are both open for public use and take municipal solid waste and the Genesee County Department of Water and Waste Services Landfill will only accept wastewater sludge and biosolids for disposal. All landfills accepting waste in and out of the County are privately owned. The Venice Park landfill in Shiawassee County and the People’s Landfill in Saginaw County are included because waste generated in Genesee County is frequently exported there. Also listed as part of the facility descriptions are transfer stations and a compost facility. Transfer stations operate by collecting waste from disposal trucks and transporting it to landfills. There are two types of transfer facilities identified in state regulations. Type A facilities accept over 200 cubic yards of waste per day from mechanical compaction vehicles. Type B facilities accept less than 200 cubic yards per day and do not use mechanical compaction vehicles. Compost facilities collect yard waste, food scraps, and other organics to be turned into compost, mulch, or other soil additives. All disposal and waste diversion facilities in this plan are crucial for managing solid waste and other material within the county.

Solid Waste Collection Services and Transportation Infrastructure

This plan is required to describe the solid waste collection services and transportation infrastructure that will be utilized within the County to collect and transport solid waste.

The solid waste and collection services and transportation infrastructure is listed in the Selected System section, on page 46.



Evaluation of Solid Waste Deficiencies

In collaboration with the Solid Waste Management Planning Committee (SWMPC), staff was able to analyze the current solid waste system through a visioning process. The goal of this process was to provide the committee with an opportunity to discuss current issues of the solid waste system and how it could potentially be improved for the future. Staff asked members to identify deficiencies in the current solid waste system. Staff then refined the input provided by the solid waste planning committee into six main deficiencies. Genesee County's solid waste system deficiencies are identified as hard to dispose materials, education, legislation, enforcement, diversion, and local waste contracts. Below is a brief description of each deficiency paired with an established goal identifying how the deficiency could be addressed.

Hard to Dispose Materials

Although household hazardous waste (HHW) collection events are held periodically throughout the year, it is difficult for residents to properly dispose of these items. The current event format for HHW collection is seasonal which means a person must wait until a specific time and location is set up for them to dispose of their unwanted materials. These events are frequently very busy and there are few other local drop off disposal sites that accept the same type of materials. Residents also struggle to properly dispose of large-scale items including mattresses, construction waste, tires, or appliances. Sometimes these items may be accepted through a curbside garbage collection program, but there could be certain requirements for how the item should be put to the curb. More often, waste haulers will not take these items curbside, so residents must find a local company that would potentially accept the item. However, this is a confusing process for the resident since there isn't a one-stop location where residents can be sure that their hard-to-dispose items will be accepted. One potential solution on how to address this significant issue is to establish a permanent HHW collection site where residents can drop-off items on a regular basis.

A permanent HHW collection site is becoming more of a necessity to Genesee County as the event format used in previous years is becoming unsustaina-

ble. Once this site is established, expanding operations to collect electronics and large materials such as tires is sure to further increase materials management strategies in the County.

Goal Addressing Hard to Dispose Materials Deficiency:

Implement a sustainable materials management program with the main objective of reducing the overall amount of waste generated in Genesee County. Utilize resource conservation technologies such as recycling and composting.

Education

Education is an important factor in our solid waste system to assist in moving towards higher recycling participation as well as better quality recycling. Despite the efforts that are currently being conducted by County staff for materials management education, including presentations, attending local events, and social media efforts, the education program lacks the overall strength it needs to reach more people. This programming has become even more difficult during the COVID-19 pandemic where in-person gatherings and events are few and far between. To get an idea of how many people in Genesee County are aware of and participating in their communities' curbside recycling program, staff conducted a recycling participation windshield survey. This survey conducted in 2022 determined that about 52% of residents were participating in curbside recycling. This data point allows staff to target communities where there is a significant need for materials management education across Genesee County. While waste haulers within the County provide local units with recycling guides based on their services, they do not regularly provide recycling information or resources to their communities. Education in this area should not only be specific to recycling, but other environmental issues such as waste reduction, littering, composting, and reuse. Future educational efforts should aim to be clear, concise, and focus on local recycling issues.

To address the issue of education, the County will need to further expand the education program to reach a greater population of school children, community groups, and adult residents. Most residents find their information from their community's website as well as other internet sources. It will be important to continuously update these sources to provide updated information on what kinds of materials residents can recycle. Educating residents on the overall benefits of reducing waste generation should also become a priority.

Goal Addressing Education Deficiency:

Improve education and awareness of recycling, composting, and reuse of materials to support overall diversion of waste in the County.

Legislation

Another deficiency that was prioritized related to legislation, specifically support for updating Part 115 which is Michigan's solid waste policy and laws under the Natural Resources and Environmental Protection Act (Act 451 of 1995). In recent years, shifting from establishing landfill capacity to the mindset of materials management and diversion techniques has become a popular topic of discussion in Michigan. State officials from EGLE have helped to pass the new update to Part 115 of Act 451 which relates to solid waste management policies. These policy changes are crucial in assisting Michigan in reaching the statewide goal of increasing diversion through recycling and composting. Even though Part 115 has passed, support and guidance for implementing this bill is still needed. Support during this update will have a positive effect on not only Genesee County's Solid Waste System, but Michigan's statewide system as well. Also, the state has a bottle deposit bill in place where consumers pay a 10-cent deposit on each can or bottle of certain beverages they purchase. These funds are then repaid to the consumer when they return the can or bottle for recycling at a store capable of accepting the containers. This program has helped to increase recycling rates for these materials. However, the bottle bill mainly applies to pop and beer containers only. Some consider the current bottle bill to be lacking and could be expand-

ed to include additional beverage containers such as juice and water bottles. It is important to consider the effects that expanding this bill will have on material recovery facilities (MRF) due to the subsequent decrease in plastic based materials that MRFs would no longer receive. Expansion could result in negative financial impacts for many recycling facilities. Additionally, bans on materials like plastic bags have taken place in other states and cities across the United States. Due to the significant negative impact that plastics tend to have on the environment, it is important to consider banning certain plastics. Although addressing these deficiencies may be out of the scope of the solid waste planning committee, it is important to establish support for potential changes to statewide legislation that will have a positive impact on materials management.

The newly passed Part 115 will make improvements to the solid waste planning process, require composting facilities to be added into solid waste plans, and put more of a focus on materials management rather than landfilling all waste. Staff should also inform local units of government and encourage support for other legislation that outlines more extended producer responsibilities for materials management.

Goal Addressing Legislation Deficiency:

Implement and maintain an integrated materials management plan to ensure a healthy environment and financially sound solid waste system.



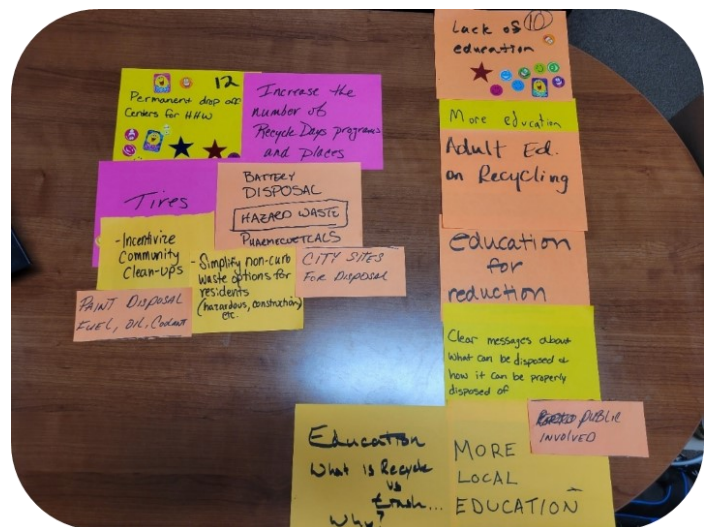
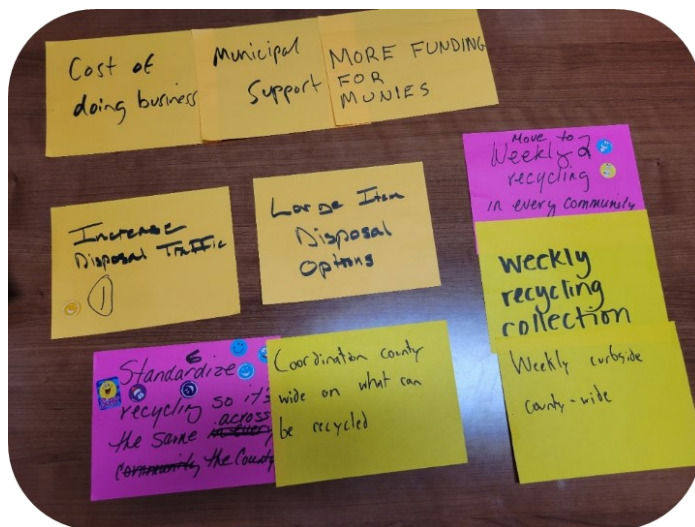
Enforcement

There were a variety of enforcement issues also identified. The current Genesee County Solid Waste Ordinance and fees collected through the Ordinance do not include adequate enforcement of solid waste activities in the County. The ordinance states that the ordinance administrator is responsible for enforcing its provisions with no other specific enforcement language included. Waste haulers operating within the County are required to report to County staff quarterly, but more can always be done to increase the accountability of these haulers. For example, waste haulers are currently not required to report how much yard waste is picked up. This is potentially a factor that could be added to the quarterly reports to get a better idea of how much waste is diverted from the landfills and where this material is taken. Landfills here are monitored and held accountable by the state, but there are still County-wide enforcement improvements that could be made as well. Another enforcement issue mentioned was related to illegal waste dumping in local communities. There is currently little enforcement done by local units of government to prevent illegal dumping nor are there any measures being taken to penalize offenders or clean up dumped waste. Additionally, there needs to be more education on what should be placed into curbside recycling bins. Adult education should be prioritized to solve this issue. Residents frequently bag recyclables, place items in their bins that cannot be recycled, and contaminate materials with other dirty recyclables.

To improve enforcement strategies, staff should evaluate the Ordinance to include specific language on how enforcement will be administered consistently and incorporate more complete collection and monitoring requirements. Look at other best practices to establish penalties for dumping and County-wide environmental protection regulations.

Goal Addressing Enforcement Deficiency:

Implement a sustainable materials management program with the main objective of reducing the overall amount of waste generated in Genesee County. Utilize resource conservation technologies such as recycling and composting.



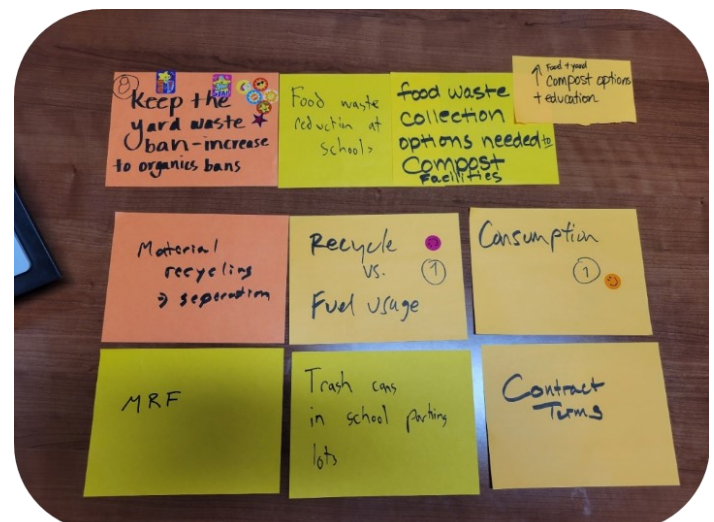
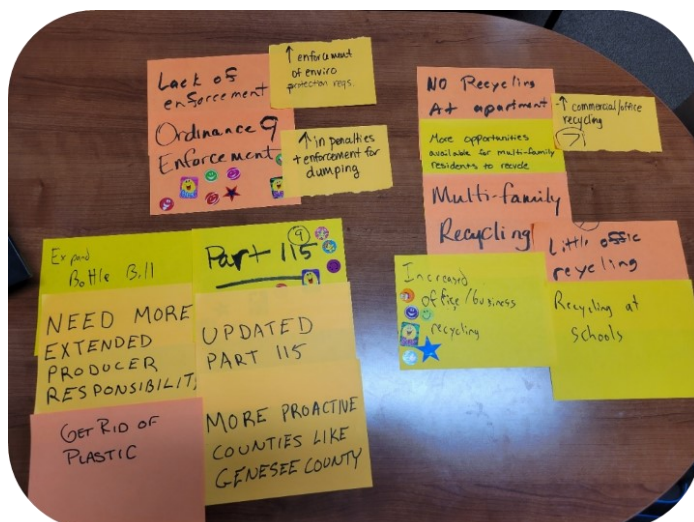
Diversion

Currently, all communities in the County provide curbside yard waste pickup services during select times of the year. Outside of these pickups, residents are left to properly dispose of yard waste through local composting companies as yard waste is not allowed to be disposed at landfills. Although there are programs geared towards yard waste disposal, organic waste like food scraps are often left out. More food waste collection programs could be implemented as well as education around food waste reduction could take place to improve this deficiency. A second concern is that there is also no large-scale drop-off recycling center in Genesee County. This means that multi-family housing developments are not able to recycle since they are typically not included with curbside recycling programs and often are not provided recycling by their property owners. Also, many businesses and public facilities like schools throughout the County are not providing recycling unless they have specifically requested this service from their waste hauler. With a current diversion rate of 9%, it is evident that diverting waste from the landfills in Genesee County needs to be enhanced. The County's low diversion is primarily due to the lack of composting and recycling access across all housing types. Data collection also makes it difficult to identify programming that should be prioritized, as well as materials management infrastructure such as recycling centers, material recovery facilities, and transfer stations where material separation occurs.

Waste diversion is an important factor in decreasing the overall amount of waste sent to landfills. Specific actions should be taken to increase the diversion rate in the County through education and awareness. Data collection of all materials able to be diverted from a landfill should be evaluated to accomplish this goal. Waste assessments could become vital to increasing the diversion rate within the County. Special attention should be given to organic diversion. This can be accomplished by establishing regular food and yard waste collection programs. Other types of single stream recycling programs can assist with increasing diversion rates as well such as, providing recycling to multi-family residences, office buildings, and schools.

Goal Addressing Diversion Deficiency:

Implement and maintain an integrated materials management plan to ensure a healthy environment and financially sound solid waste system.



Local Waste Contracts

In Genesee County, the local units of government contract with various haulers at different price points and often receive different services such as weekly or bi-weekly recycling as well as being provided a handheld recycle bin or a wheeled recycle cart. Since communities are not working together on shared waste service contracts, sometimes information on what can be recycled or when pickup days are can become confusing to residents. Additionally, since each communities' waste service program varies, it creates more challenges for staff to properly educate and help residents to understand the nuances of each program. If a shared standard on collection and disposal components was adopted by local units, waste hauling companies, and material recovery facilities, recycling education programs could become more simplified within the County. On the other hand, if too many local units were to establish regional contracts with neighboring communities, it could potentially be damaging to the waste hauling economy here as there is not one company that can meet the needs of every community on its own. Waste haulers determine the price that local units pay for their services based on factors such as the proximity to the service location, the number of households in the community, and the density of households within the service routes. Partnerships to create a shared standard on recyclables, but not necessarily on pricing could be beneficial to Genesee County waste services.

Local waste contracts are present in every community and outline the specifics of how solid waste will be handled in that municipality. In an effort to promote cost effectiveness and efficiency for all, it is suggested that communities and businesses collaborate to reduce costs and increase management opportunities. Every community could see financial and environmental benefits from a Countywide shared standard of recyclable items and best recycling practices. Developing these more refined materials management practices will improve the quality of life in Genesee County, creating a more desirable area to live and work in, in addition to attracting and retaining other forms of economic development.

Goal Addressing Local Waste Contracts Deficiency:

Develop a materials management program that helps retain and attract economic development in Genesee County.



Demographics

This section presents the current and projected population densities, identification of current and future socioeconomic projections, and solid waste generation including industrial solid waste as related to the Selected Solid Waste Management System. Solid waste generation data is expressed in tons or cubic yards.

Figure 11 shows the population growth rate between 2014 and 2045 was found to be slightly lower than expected, changing from 412,895 to 407,870 over a 30 year period. Employment on the other hand, is projected to increase over this same period from 191,542 to 221,643. While Manufacturing, Retail Trade, and Wholesale Trade jobs will all decrease over this same period, Services, Transportation and Public Utilities, Government, and Other jobs are expected to increase. The Services sector is substantially going to increase, resulting in an overall County estimate of about 32,000 more jobs by the year 2045. These projections significantly affect commercial waste generation estimates as each industry sector produces different amounts of waste per employee.

Land Development

The following describes current and projected land development patterns, as related to the Selected Solid Waste Management System, for the next five and ten year periods.

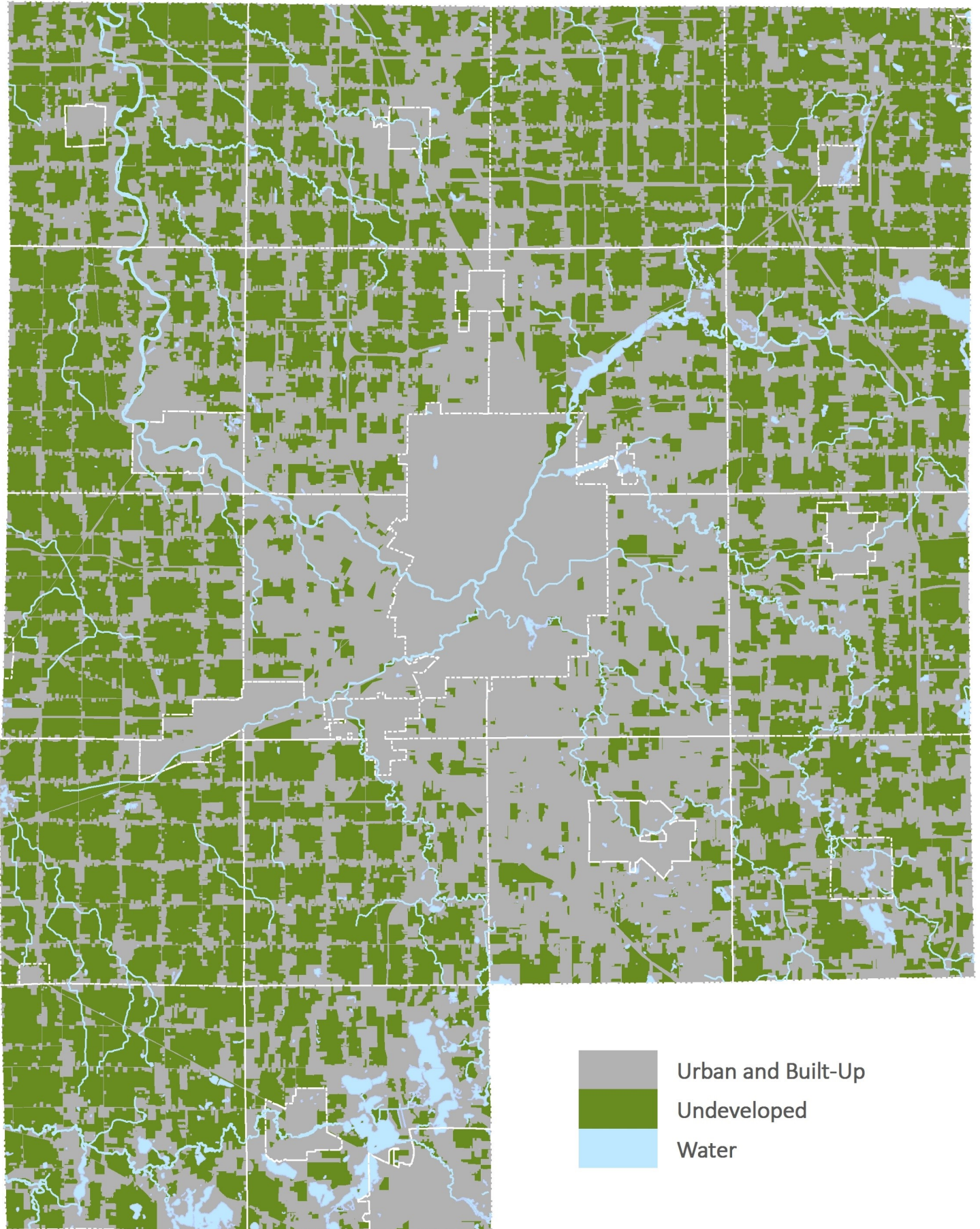
In 2018, the GCMPC performed an analysis of the past and current land use trends in Genesee County. The results of this analysis show that of the 407,318 acres that make up Genesee County, about 50% of those acres are agricultural and other undeveloped land. However, mainly due to residential development in our rural townships, agricultural land is depleting. Of the remaining land uses, the single family residential (SFR) use dominates the landscape. A total of 80% of the “built” environment in Genesee County is comprised of SFR development. Land use trends in the County have relied heavily on land consumption with the majority of development occurring on agricultural lands and other open spaces. With part of the County consisting of single-family residential developments and residential waste currently 32% of the total waste generated in the County, it is important to take into consideration land development trends when projecting solid waste capacity in Genesee County. Possible changes in waste generation may result from the residential sector if these land use trends should continue. **Map 2**, on the next page, identifies the land use in Genesee County as Urban and Built- Up or Undeveloped.

Figure 11 Genesee County 2014-2045 Socioeconomic Projections

Employment Category	2014	2020	2025	2035	2040	2045
Manufacturing	13,090	14,309	13,431	12,504	12,013	11,547
Other	10,487	12,023	12,068	11,670	11,416	11,168
Transportation and Public Utilities	5,362	5,822	5,823	6,134	6,387	6,645
Finance, Insurance and Real Estate	19,981	21,523	21,114	20,184	19,787	19,411
Retail Trade	24,602	23,701	23,200	22,373	22,072	21,780
Wholesale Trade	6,277	6,014	5,970	5,750	5,556	5,372
Services	89,533	103,929	109,972	115,393	118,523	121,743
Government	22,210	22,836	23,107	23,107	23,789	23,977
Total Employment	191,542	209,887	214,685	217,610	219,543	221,643
County Population Estimates	412,895	405,533	402,253	402,689	405,931	407,870

Source: Genesee: Our County, Our Future, 2045 Employment Projections

Map 2 Genesee County Built Environment



Source: Genesee: Our County, Our Future, Land Use Technical Report

Solid Waste Management Alternatives

This summary describes all the solid waste management systems considered by Genesee County and how each alternative will help meet the needs and goals established in this plan. The current predominant method of disposal in Genesee County is disposing of waste at four major Type II municipal solid waste landfill sites, which includes one located in Shiawassee County and one located in Saginaw County. An additional Type III landfill is approved for inclusion in the plan under certain conditions, but will not accept municipal waste. This landfill will only accept wastewater sludge and biosolids from Genesee County owned wastewater treatment plants. The details of the selected alternatives are in the following section.

Selected Solid Waste Management System

The Selected Solid Waste Management System (Selected System) is a comprehensive approach to managing Genesee County's solid waste and recoverable materials. The Selected System addresses the generation, transfer and disposal of Genesee County's solid waste. It aims to reduce the amount of solid waste sent for final disposal by volume reduction techniques and by various resource conservation and resource recovery programs. It also addresses collection processes and transportation needs that provide the most cost effective, efficient service. Proposed disposal areas location and capacity to accept solid waste are identified as well as program management, funding, and enforcement roles for local agencies. Detailed information on recycling programs, evaluation, and coordination of the Selected System is included in Appendix B. Following is an overall description of the Selected System:

Genesee County has selected a plan for solid waste management that calls for a combination of techniques to reduce the amount of solid waste being generated and diverted in the County. The Selected System fits the characteristics and needs of Genesee County. The implementation of the Selected System will be managed by Genesee County Metropolitan Planning Commission, the designated planning agency. The private sector will be involved with the col-

lection, disposal and recycling of solid waste generated in the County.

The current system for waste management in Genesee County is based on a plan that includes land-filling, recycling, composting, and other materials management strategies. Because Genesee County has an established solid waste management system, the following goals will serve as the means to enhance and improve the current system. These goals were created by the SWMPC and focus on materials management, education, and waste reduction. More information on Goals and Objectives can be found in Technical Report 3:

- Implement and maintain an integrated materials management plan to ensure a healthy environment and financially sound solid waste system.
- Improve education and awareness of recycling, composting, and reuse of materials to support overall diversion of waste in the County.
- Implement a sustainable materials management program with the main objective of reducing the overall amount of waste generated in Genesee County. Utilize resource conservation technologies such as recycling and composting.
- Develop a materials management program that helps retain and attract economic development in Genesee County.

Materials Management Technologies

This plan will develop a flexible and sound strategy for management of the waste system. It is the intent to review our new plan in five (5) years in order to adjust to current and projected needs within Genesee County.

The following are technologies that are available to manage and sustain the waste management system in Genesee County:

1. **Waste Reduction:** As a County planning agency, education is a key component to achieving overall reductions in waste generation. The industrial and commercial sectors are a large factor in making significant improvements in this area as incentives to reduce solid wastes are economical and feasible. Voluntary waste assessments could be conducted in commercial and industrial sectors to help improve overall reductions.

2. Composting: This is a low technology application for reducing yard and leaf waste from the waste stream. Currently the County relies on local municipalities to manage yard waste. Since the statewide ban on landfilling of yard waste was enacted, communities have been required to establish alternatives, such as composting for management of this element. EGLE has since recommended that residents who generate lawn clippings, food scraps, and leaves use home composting methods to dispose of organic materials. Education and implementation of local compost programs would also help to deter compost materials from the landfills.

3. Recycling: Recycling is the separation, collection and processing of materials that would otherwise become solid waste, for conversion into raw materials or new products. The current average County-wide residential recycling rate is approximately 6% and the average participation rate is 52%, with all local units participating in curbside recycling. One goal of the plan addresses increasing the recycling rate to reduce waste being landfilled overall. While recycling is also practiced throughout the commercial and industrial sectors, data for those sectors was not collected due to the difficulty of obtaining data as commercial and industrial sectors all have private contracts with waste haulers.

Education is a key component of increasing recycling rates in all sectors. This will include, providing materials management information and outreach to children and adults and conducting waste assessments. Additionally, research conducted in coordination with Resource Recycling Systems (RRS) showed support for the implementation of a permanent materials recovery facility to process curbside recyclables and a household hazardous waste drop off site in Genesee County that would handle hazardous waste and electronics collection for communities within and outside of the County, creating jobs in the solid waste industry.

4. Landfilling: The landfilling of solid waste is the final component of the solid waste system in Genesee County and will continue to remain a viable technology for disposal of wastes. Landfills must be properly constructed, licensed and operated.

Summary

The most effective materials management techniques for Genesee County will be a combination of all of the aforementioned technologies. In short term, the plan will focus on increasing composting and recycling throughout the communities in the County, while the remaining waste should be handled through the landfill system.



Importation and Exportation Authorizations

Importing or exporting solid waste with Genesee County is contingent upon the following:

- Genesee County must have ample space to accommodate solid waste imported from other counties.
- Should a County choose to impose amount restrictions on Genesee County, the restrictions will be mutual.
- Genesee County must be named in the importer's/exporter's respective Solid Waste Management Plans.

Figures 12 and 13 specifically list only those Counties that responded to Genesee County's requests for import/export authorizations.

Import Authorization

If a Licensed solid waste disposal area is currently operating within the County, disposal of solid waste generated by the exporting county is authorized by the importing county up to the authorized county according to the conditions authorized in **Figure 12**.

If a new solid waste disposal area, excluding a type III landfill, is constructed and operating in the future in the County, then disposal of solid waste generated by the exporting county is authorized by the importing county up to the authorized quantity according to the authorized conditions. There are no future import authorizations at this time. Future import authorizations are contingent on new facilities being sited.



Figure 12 Current Import Volume of Solid Waste

Importing County	Exporting County	Facility Name ¹	Authorized Quantity/ Daily	Authorized Quantity/ Annual	Authorized Conditions ²
Genesee	Allegan	N/A			P
Genesee	Bay	N/A			P
Genesee	Calhoun	N/A			P
Genesee	Charlevoix	N/A			P
Genesee	Clinton	N/A			P
Genesee	Eaton	N/A			P
Genesee	Grand Traverse	N/A			P
Genesee	Gratiot	N/A			P
Genesee	Ingham	N/A			P
Genesee	Kalamazoo	N/A			P
Genesee	Kalkaska	N/A			P
Genesee	Lapeer	N/A			P
Genesee	Lenawee	N/A	1,100TPD		P
Genesee	Livingston	N/A			P
Genesee	Montcalm	N/A			P
Genesee	Osceola	N/A			P
Genesee	Saginaw	N/A	1,000TPD		P
Genesee	Sanilac	N/A			P
Genesee	Shiawassee	N/A			P
Genesee	St. Joseph	N/A			P
Genesee	Tuscola	N/A			P
Genesee	Washtenaw	N/A			P
Genesee	Wayne	N/A		100,000gcy	P
Genesee	All Other Michigan Counties	N/A			P

¹Facilities are only listed if the exporting county is restricted to using specific facilities within the importing county

²Authorization indicated by P= Primary Disposal, S= Secondary Disposal; *= Other conditions exist and a detailed explanation is included in the Attachment Section. TPD= Tons per day; gcy= gate cubic yard

Export Authorization

If a licensed solid waste disposal area is currently operating within another County, disposal of solid waste generated by the exporting county is authorized up to the authorized quantity according to the conditions authorized in **Figure 13** if authorized for import in the approved Solid Waste Management Plan of the receiving County.

Figure 13:

If a new solid waste disposal area is constructed and operating in the future in another County, then disposal of solid waste generated by the exporting county is authorized up to the authorized county according to the authorized conditions. There are no future export authorizations at this time. Future export volume authorizations are contingent on new facilities being sited.

Figure 13 Current Export Volume Authorization of Solid Waste

Importing County	Exporting County	Facility Name ¹	Authorized Quantity/ Daily	Authorized Quantity/ Annual	Authorized Conditions ²
Bay	Genesee	N/A			P
Clinton	Genesee	N/A			P
Grand Traverse	Genesee	N/A			P
Gratiot	Genesee	N/A			P
Ingham	Genesee	N/A			P
Lapeer	Genesee	N/A			P
Lenawee	Genesee	N/A	1,100TPD		P
Livingston	Genesee	N/A			P
Montcalm	Genesee	N/A			P
Oakland	Genesee	N/A			P
Osceola	Genesee	N/A			P
Saginaw	Genesee	N/A	1,000TPD		P
Sanilac	Genesee	Tri-City RDF			P
Shiawassee	Genesee	N/A			P
St. Joseph	Genesee	N/A			P
Tuscola	Genesee	N/A			P
Washtenaw	Genesee	N/A			P
Wayne	Genesee	N/A		100,000gcy	P
All Other Michigan Counties	Genesee	N/A			P

¹Facilities are only listed if the exporting county is restricted to using specific facilities within the importing county

²Authorization indicated by P= Primary Disposal; S= Secondary Disposal; * Other conditions exist and a detailed explanation is included in the Attachment Section. TPD= Tons per day; gcy= gate cubic yards

Solid Waste Disposal Areas

This section identifies the names of existing disposal areas which will be utilized to provide the required capacity and management needs for the solid waste generated in Genesee County for the next ten years. The next pages contain descriptions of the solid waste disposal facilities which are located within the County and the disposal facilities located outside Genesee County which will be utilized by the County for the planning period. Additional facilities within the County with applicable permits and licenses may be utilized by this plan, or amended into this plan, and become available for disposal. If this plan is amended to identify additional facilities in other counties outside Genesee County, those facilities may only be used if such import is authorized in the receiving County's plan. Facilities outside of Michigan may also be used if legally available for such use. Note that the recycling facilities, compost facilities, and transfer stations listed in the plan were those facilities that responded to the request.

Type II Landfill

Brent Run Landfill

Citizens Disposal Landfill

People's Landfill

Venice Park Landfill

Type III Landfill

Genesee County Department of Water and Waste Services Landfill

Incinerator

N/A

Waste-to-Energy Incinerator

N/A

Type A Transfer Facility

Genesee Waste Services

GFL Transfer Station

Happy Can Disposal Transfer Station

Resource Recovery of Burton Transfer Station

Type B Transfer Station

N/A

Processing Plants

N/A

Waste Piles

N/A

Other

Recycling Centers

Averill Recycling Inc

Compost Facility

Country Oaks Landscape Supply



Solid Waste Facility Description Form

Facility Type: Type II Municipal Solid Waste Landfill

Town: 9N Range: 5E Section(s): 23

Facility Name: Brent Run Landfill

County: Genesee

Address: 8335 W Vienna Road, Montrose, MI 48457

Map identifying location in Attachment Section: ☒ Yes ☐ No

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

☐ Public ☒ Private Owner: GFL Environmental Inc.

Operating Status (check):

Waste Types Received (check all that apply):

- ☒ Open
- ☐ Closed
- ☒ Licensed
- ☐ Unlicensed
- ☒ Construction Permit
- ☐ Open, but Closure
- ☐ Pending

- ☒ Residential
- ☒ Commercial
- ☒ Industrial
- ☒ Construction & Demolition
- ☒ Contaminated Soils
- ☒ Special Wastes*
- ☐ Other: _____

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

Non-hazardous, non-regulated solid waste.

Site Size:

Total area of facility property	<u>942.6</u>	acres	
Total area sited for use:	<u>764.2</u>	acres	
Total area permitted:	<u>154.5</u>	acres	
Operating:	<u>131.37</u>	acres	
Not excavated:	<u>23.13</u>	acres	
Current capacity:	<u>12,995,292</u>	<input type="checkbox"/> tons or <input checked="" type="checkbox"/> yards cubed	
Estimated lifetime:	<u>12.9</u>	years	
Estimated days open per year:	<u>286</u>	days	
Estimated yearly disposal volume:	<u>370,034</u>	<input type="checkbox"/> tons or <input checked="" type="checkbox"/> yards cubed	
Annual energy production (If Applicable):			
Landfill gas recovery projects:	<u>61,320</u>	megawatts	
Waste-to-energy incinerators:	<u>N/A</u>	megawatts	

*Permit No. 4138, issued on December 20, 2013, identifies 154.5 acres permitted for waste disposal. Construction for waste disposal beyond this acreage will require a new construction permit.

This facility is automatically consistent as written in this plan.

Solid Waste Facility Description Form

Facility Type: Type II Municipal Landfill

Town: 6N Range: 6E Section(s): 23

Facility Name: Citizens Disposal

County: Genesee

Address: 2361 W. Grand Blanc Rd, Grand Blanc, MI 48439

Map identifying location in Attachment Section: ☒ Yes ☐ No

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

☐ Public ☒ Private Owner: Citizen's Disposal Inc

Operating Status (check):

Waste Types Received (check all that apply):

<input checked="" type="checkbox"/> Open	<input checked="" type="checkbox"/> Residential
<input type="checkbox"/> Closed	<input checked="" type="checkbox"/> Commercial
<input checked="" type="checkbox"/> Licensed	<input checked="" type="checkbox"/> Industrial
<input type="checkbox"/> Unlicensed	<input checked="" type="checkbox"/> Construction & Demolition
<input checked="" type="checkbox"/> Construction Permit	<input checked="" type="checkbox"/> Contaminated Soils
<input type="checkbox"/> Open, but Closure	<input checked="" type="checkbox"/> Special Wastes*
<input type="checkbox"/> Pending	<input checked="" type="checkbox"/> Other: <u>Asbestos</u>

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

Non-hazardous waste permitted for disposal under Part 115 rules; asbestos accepted in accordance with NESHAP regulations.

Site Size:

Total area of facility property	<u>313.7</u>	acres
Total area sited for use:	<u>236.5</u>	acres
Total area permitted:	<u>109</u>	acres
Operating:	<u>91.14</u>	acres
Not excavated:	<u>17.86</u>	acres
Current capacity:	<u>17,400,000</u>	<input type="checkbox"/> tons or <input checked="" type="checkbox"/> yards cubed
Estimated lifetime:	<u>14</u>	years
Estimated days open per year:	<u>286</u>	days
Estimated yearly disposal volume:	<u>400,000</u>	<input checked="" type="checkbox"/> tons or <input type="checkbox"/> yards cubed
Annual energy production (If Applicable):		
Landfill gas recovery projects:	<u>60,000</u>	megawatts
Waste-to-energy incinerators:	_____	megawatts

This facility is automatically consistent as written in this plan.

Solid Waste Facility Description Form

Facility Type: Type II Landfill

Town: 10N Range: 5E Section(s): 10, 15

Facility Name: Peoples Landfill, Inc.

County: Saginaw

Address: 4143 East Rathbun Road, Birch Run, Michigan, 48415

Map identifying location in Attachment Section: ☒ Yes ☐ No

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

☐ Public ☒ Private Owner: Waste Management of Michigan

Operating Status (check):

Waste Types Received (check all that apply):

- ☒ Open
- ☐ Closed
- ☒ Licensed
- ☐ Unlicensed
- ☒ Construction Permit
- ☐ Open, but Closure
- ☐ Pending

- ☒ Residential
- ☒ Commercial
- ☒ Industrial
- ☒ Construction & Demolition
- ☒ Contaminated Soils
- ☒ Special Wastes*
- ☐ Other: _____

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

asbestos, sludge, soil

Site Size:

Total area of facility property 163.5 acres

Total area sited for use: 104.9 acres

Total area permitted: 104.9 acres

Operating: 70 acres

Not excavated: 7.4 acres

Current capacity: 20,200,000 ☐ tons or ☒ yards cubed

Estimated lifetime: 21 years

Estimated days open per year: 281 days

Estimated yearly disposal volume: 230,000 ☒ tons or ☐ yards cubed

Annual energy production (If Applicable):

Landfill gas recovery projects: 4.0 megawatts

Waste-to-energy incinerators: _____ megawatts

Solid Waste Facility Description Form

Facility Type: Type II Landfill

Town: 7N Range: 4E Section(s): 26-27

Facility Name: Waste Management of Michigan / Venice Park Recycling and Disposal Facility

County: Shiawassee

Address: 9536 Lennon Rd Lennon Michigan 48449

Map identifying location in Attachment Section: ☒ Yes ☐ No

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

☐ Public ☒ Private Owner: Waste Management of Michigan

Operating Status (check):

Waste Types Received (check all that apply):

- ☒ Open
- ☐ Closed
- ☒ Licensed
- ☐ Unlicensed
- ☒ Construction Permit
- ☐ Open, but Closure
- ☐ Pending

- ☒ Residential
- ☒ Commercial
- ☒ Industrial
- ☒ Construction & Demolition
- ☒ Contaminated Soils
- ☒ Special Wastes*
- ☒ Other: Solidification Operation

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

Asbestos, Medical Wastes

Site Size:

Total area of facility property	<u>346.97</u>	acres
Total area sited for use:	<u>208.4</u>	acres
Total area permitted:	<u>208.4</u>	acres
Operating:	<u>96.7</u>	acres
Not excavated:	<u>19.4</u>	acres
Current capacity:	<u>20,860,000</u>	<input type="checkbox"/> tons or <input checked="" type="checkbox"/> yards cubed
Estimated lifetime:	<u>24.0</u>	years
Estimated days open per year:	<u>281</u>	days
Estimated yearly disposal volume:	<u>290,000</u>	<input checked="" type="checkbox"/> tons or <input type="checkbox"/> yards cubed
Annual energy production (If Applicable):		
Landfill gas recovery projects:	<u>6.4</u>	megawatts
Waste-to-energy incinerators:	_____	megawatts

This facility is automatically consistent as written in this plan.

Solid Waste Facility Description Form

Facility Type: Type III Low Hazard Industrial Waste Landfill

Town: 9N Range: 5E Section(s): 10

Facility Name: Genesee Treatment

County: Genesee

Address: 9290 Farrand Road, Montrose, MI 48457

Map identifying location in Attachment Section: ☒ Yes ☐ No

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

☒ Public ☐ Private

Owner: County Agency - Genesee

Operating Status (check):

Waste Types Received (check all that apply):

- ☐ Open
- ☐ Closed
- ☐ Licensed
- ☐ Unlicensed
- ☐ Construction Permit
- ☐ Open, but Closure
- ☒ Pending

- ☐ Residential
- ☐ Commercial
- ☐ Industrial
- ☐ Construction & Demolition
- ☐ Contaminated Soils
- ☒ Special Wastes*
- ☐ Other: _____

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

Biosolids from Waste Water Treatment Plant

Alum Sludge from Water Treatment Plant

Site Size:

Total area of facility property	<u>322.62</u>	acres
Total area sited for use:	<u>89.2</u>	acres
Total area permitted:	<u>N/A</u>	acres
Operating:	_____	acres
Not excavated:	_____	acres

Current capacity:	<u>2,579,997</u>	<input type="checkbox"/> tons or <input checked="" type="checkbox"/> yards cubed
Estimated lifetime:	<u>40</u>	years
Estimated days open per year:	<u>180</u>	days
Estimated yearly disposal volume:	<u>67,000</u>	<input type="checkbox"/> tons or <input type="checkbox"/> yards cubed

Annual energy production (If Applicable):

Landfill gas recovery projects:	<u>N/A</u>	megawatts
Waste-to-energy incinerators:	<u>N/A</u>	megawatts

The Genesee County Drain Commissioner's Office requested the following language to be included with their facility description: Construct a County owned landfill in Section 10 of Montrose Township if the need develops for the facility. The site will only be used as a "back-up" site if the private enterprise is unwilling or unable to provide landfill capacity. This 80-acre site located north of Farrand Road and west of Marshall Road is presently owned by the County.

This landfill will only be considered consistent with the plan in the event that changes in state or federal laws no longer make the currently available alternatives for PFAS disposal viable and sending this waste to a Type III landfill becomes the only feasible option.

Solid Waste Facility Description Form

Facility Type: Type A Transfer Station/Processing Facility

Town: 8N Range: 7E Section(s): 32

Facility Name: Genesee Waste Services/Resource Recovery of Flint

County: Genesee

Address: 5125 N. Dort Highway, Flint, MI 48505

Map identifying location in Attachment Section: ☐ Yes ☒ No

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

☐ Public ☒ Private Owner: Johnnie Moore

Operating Status (check):

Waste Types Received (check all that apply):

- ☒ Open
- ☐ Closed
- ☐ Licensed
- ☐ Unlicensed
- ☐ Construction Permit
- ☐ Open, but Closure
- ☒ Pending

- ☒ Residential
- ☒ Commercial
- ☒ Industrial
- ☒ Construction & Demolition
- ☐ Contaminated Soils
- ☐ Special Wastes*
- ☐ Other: _____

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

Site Size:

Total area of facility property 3.5 acres

Total area sited for use: 3.5 acres

Total area permitted: N/A acres

Operating: _____ acres

Not excavated: _____ acres

Current capacity: N/A ☐ tons or ☐ yards cubed

Estimated lifetime: N/A years

Estimated days open per year: 290 days

Estimated yearly disposal volume: 10,071.32 ☒ tons or ☐ yards cubed

Annual energy production (If Applicable):

Landfill gas recovery projects: N/A megawatts

Waste-to-energy incinerators: N/A megawatts

This facility is automatically consistent as written in this plan.

Solid Waste Facility Description Form

Facility Type: Type A Transfer Station; Processing Facility; MRF

Town: 7N Range: 6E Section(s): 35

Facility Name: Bristol Road Transfer Station

County: Genesee

Address: 2051 W. Bristol Road, Flint, MI 48507

Map identifying location in Attachment Section: ☒ Yes ☒ No

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

☐ Public ☒ Private Owner: GFL Environmental, Inc.

Operating Status (check):

Waste Types Received (check all that apply):

- ☐ Open
- ☐ Closed
- ☐ Licensed
- ☐ Unlicensed
- ☐ Construction Permit
- ☐ Open, but Closure
- ☒ Pending

- ☒ Residential
- ☒ Commercial
- ☒ Industrial
- ☒ Construction & Demolition
- ☐ Contaminated Soils
- ☐ Special Wastes
- ☐ Other: _____

Waste Received Description:

Currently operate a MRF that accepts cardboard, paper, and metal. Intend to upgrade MRF to accept single-stream recyclables

Looking to Site a Type A Transfer Facility to accept MSW and C&D waste

Site Size:

Total area of facility property approx. 30 acres

Total area sited for use: approx. 30 acres

Total area permitted: _____ acres

Operating: _____ acres

Not excavated: _____ acres

Current capacity: TBD ☐ tons or ☐ yards cubed

Estimated lifetime: _____ years

Estimated days open per year: 312 days

Estimated yearly disposal volume: TBD ☐ tons or ☐ yards cubed

Annual energy production (If Applicable):

Landfill gas recovery projects: N/A megawatts

Waste-to-energy incinerators: N/A megawatts

This facility is automatically consistent as written in this plan.

Solid Waste Facility Description Form

Facility Type: Type A Transfer Station/Processing Facility

Town: 7N Range: 7E Section(s): 10

Facility Name: Happy Can Disposal

County: Genesee

Address: 120 S. Center Rd Flint MI 48506

Map identifying location in Attachment Section: ☒ Yes ☐ No

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

☐ Public ☒ Private Owner: Kyle Burnash

Operating Status (check):

Waste Types Received (check all that apply):

- ☒ Open
- ☐ Closed
- ☐ Licensed
- ☒ Unlicensed
- ☐ Construction Permit
- ☐ Open, but Closure
- ☐ Pending

- ☒ Residential
- ☒ Commercial
- ☒ Industrial
- ☒ Construction & Demolition
- ☐ Contaminated Soils
- ☐ Special Wastes*
- ☒ Other: Recycle OCC & Wood

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

Site Size:

Total area of facility property

7 acres

Total area sited for use:

3 acres

Total area permitted:

N/A acres

Operating:

_____ acres

Not excavated:

_____ acres

Current capacity:

N/A ☐ tons or ☐ yards cubed

Estimated lifetime:

N/A years

Estimated days open per year:

260 days

Estimated yearly disposal volume:

< 200 Daily ☐ tons or ☒ yards cubed

Annual energy production (If Applicable):

Landfill gas recovery projects:

N/A megawatts

Waste-to-energy incinerators:

N/A megawatts

Solid Waste Facility Description Form

Facility Type: Type A Transfer Station/Processing Facility

Town: 7N Range: 7E Section(s): 29

Facility Name: Resource Recovery of Burton

County: Genesee

Address: 3376 Associates Drive, Burton, MI 48529

Map identifying location in Attachment Section: ☐ Yes ☒ No

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

☐ Public ☒ Private Owner: Johnnie Moore

Operating Status (check):

Waste Types Received (check all that apply):

- ☐ Open
- ☒ Closed
- ☒ Licensed
- ☐ Unlicensed
- ☐ Construction Permit
- ☐ Open, but Closure
- ☐ Pending

- ☒ Residential
- ☒ Commercial
- ☒ Industrial
- ☒ Construction & Demolition
- ☐ Contaminated Soils
- ☐ Special Wastes*
- ☐ Other: _____

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

Site Size:

Total area of facility property	<u>1.5</u>	acres
Total area sited for use:	<u>1.5</u>	acres
Total area permitted:	<u>N/A</u>	acres
Operating:	_____	acres
Not excavated:	_____	acres
Current capacity:	<u>0</u>	<input type="checkbox"/> tons or <input type="checkbox"/> yards cubed
Estimated lifetime:	<u>N/A</u>	years
Estimated days open per year:	<u>0</u>	days
Estimated yearly disposal volume:	<u>0</u>	<input type="checkbox"/> tons or <input type="checkbox"/> yards cubed
Annual energy production (If Applicable):		
Landfill gas recovery projects:	<u>N/A</u>	megawatts
Waste-to-energy incinerators:	<u>N/A</u>	megawatts

This facility is automatically consistent as written in this plan.

Solid Waste Facility Description Form

Facility Type: Recycling Center

Town: 7N Range: 8E Section(s): 9

Facility Name: Averill Recycling Inc.

County: Genesee

Address: 220 S Averill Street, Flint, MI 48506

Map identifying location in Attachment Section: ☒ Yes ☐ No

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

☐ Public ☒ Private Owner: Boyt Johnson

Operating Status (check):

Waste Types Received (check all that apply):

- ☐ Open
- ☒ Closed
- ☐ Licensed
- ☐ Unlicensed
- ☐ Construction Permit
- ☐ Open, but Closure
- ☐ Pending

- ☒ Residential Recycling
- ☒ Commercial Recycling
- ☒ Industrial Recycling
- ☐ Construction & Demolition
- ☐ Contaminated Soils
- ☐ Special Wastes*
- ☐ Other: _____

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

Site Size:

Total area of facility property	<u>14</u>	acres
Total area sited for use:	<u>14</u>	acres
Total area permitted:	<u>N/A</u>	acres
Operating:	_____	acres
Not excavated:	_____	acres
Current capacity:	<u>N/A</u>	<input type="checkbox"/> tons or <input type="checkbox"/> yards cubed
Estimated lifetime:	<u>N/A</u>	years
Estimated days open per year:	<u>N/A</u>	days
Estimated yearly disposal volume:	<u>N/A</u>	<input type="checkbox"/> tons or <input type="checkbox"/> yards cubed
Annual energy production (If Applicable):		
Landfill gas recovery projects:	<u>N/A</u>	megawatts
Waste-to-energy incinerators:	<u>N/A</u>	megawatts

This facility is automatically consistent as written in this plan.

Solid Waste Facility Description Form

Facility Type: Compost Facility

Town: T7N Range: R7E Section(s): 28

Facility Name: Country Oaks Landscape Supply

County: Genesee

Address: 3218 E. Atherton Road, Burton, Michigan 48529

Map identifying location in Attachment Section: ☐ Yes ☒ No

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

☐ Public ☒ Private Owner: Mark Cherry

Operating Status (check):

Waste Types Received (check all that apply):

- ☒ Open
- ☐ Closed
- ☒ Licensed
- ☐ Unlicensed
- ☐ Construction Permit
- ☐ Open, but Closure
- ☐ Pending

- ☒ Residential Organic Waste
- ☒ Commercial Organic Waste
- ☐ Industrial
- ☐ Construction & Demolition
- ☐ Contaminated Soils
- ☒ Other*

*Explanation of other wastes:

Municipal Leaf & Yard Trimmings, Food Waste, Organic Residuals, Cardboard, Landscape Contractor Residuals,
Homeowner leaf & yard materials, tree debris.

Site Size:

Total area of facility property	<u>28</u>	acres
Total area sited for use:	<u>10</u>	acres
Total area permitted:	<u>10</u>	acres
Operating:	<u>N/A</u>	acres
Not excavated:	<u>N/A</u>	acres
Current capacity:	<u>15,000</u>	<input checked="" type="checkbox"/> tons or <input type="checkbox"/> yards cubed
Estimated lifetime:	<u>N/A</u>	years
Estimated days open per year:	<u>280</u>	days
Estimated yearly disposal volume:	<u>N/A</u>	<input type="checkbox"/> tons or <input type="checkbox"/> yards cubed
Annual energy production (If Applicable):		
Landfill gas recovery projects:	<u>N/A</u>	megawatts
Waste-to-energy incinerators:	<u>N/A</u>	megawatts

This facility is automatically consistent as written in this plan.

Solid Waste Disposal Collection Services and Transportation

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

Figure 14 on the next page identifies collection services by municipality as well as costs per household per month and is a key factor in analyzing potential coordination among local municipalities to combine contracts for cost-effectiveness. Local units may have similar services or even the same waste hauler, yet are paying varying amounts for these services.

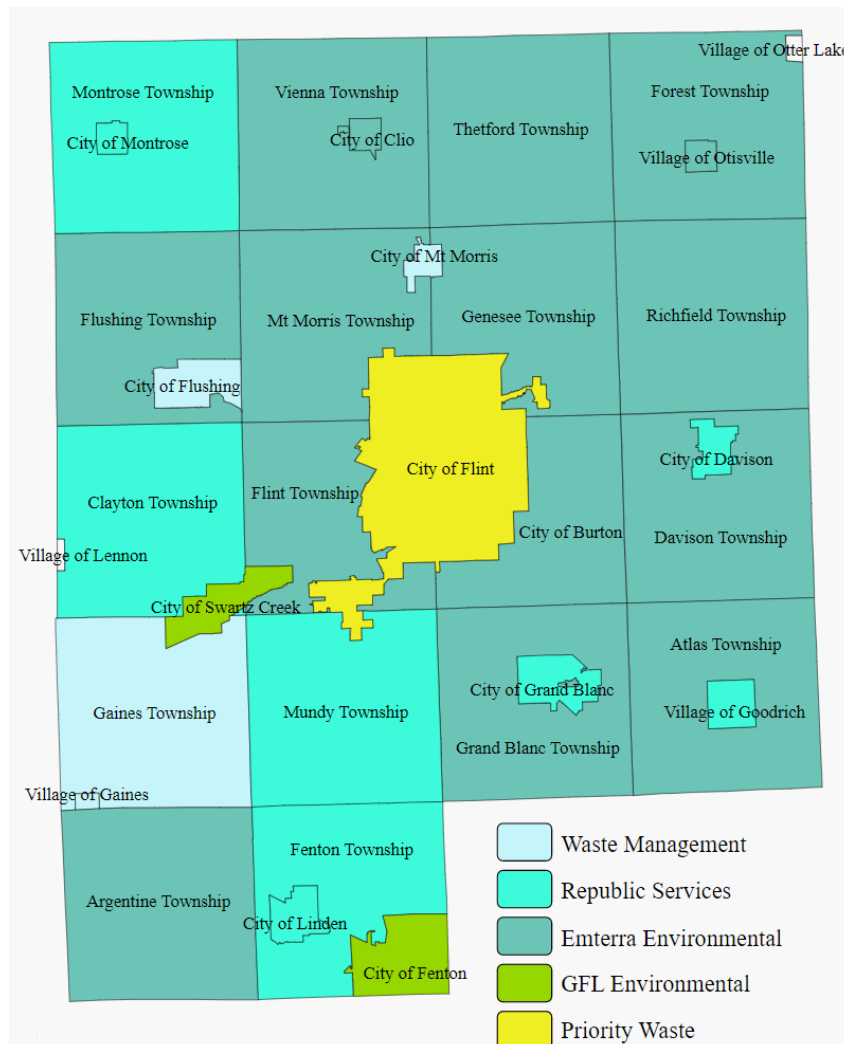
Map 3 shows the solid waste disposal collection services for each municipality in Genesee County. If these municipalities work together, they could

arrive at less expensive contracts with their haulers, resulting in potentially enhanced services such as cost savings or weekly recycling.

In early 2021, staff determined the municipal groups that would benefit the most from a shared service contract:

- Gaines Township and the Village of Gaines
- Village of Otisville and the Village of Otter Lake
- City of Swartz Creek, Clayton Township, and the City of Flushing,
- Mt. Morris Township, City of Mt. Morris, and Genesee Township

Map 3 2023 Solid Waste Disposal Collection Services



Source: GCMPC Website

Figure 14 2023 Solid Waste Disposal Collection Services				
	Municipality	Collection Company	Households	HH Cost per Month
Cities				
	Burton	Emterra Env.	12,240	13.44
	Clio	Emterra Env.	1,099	10.44
	Davison	Republic	2,428	16.80
	Fenton	GFL	5,023	11.39
	Flint	Priority Waste	40,807	15.50
	Flushing	Waste Management	3,338	16.10
	Grand Blanc	Republic	3,525	13.84
	Linden	Republic	1,467	15.60
	Montrose	Republic	855	16.49
	Mt. Morris	Waste Management	1,271	16.79
	Swartz Creek	GFL	2,491	12.25
Townships				
	Argentine	Emterra Env.	2,484	12.53
	Atlas	Emterra Env.	2,858	8.83
	Clayton	Republic	2,717	14.48
	Davison	Emterra Env.	8,667	11.38
	Fenton	Republic	6,097	15.39
	Flint	Emterra Env.	12,878	11.35
	Flushing	Emterra Env.	3,956	11.24
	Forest	Emterra Env.	1,811	12.04
	Gaines	Waste Management	2,571	13.12
	Genesee	Emterra Env.	8,333	12.07
	Grand Blanc	Emterra Env.	15,733	11.30
	Montrose	Republic	2,267	11.07
	Mt. Morris	Emterra Env.	8,429	10.77
	Mundy	Republic	6,074	10.59
	Richfield	Emterra Env.	3,227	8.96
	Thetford	Emterra Env.	2,719	10.77
	Vienna	Emterra Env.	5,216	10.77
Villages				
	Gaines	Waste Management	200	13.12
	Goodrich	Republic	684	15.34
	Lennon	N/A	158	N/A
	Otisville	Emterra Env.	403	12.61
	Otter Lake	N/A	152	N/A
Average Cost per HH				12.79
Average Cost Per Household				
City		14.42		
Township		11.57		
Village		13.69		

Source: Solid Waste Disposal Collection Companies

Resource Conservation Efforts

Figure 15 shows the current estimated tons diverted per year within the County from a variety of different sources such as curbside recycling, composting, and household hazardous waste collection. Since resource conservation efforts change with technologies and public awareness, it is not the plan's intention to limit the efforts to only what is listed. Instead, citizens, 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.

Figure 15 Resource Conservation Efforts	
Effort Description	Estimated Diversion Tons/Yr
	Current
Curbside Recycling	6,700
Commercial/Industrial Recycling & Waste Reduction	21,829
Household Hazardous Waste Collection	188
Yard Waste/Composting	20,806

Source: Resource Recycling Systems Solid Waste Evaluation

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.

As discussed in previous sections, the current waste system for Genesee County will rely on incorporating an integrated system of waste reduction, recycling, composting and landfilling. The plan will focus on the following:

- Implement and maintain an integrated materials management plan to ensure a healthy environment and financially sound solid waste system.
- Improve education and awareness of recycling, composting, and reuse of materials to support overall diversion of waste in the County.
- Implement a sustainable materials management program with the main objective of reducing the overall amount of waste generated in Genesee County. Utilize resource conservation technologies such as recycling and composting.
- Develop a materials management program that helps retain and attract economic development in Genesee County.

Overview of Resource Recovery Programs

The ensuing section describes the type and volume of material in the County's waste stream that may be available for recycling or composting programs. Differing conditions in the County may affect the potential benefits associated with recycling and composting programs. Setbacks for these materials management programs are briefly discussed in the following section. Currently, it is estimated that only about 9% of total waste generated in the County is actually being diverted from a landfill, where there is actually opportunity to divert close to 38% of total waste generated by implementing a high recovery rate. More information about recovery rates can be found in Technical Report 4. These amounts are estimated due to limited public data available in the multi-family and commercial sectors. In order to tap into greater recycling rates, recycling and composting programs should be expanded in all sectors that result in increased participation. The list on the next page indicates the feasibility of materials management programs in the County:

1. Recycling programs within the County are feasible. Details of existing and planned programs are included in the following pages.
2. Composting programs within the County are feasible. Details of existing and planned programs are included in the following pages
3. Programs for source separation of potentially hazardous materials are feasible. Details are included in the following pages.

Recycling and Composting

The following is a brief analysis of the recycling and composting programs selected for the County. The analysis covers various factors within the County and the impacts of these factors on recycling and composting. It is not this plan's intent to prohibit additional programs or expansions of current programs to be implemented beyond those listed.

Recycling

Currently, most local units of government, excluding Otter Lake and Lennon, have recycling curbside programs in operation for single-family residential. In order to track the recycling and participation rates of each community, Genesee County Metropolitan Planning Commission administered a recycling participation study to obtain current recycling data. This study evaluated how well Genesee County residents are recovering curbside recyclables, but did not include other materials like compost and household hazardous waste. Currently we estimate that roughly 52% of households in Genesee County are participating in a residential recycling program.

County staff also manage a number of recycling education and collection programs. Genesee County offers a free latex paint recycling program in partnership with the Genesee County Habitat for Humanity. Additionally, a small battery recycling program for County residents and employees has also been implemented in county owned buildings. GCMPC continues to provide outreach in the form of group presentations, although in recent years those opportunities have been limited due to the COVID-19 pandemic. These presentations are offered to school-aged children as well as to other community groups to educate them on the importance of recycling. Staff also actively maintains a website and so-

cial media account where residents can find resources about curbside recycling in their community, where to drop off hard to dispose items, and when household hazardous waste collection events will be held. In 2022, staff partnered with the Michigan Department of Environment, Great Lakes, and Energy on their Recycling Raccoons recycling education program. This program focuses on spreading recycling information through billboard, radio, television, and social media advertising.

Continuing and increasing educational opportunities, with a focus on targeting adult populations, will help change behaviors among residents and businesses. Expanding the program will include waste assessments for schools and businesses as well as providing up to date information through each local unit to reach residents about how and what they can recycle. Education and outreach opportunities will continue to be expanded.

Lastly, there are a number of challenges surrounding the waste systems in place in multi-family housing which make up roughly 17% of households. Places like Ann Arbor, Michigan, and Minneapolis, Minnesota have municipal ordinances in place mandating that all property managers are required to offer their residents the opportunity to recycle. One of the plan's goals is to encourage communities to explore the feasibility of extending recycling options to multi-family residences by local ordinance or any other method they choose. Additionally, incentive programs are a tool that could be used in communities which can help communities boost recycling rates and decrease the amount of waste their residents contribute to landfills.

Composting

This low technology application reduces homeowner's grass clippings, leaves, and food scraps from entering the landfills. There are many benefits from composting, such that compost can be used as a soil conditioner and is an economic solution to purchased soil. These benefits should continually be part of the overall education outreach to residents. Currently, very few local units have a compost program in place, despite Michigan Law preventing yard waste from entering landfills. Most waste haulers offer yard waste pickup as a part of their services. All yard waste collected from curbside services is then

taken to a compost facility. Compost facilities also offer a drop off location for residents to dispose of organic materials within the County.

Source Separation of Hazardous Wastes

The County-wide Recycle Day events are administered and run by the Genesee County Metropolitan Planning Commission. These free events allow for County residents to drop off their household hazardous waste and electronics for proper disposal. The solid waste program's budget currently allows for the HHW events to occur several times a year during the spring and summer. These events are very well attended when they are held and highly anticipated every year.

The household hazardous waste program is rapidly expanding, which is causing a greater demand for a permanent HHW drop-off facility within the County for residents to use throughout the year. A permanent facility will allow for a larger volume of hazardous materials and electronics to be collected for potentially lower costs compared to the events. This is because more disposal companies provide their services to drop-off facilities rather than large scale collection events. A drop-off facility could also be expanded to collect other hard to recycle materials as well.

Conclusion

The Selected System calls for the continuation of the private sector managing the County's recyclable materials and compost. The purpose of the resource recovery portion of the Selected System is to increase education and participation among private and public sectors to increase the resource recovery rate for Genesee County. **Figures 16, 18, and 20** on the following pages describe the current recycling and composting programs for each community in Genesee County. Included in these figures are information on what kinds of materials are included in their respective programs, collection points, collection frequencies, whether the designated service is public or private, and all of the necessary management operations. Similarly, **Figures 17, 19, and 21** identify the proposed recycling and composting programs for each community. These figures suggest more extensive program operations with more collaboration between County entities and a more standardized collection system for each program.



Figure 16 Existing Recycling Programs

Program Name	Service Area ¹	Public or Private	Collection Point ³	Collection Frequency ⁴	Program Development ²	Management Operation ²	Responsibilities Evaluation ²
Cities							
Recycling	Burton	Private	c	w	5	5	5
Recycling	Clio	Private	c	b	5	5	5
Recycling	Davison	Private	c	b	5	5	5
Recycling	Fenton	Private	c	w	5	5	5
Recycling	Flint	Private	c	w	5	5	5
Recycling	Flushing	Private	c	b	5	5	5
Recycling	Grand Blanc	Private	c	b	5	5	5
Recycling	Linden	Private	c	b	5	5	5
Recycling	Montrose	Private	c	b	5	5	5
Recycling	Mt. Morris	Private	c	b	5	5	5
Recycling	Swartz Creek	Private	c	w	5	5	5
Townships							
Recycling	Argentine	Private	c	b	5	5	5
Recycling	Atlas	Private	c	w	5	5	5
Recycling	Clayton	Private	c	b	5	5	5
Recycling	Davison	Private	c	b	5	5	5
Recycling	Fenton	Private	c	b	5	5	5
Recycling	Flint	Private	c	w	5	5	5
Recycling	Flushing	Private	c	w	5	5	5
Recycling	Forest	Private	c	b	5	5	5
Recycling	Gaines	Private	c	b	5	5	5
Recycling	Genesee	Private	c	w	5	5	5
Recycling	Grand Blanc	Private	c	w	5	5	5
Recycling	Montrose	Private	c	b	5	5	5
Recycling	Mt Morris	Private	c	b	5	5	5
Recycling	Mundy	Private	c	b	5	5	5
Recycling	Richfield	Private	c	b	5	5	5
Recycling	Thetford	Private	c	b	5	5	5
Recycling	Vienna	Private	c	b	5	5	5
Villages							
Recycling	Gaines	Private	c	b	5	5	5
Recycling	Goodrich	Private	c	b	5	5	5
Recycling	Otisville	Private	c	b	5	5	5

¹ Identified by where the program will be offered. If throughout the planning area, then listed by the planning area; only in specific counties, then listed by county; if only in specific municipalities, then listed by its name and respective county.

² Identified by 1= Designated Planning Agency; 2= County Board of Commissioners; 3= Department of Public Works; 4= Environmental; 5= Private Owner/Operator; 6= Other

³ Identified by c= curbside; d= drop off; o= onsite; and if other explained

⁴ Identified by d= daily; w= weekly; b= biweekly; m= monthly; and if seasonal service also indicated by Sp= spring; Su= summer; Fa= fall; Wi= winter

Figure 17 Proposed Recycling Programs

Program Name	Service Area ¹	Public or Private	Collection Point ³	Collection Frequency ⁴	Material Collected ⁵	Program Development ²	Management Operation ²	Responsibilities Evaluation ²
Cities								
Recycling	Burton	Private	c	w	a, b, c, d, e, f	1, 3, 5	5	1, 3, 5
Recycling	Clio	Private	c	w	a, b, c, d, e, f	1, 3, 5	5	1, 3, 5
Recycling	Davison	Private	c	w	a, b, c, d, e, f	1, 3, 5	5	1, 3, 5
Recycling	Fenton	Private	c	w	a, b, c, d, e, f	1, 3, 5	5	1, 3, 5
Recycling	Flint	Private	c	w	a, b, c, d, e, f	1, 3, 5	5	1, 3, 5
Recycling	Flushing	Private	c	w	a, b, c, d, e, f	1, 3, 5	5	1, 3, 5
Recycling	Grand Blanc	Private	c	w	a, b, c, d, e, f	1, 3, 5	5	1, 3, 5
Recycling	Linden	Private	c	w	a, b, c, d, e, f	1, 3, 5	5	1, 3, 5
Recycling	Montrose	Private	c	w	a, b, c, d, e, f	1, 3, 5	5	1, 3, 5
Recycling	Mt. Morris	Private	c	w	a, b, c, d, e, f	1, 3, 5	5	1, 3, 5
Recycling	Swartz Creek	Private	c	w	a, b, c, d, e, f	1, 3, 5	5	1, 3, 5
Townships								
Recycling	Argentine	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Recycling	Atlas	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Recycling	Clayton	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Recycling	Davison	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Recycling	Fenton	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Recycling	Flint	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Recycling	Flushing	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Recycling	Forest	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Recycling	Gaines	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Recycling	Genesee	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Recycling	Grand Blanc	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Recycling	Montrose	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Recycling	Mt Morris	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Recycling	Mundy	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Recycling	Richfield	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Recycling	Thetford	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Recycling	Vienna	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Villages								
Recycling	Gaines	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Recycling	Goodrich	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Recycling	Otisville	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5

¹ Identified by where the program will be offered. If throughout the planning area, then listed by the planning area; only in specific counties, then listed by county; if only in specific municipalities, then listed by its name and respective county.

² Identified by 1= Designated Planning Agency; 2= County Board of Commissioners; 3= Department of Public Works; 4= Environmental; 5= Private Owner/Operator; 6= Other

³ Identified by c= curbside; d= drop off; o= onsite; and if other explained

⁴ Identified by d= daily; w= weekly; b= biweekly; m= monthly; and if seasonal service also indicated by Sp= spring; Su= summer; Fa= fall; Wi= winter

⁵ Identified by the materials collected by listing of the letter located by the material type. A= Plastics; B= Newspaper; C= Corrugated Containers; D= Other Paper; E= Glass; F= Metals; P= Pallets; J= Construction/Demolition; K= Tires; L1, L2, ect

Figure 18 Existing Composting Programs

Program Name	Service Area ¹	Public or Private	Collection Point ³	Collection Frequency ⁴	Materials Collected ⁵	Program Development ²	Management Operation ²	Responsibilities Evaluation ²
Cities								
Yard Waste	Burton	Private	c	w	Y	1	5	1
Yard Waste	Clio	Private	c	b	Y	1	5	1
Yard Waste	Davison	Private	c	w, sp, su, fa	Y	1	5	1
Yard Waste	Fenton	Private	c	w, sp, su, fa	Y	1	5	1
Yard Waste	Flint	Private	c	w, sp, su, fa	Y	1	5	1
Yard Waste	Flushing	Private	c	w, sp, su, fa	Y	1	5	1
Yard Waste	Grand Blanc	Private	c	w, sp, su, fa	Y	1	5	1
Yard Waste	Linden	Private	c	w, sp, su, fa	Y	1	5	1
Yard Waste	Montrose	Private	c	w, sp, su, fa	Y	1	5	1
Yard Waste	Mt. Morris	Private	c	b, sp, su, fa ⁶	Y	1	5	1
Yard Waste	Swartz Creek	Private	c	w	Y	1	5	1
Townships								
Yard Waste	Argentine	Private	c	b, sp, su, fa	Y	1	5	1
Yard Waste	Atlas	Private	c	b, sp, su, fa	Y	1	5	1
Yard Waste	Clayton	Private	c	w, sp, su, fa	Y	1	5	1
Yard Waste	Davison	Private	c	b, sp, su, fa	Y	1	5	1
Yard Waste	Fenton	Private	c	w, sp, su, fa	Y	1	5	1
Yard Waste	Flint	Private	c	w	Y	1	5	1
Yard Waste	Flushing	Private	c	w	Y	1	5	1
Yard Waste	Forest	Private	d	m	Y	1	5	1
Yard Waste	Gaines	Private	c	b, sp, su, fa	Y	1	5	1
Yard Waste	Genesee	Private	c	w, sp, su, fa	Y	1	5	1
Yard Waste	Grand Blanc	Private	c	w, sp, su, fa	Y	1	5	1
Yard Waste	Montrose	Private	c	b, sp, su, fa	Y	1	5	1
Yard Waste	Mt Morris	Private	c	b, sp, su, fa	Y	1	5	1
Yard Waste	Mundy	Private	c	w, sp, su, fa	Y	1	5	1
Yard Waste	Richfield	Private	c	w, sp, su, fa	Y	1	5	1
Yard Waste	Thetford	Private	c	b, sp, su, fa	Y	1	5	1
Yard Waste	Vienna	Private	c	b, sp, su, fa	Y	1	5	1
Villages								
Yard Waste	Gaines	Private	c	b, sp, su, fa	Y	1	5	1
Yard Waste	Goodrich	Private	c	w, sp, su, fa	Y	1	5	1
Yard Waste	Otisville	Private	c	b	Y	1	5	1

¹ Identified by where the program will be offered. If throughout the planning area, then listed by planning area; only in specific counties, then listed by county; if only in specific municipalities, then listed by its name and respective county.

² Identified by 1= Designated Planning Agency; 2= County Board of Commissioners; 3= Department of Public Works; 4= Environmental; 5= Private Owner/Operator; 6= Other

³ Identified by c= curbside; d= drop off; o= onsite; and if other explained

⁴ Identified by d= daily; w= weekly; b= biweekly; m= monthly; and if seasonal service also indicated by Sp= Spring; Su= Summer; Fa= Fall; Wi= Winter

⁵ Identified by Y= Yardwaste; H= Household Organics

⁶ Weekly in October and November

Figure 19 Proposed Composting Programs

Program Name	Service Area ¹	Public or Private	Collection Point ³	Collection Frequency ⁴	Materials Collected ⁵	Program Development ²	Management Operation ²	Responsibilities Evaluation ²
Cities								
Composting	Burton	Private	c	w	Y, H	1, 3, 5	5	1, 3, 5
Composting	Clio	Private	c	w	Y, H	1, 3, 5	5	1, 3, 5
Composting	Davison	Private	c	w	Y, H	1, 3, 5	5	1, 3, 5
Composting	Fenton	Private	c	w	Y, H	1, 3, 5	5	1, 3, 5
Composting	Flint	Private	c	w	Y, H	1, 3, 5	5	1, 3, 5
Composting	Flushing	Private	c	w	Y, H	1, 3, 5	5	1, 3, 5
Composting	Grand Blanc	Private	c	w	Y, H	1, 3, 5	5	1, 3, 5
Composting	Linden	Private	c	w	Y, H	1, 3, 5	5	1, 3, 5
Composting	Montrose	Private	c	w	Y, H	1, 3, 5	5	1, 3, 5
Composting	Mt. Morris	Private	c	w	Y, H	1, 3, 5	5	1, 3, 5
Composting	Swartz Creek	Private	c	w	Y, H	1, 3, 5	5	1, 3, 5
Townships								
Composting	Argentine	Private	c	w	Y, H	1, 5	5	1, 5
Composting	Atlas	Private	c	w	Y, H	1, 5	5	1, 5
Composting	Clayton	Private	c	w	Y, H	1, 5	5	1, 5
Composting	Davison	Private	c	w	Y, H	1, 5	5	1, 5
Composting	Fenton	Private	c	w	Y, H	1, 5	5	1, 5
Composting	Flint	Private	c	w	Y, H	1, 5	5	1, 5
Composting	Flushing	Private	c	w	Y, H	1, 5	5	1, 5
Composting	Forest	Private	c	w	Y, H	1, 5	5	1, 5
Composting	Gaines	Private	c	w	Y, H	1, 5	5	1, 5
Composting	Genesee	Private	c	w	Y, H	1, 5	5	1, 5
Composting	Grand Blanc	Private	c	w	Y, H	1, 5	5	1, 5
Composting	Montrose	Private	c	w	Y, H	1, 5	5	1, 5
Composting	Mt Morris	Private	c	w	Y, H	1, 5	5	1, 5
Composting	Mundy	Private	c	w	Y, H	1, 5	5	1, 5
Composting	Richfield	Private	c	w	Y, H	1, 5	5	1, 5
Composting	Thetford	Private	c	w	Y, H	1, 5	5	1, 5
Composting	Vienna	Private	c	w	Y, H	1, 5	5	1, 5
Villages								
Composting	Gaines	Private	c	w	Y, H	1, 5	5	1, 5
Composting	Goodrich	Private	c	w	Y, H	1, 5	5	1, 5
Composting	Otisville	Private	c	w	Y, H	1, 5	5	1, 5

¹ Identified by where the program will be offered. If throughout the planning area, then listed by planning area; only in specific counties, then listed by county; if only in specific municipalities, then listed by its name and respective county.

² Identified by 1= Designated Planning Agency; 2= County Board of Commissioners; 3= Department of Public Works; 4= Environmental; 5= Private Owner/Operator; 6= Other

³ Identified by c= curbside; d= drop off; o= onsite; and if other explained

⁴ Identified by d= daily; w= weekly; b= biweekly; m= monthly; and if seasonal service also indicated by Sp= Spring; Su= Summer; Fa= Fall; Wi= Winter

⁵ Identified by Y= Yardwaste; H= Household Organics

Existing and Proposed Source Separation of Potential Hazardous Materials

Figure 20 Existing Source Separation of Potentially Hazardous Materials

Program Name	Service Area	Public or Private	Collection Point	Collection Frequency	Materials Collected ⁵	Program Development ²	Management Operation ²	Responsibilities Evaluation ²
Household Hazardous Waste and Electronics Collection Day	Genesee County	Public	Drop-Off	Periodically	AR, AN, B2, C, P, PS, PH, U, OT (electronics, tires, prescriptions)	1	1, 5	1

² Identified by 1= Designated Planning Agency; 2= County Board of Commissioners; 3= Department of Public Works; 4= Environmental; 5= Private Owner/Operator; 6= Other

⁵ Identified by the materials collected by listing the letter(s) located by that material type. AR= aerosol cans; A= Automotive Products except Used Oil, Oil Filters & Antifreeze; AN= Antifreeze; B1= Lead Acid Batteries; B2= Household Batteries; C= Cleaners and Polishers; H= Hobby and Art Supplies; OF= Used Oil Filters; P= Paints and Solvents; PS= Pesticides and Herbicides; PH= Personal and Health Care Products; U= Used Oil; OT= Other Materials and Identified Above

Source: Genesee County Community Waste Contracts

Figure 21 Proposed Source Separation of Potentially Hazardous Materials

Program Name	Service Area	Public or Private	Collection Point	Collection Frequency	Materials Collected ⁵	Program Development ²	Management Operation ²	Responsibilities Evaluation ²
Household Hazardous Waste and Electronics Permanent Collection Site	Genesee County	Private	Drop-Off	Unknown	AR, A, AN, B1, B2, C, H, OF, P, PS, PH, U, OT (electronics, tires, prescriptions)	1	1	1, 5

² Identified by 1= Designated Planning Agency; 2= County Board of Commissioners; 3= Department of Public Works; 4= Environmental; 5= Private Owner/Operator; 6= Other

⁵ Identified by the materials collected by listing the letter(s) located by that material type. AR= aerosol cans; A= Automotive Products except Used Oil, Oil Filters & Antifreeze; AN= Antifreeze; B1= Lead Acid Batteries; B2= Household Batteries; C= Cleaners and Polishers; H= Hobby and Art Supplies; OF= Used Oil Filters; P= Paints and Solvents; PS= Pesticides and Herbicides; PH= Personal and Health Care Products; U= Used Oil; OT= Other Materials and Identified Above

Source: Genesee County Community Waste Contracts



Identification of Resource Recovery Management Entities

This identifies public and private parties who have management responsibilities over resource recovery or recycling programs with Genesee County.

The Genesee County Metropolitan Planning Commission will serve as an umbrella agency for materials management programs, as they are the DPA. An entity that is willing to administer a materials management program may contact our agency for assistance and direction. This may include, but is not limited to the subsequent entities:

- Environmental Groups
- School System
- Local Units of Government
- Industry
- Commercial
- Waste Industry
- Community Groups
- Universities



Projected Diversion Rates

Figure 22 estimates the annual amount of solid waste which is expected to be diverted from landfills and incinerators in Genesee County as a result of implementing low, medium, and high diversion rates. These rates were determined using Resource Recycling Systems (RRS) data and are based on the estimated potential for each collected material to be diverted from a landfill. There are no incinerators currently in Genesee County so the rates in **Figure 22** are based off the diversion of materials from landfills only.

Figure 22 Projected Diversion Rates			
Collected Material	Low	Medium	High
	Diversion	Diversion	Diversion
Newsprint, Cardboard, & Magazines	30%	45%	55%
Plastic Drinking Bottles & Jugs	25%	35%	45%
Plastic Packaging & Glass Beverage Containers	20%	25%	30%
Milk Cartons, Plastic Tubs, & Rigid Containers	15%	20%	25%
Yard Waste	40%	45%	50%
Wood Waste	30%	35%	40%
Food Waste	15%	35%	40%
Compostable Paper	15%	20%	25%
All Other Plastics & Packaging	20%	25%	30%
Aluminum, Aerosol Cans, & Other Metals	15%	20%	25%
Electronics	5%	8%	10%
White Goods	10%	15%	20%
Textiles, Batteries, Tires, Carpet, & Light Bulbs	3%	4%	5%

Source: Resource Recycling Systems Solid Waste Evaluation

Market Availability

Figure 23 identifies how much volume that existing markets are able to utilize of the recovered materials which were diverted from the County's solid waste stream.

Figure 23 Market Availability for Collected Materials

Collected Material	In-State Markets	Out-of-State Markets
Total Plastics	100%	
Newspaper	100%	
Corrugated Containers	100%	
Total Other Paper	100%	
Total Glass	100%	
Grass and Leaves	100%	
Total Wood Waste	100%	
Construction & Demolition	No Data	
Food & Food Processing	No Data	
Tires	100%	
Batteries		100%
Appliances	100%	
Total Metals	100%	

Source: Genesee County Metropolitan Planning Commission



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. **Figure 24** is a chart of the programs offered or proposed to be offered in Genesee County.

Figure 24 Educational and Informational Programs

Program Topic	Delivery Medium ¹	Targeted Audience ²	Program Provider ³
Recycling	w, r, n, o, f, e, ot (website)	p,s	DPA
Composting	n, f, ot (local municipality)	p	OO
Household Hazardous Waste	r, n, o, f, ot (website)	p,s	DPA

¹Identified by w= workshop; r= radio; t= television; n= newspaper; o= organizational newsletters; f= flyers; e= exhibits and locations listed; ot= other which is explained

²Identified by p= general public; b= business; i= industry; s= students with grade levels listed. In addition if the program is limited to a geographic area, then that county, city, village, etc. is listed.

³Identified by EX= MSU Extension; EG= Environmental Group (Identify Name); OO= Private Owner/Operator (Identify Name); DPA= Designated Planning Agency; CU= College/University (Identify Name); LS= Local School (Identify Name)

Source: Genesee County Metropolitan Planning Commission

Solid Waste Implementation Strategies

This timetable is a guideline to implement components of the Selected System. The timeline gives a range of time in which the component will be implemented such as “6 months after approval” or “On-going”. Timelines may be adjusted later, if necessary. **Figure 25** below is an implementation guideline for the Solid Waste Management Plan with GCMPC staff acting as the designated planning agency (DPA). This was created to help prioritize implementation

efforts to ensure the most efficient process of delivering a quality and sustainable solid waste system to the citizens of Genesee County. The timetable is meant to be a continuous guideline for the goals and objectives of the plan and may be altered at a later date if necessary to accommodate any changes in the planning process. Coordination and cooperation among local units, the private sector, and the County will be a key element for implementation of a successful plan.

Figure 25 Selected Solid Waste System Implementation Strategies		
Management Component	Responsible Agency	Timeline
Plan Implementation		
Develop metrics for measuring progress of materials management	DPA	6 months after plan approval
Develop and prioritize planned programs based on each community’s needs	DPA, SWIC	6 months after plan approval
Initiate planned programs in order of priority	DPA	1 year after plan approval
Define milestones based on plan goals and objectives, report milestones	DPA	1 year after plan approval, biannual
Update implementation strategies according to tracked progress and make alterations where appropriate, communicate progress to municipalities	DPA	Annual

Source: SWMPC Input



Figure 25 Continued Selected Solid Waste System Implementation Strategies

Management Component	Responsible Agency	Timeline
Monitor, Data Collection, & Reporting		
Monitor solid waste imports and exports	DPA	Ongoing
Improve data collection methods and reporting for the solid waste database, include multi family housing and commercial businesses	DPA, Communities, Commercial Sector	Within 3 years of plan approval
Evaluate previous program efforts and provide recommendations for improvements	DPA	Within 1 year of plan approval
Evaluate the Genesee County Solid Waste Ordinance and best practices for improved enforcement strategies	DPA, SWIC	Annual

Source: SWMPC Input



Figure 25 Continued Selected Solid Waste System Implementation Strategies

Management Component	Responsible Agency	Timeline
Education & Awareness		
Evaluate best practices for education programs, expand programs through a widely available materials management curriculum	DPA	Ongoing
Update community-wide websites, newsletters, and social media to reflect current materials management information for each community	DPA, Communities	Within 2 years of plan approval, ongoing
Present to communities and businesses on the cost benefits of reducing waste generation and other materials management opportunities	DPA, Communities	Ongoing

Source: SWMPC Input



Figure 25 Continued Selected Solid Waste System Implementation Strategies

Management Component	Responsible Agency	Timeline
Waste Reduction Techniques		
Establish goals for evaluation of materials management, determine incentives for communities meeting these goals	DPA, Communities	Annual
Implementation of residential curbside recycling programs in the county that uses best practices	DPA, Communities	Within 5 years of plan approval
Waste and recycling assessments in commercial, public, and private sectors, use results to develop education materials	DPA, Commercial Sector, Public Sector, Private Sector	Ongoing
Establish a permanent household hazardous waste and electronics drop off site	DPA	Within 5 years of plan approval

Source: SWMPC Input

Figure 25 Continued Selected Solid Waste System Implementation Strategies

Management Component	Responsible Agency	Timeline
Assets & Resources		
Examine the best practices used by other organizations to track income and spending for materials management programs and potential facility operations	DPA, SWIC	Within 3 years of plan approval
Encourage partnerships between communities to reduce costs and increase materials management opportunities	DPA, Communities, Private Sector	Ongoing

Source: SWMPC Input

Siting Review Procedures

As required in Part 115 Section 11533 of NREPA, the plan includes a Selected Solid Waste Management Systems that assures that the non-hazardous solid waste generated in the County over the next 10 years will be collected, processed, and disposed of at disposal areas that comply with state law.

Authorized Disposal Area Types

The following solid waste disposal area types may not be sited by this plan. Any proposal to construct a facility herein shall be deemed inconsistent with this plan.

Any new Type B transfer facilities that may become operational after this plan amendment that are owned and/or sponsored by the County or any municipality within the County will be considered consistent with this plan. Additionally, any governmental entity performing their normal duties that creates a temporary Type B transfer facility is automatically consistent with this plan. Genesee Waste Services will be deemed automatically consistent as a Type A transfer station at 5125 North Dort Highway, Flint, MI 48505. Happy Can disposal will also be deemed automatically consistent as a Type A transfer station at 120 South Center Road, Flint, MI 48506.

All sited for use acreages listed on the Facility Descriptions for facilities located in Genesee County are authorized by this plan amendment. Genesee County authorizes sited for use area so long as the facilities are following all rules and regulations in Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act. The sited for use acreages are determined by Genesee County and the County may, at its discretion, change the acres sited for use. The Genesee County Department of Water and Waste Type III landfill will only be considered consistent with the plan in the event that changes in state or federal laws no longer make the currently available alternatives for PFAS disposal viable and sending this waste to a Type III landfill becomes the only feasible option.

Siting Criteria and Procedures

The following process describes the criteria and procedures to be used to site solid waste disposal facilities and determine consistency with this plan.

Any new facilities, such as the Type B transfer facilities identified above, are subject to the zoning regulations of the local unit of government in which the facility intends to locate.

This plan demonstrates a minimum ten year capacity, therefore additional siting criteria and procedures will not be established.

Solid Waste Management Components

These components identify the management responsibilities and institutional arrangements necessary for the implementation of the 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 Solid Waste Management Planning Committee will be responsible for overseeing the plan amendment process and providing guidance on the necessary functions for future implementation of the plan. Primary parties involved include the Genesee County Metropolitan Planning Commission, the Genesee County Board of Commissioners and the Michigan Department of Environment, Great Lakes, and Energy. Other participants in the process include environmental groups, landfill operators, recycling groups, local universities and extension offices, County Health Department, and local units of government.

The Genesee County Board of Commissioners appointed GCMPC as the Designated Solid Waste Planning Agency (DPA) to develop and implement the County's Solid Waste Management Plan.

The Solid Waste Implementation Committee

This committee may be formed in an effort to coordinate the implementation of the Genesee County Solid Waste Management Plan. The committee functions as a primary committee for discussing and arranging for the implementation of the plan and functions after a five year plan amendment. Persons who serve on the committee will be from the private and public sector as well as citizens with environmental interests that reside within Genesee County.

Genesee County

The Genesee County Metropolitan Planning Commission is the DPA and is the primary agent for the administration and implementation of the plan. The following describes GCMPC's technical, financial, legal and administrative capabilities to manage and implement the plan.

Administrative Capabilities

Although the County is not involved with the actual collection and disposal of solid waste, staff from the GCMPC closely monitor and track reports from landfills and haulers to ensure an efficient system. The administrative capabilities of GCMPC to perform all aspects of solid waste management, including planning and implementation are established. While enforcement is an additional responsibility and is utilized by GCMPC, staff is still working towards more effective enforcement strategies. Enforcement has been listed as a deficiency in the current solid waste system, but has also been noted as an objective to improving monitoring solid waste in the County.

Technical Capabilities

GCMPC employs persons that manage and implement the Solid Waste and Recycling program in Genesee County. This includes researching, analyzing and monitoring data.

Financial Capabilities

The Genesee County Solid Waste Program is funded through the Genesee County Solid Waste Ordinance. The Genesee County Solid Waste Ordinance imposes a fee on all waste generated in Genesee County as well as any waste being brought from other locations for disposal in Genesee County. Funding to the

Solid Waste Program also comes from revenues collected from the licensing of all solid waste hauling companies in Genesee County. The program funds the following areas of planning:

- Recycling
- Education
- Management
- Outreach

Legal Capabilities

The approved Act 451 Solid Waste Management Plan provides its Designated Planning Agency, GCMPC, the authority to implement and enforce any and all portions of the Act 451 Plan.

Genesee County Municipalities

The municipalities in Genesee County play a role in implementing the Solid Waste Management Plan by administering curbside waste collection programs for their residents. Additionally, in order for the plan to be adopted, sixty-seven percent (67%) of municipalities, 23, must approve the Genesee County Solid Waste Management Plan before it can be submitted to the Michigan Department of Environment, Great Lakes, and Energy.

Michigan Department of Environment, Great Lakes, and Energy

EGLE is a major player in the Genesee County Solid Waste Management Plan. EGLE conducts permitting, licensing and monitors construction and operation of the disposal facilities in the County.



Identification of Responsible Parties

The following information documents which entities within the County will have management responsibilities over the following areas of the plan:

Resource Conservation:

Source or Waste Reduction – Private Sector

Product Reuse – Private Sector

Reduced Material Volume – Private Sector

Increased Product Lifetime – Private Sector

Decreased Consumption – Private Sector

Resource Recovery Programs:

Composting – Private Sector

Recycling – Private Sector, Genesee County Metropolitan Planning Commission

Energy Production – Private Sector

Volume Reduction Techniques:

Private Sector

Collection Processes:

Private Sector

Transportation:

Private Sector

Disposal Areas:

Transfer Stations – Private Sector

Sanitary Landfills – Private Sector

Ultimate Disposal Area Uses:

Genesee County

Private Sector

EGLE

Local Government

Local Responsibility for Plan Update Monitoring & Enforcement:

Genesee County Metropolitan Planning Commission

Educational & Informational Programs:

Genesee County Metropolitan Planning Commission

Local Units of Government

Private Sector



Local Ordinances and Regulations Affecting Solid Waste Disposal

This plan amendment's relationship to local ordinances and regulations within the County is described in the option(s) marked below. This plan amendment utilizes option 1:

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 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 in the manner in which they will be applied described.

The plan's enforceable Program and Process, including the plan's authorized Ordinance provisions will be carried out through the Ordained Genesee County Solid Waste Ordinance – Ordinance #0-2 in current and future amended form, its administrative rules and regulations, and the supporting hauler licensing, facility designation agreements, and service contracts and system procurement provisions. These provisions and mechanisms are considered to be consistent with the plan's enforceable program, including any further amendments to the ordinances and related rules and regulations, as required to implement the plan's enforceable program which may be adopted and implemented by the appropriate governmental unit without additional authorization from, or formal amendment to, the Solid Waste Management Plan, except that such amendments shall not exceed the authority provided for in Part 115 of P.A. 451 of 1994 with regards to the location of disposal areas.

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

A. Geographic area/Unit of government:

Type of disposal area affected:

Ordinance or other legal basis:

Requirement/restriction:

B. Geographic area/Unit of government:

Type of disposal area affected:

Ordinance or other legal basis:

Requirement/restriction:

C. Geographic area/Unit of government:

Type of disposal area affected:

Ordinance or other legal basis:

Requirement/restriction:

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.

Capacity Certifications

Every County with less than ten years capacity identified in their plan is required to annually prepare and submit to EGLE an analysis and certification of solid waste disposal capacity validly available to the County. This certification is required to be prepared and approved by the County Board of Commissioners. Genesee County has more than ten years capacity identified in this plan and an annual certification process is not included in this plan.



Appendix A– Additional Information Regarding the Selected System

This appendix includes additional information required by EGLE to be in the Genesee County Materials Management Plan to be consistent with Part 115 of the Natural Resources and Environmental Protection Act 451 of 1994.

Evaluation of Recycling

There is no additional information regarding the implementation and evaluations of various recycling and composting components in the Selected System. A complete evaluation of these components of the Selected System can be found on page 9 of Technical Report 4 titled Recycling and Composting.

Detailed Features of Recycling and Composting Programs

Currently, Genesee 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 an improved database system that will track these amounts.

The following briefly describes the processes used or to be used to select the equipment and locations of the recycling and composting programs included in the Selected System. Difficulties encountered during past selection processes are also summarized along with how those problems were addressed:

Equipment Selection:

Existing Programs:

The local municipalities in Genesee County use private waste haulers to provide recycling services to their residents. The private waste haulers take recyclables to a privately owned recycling facility or transfer station.

Proposed Programs:

There are no proposed programs for equipment selection. Equipment use will remain the choice of the operators of those facilities.

Site Availability and Selection:

Existing Facilities:

Recycling facilities do not need to be licensed by EGLE; however, they must meet local zoning and

building regulations and are subject to local government approval.

Proposed Facilities:

A permanent household hazardous waste drop off facility has been proposed for development within the County. This facility is still in the early stages of planning and construction has not begun.

Composting Operating Parameters:

Genesee County does not currently enforce compost operating parameters. Municipalities contract with a private waste hauler for yard waste services. The private haulers dispose of yard waste at privately owned compost facilities.

Coordination Efforts with Related Plans and Programs

Solid Waste Management Plans need to be developed and implemented with 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. This section indicates how coordination efforts will be achieved to minimize potential conflicts and enhance programs currently in place.

Ultimate responsibility for implementing the County's solid waste plan rests with the Genesee County Board of Commissioners. The Board of Commissioners has tasked GCMPC with updating the plan and making sure that the goals of the plan are met. Additionally, GCMPC is responsible for being cognizant of any relevant ordinances or approved planning documents within the County as well as any pertinent restrictions or ongoing commitments contained in air quality, water quality, or waste management plans which may be required to meet state or federal standards. Any County-level decisions affecting current or anticipated programs for materials management planning will be made only after a thorough consultation with GCMPC.

Costs and Funding

Figure 26 estimates the necessary management as well as capital, operational, and maintenance costs on an annual basis for each applicable component of the solid waste management system. In addition, potential funding sources have been identified to support those components. Many of these estimated costs are currently unknown because most potential funding sources are not handled by the County, but rather individual municipalities and other industries within the private sector.



Figure 26 Costs and Funding

System Component ¹	Estimated Costs	Potential Funding Sources
<u>Resource Conservation Efforts</u>		
Curbside Recycling, Composting	Unknown	DPA, Private, Municipalities
<u>Resource Recovery Programs</u>		
Household Hazardous Waste Collection	\$326,000 annually	DPA
Volume Reduction Techniques	Unknown	DPA, Private
Collection Processes	N/A	Private Sector
Transportation	N/A	Private Sector
Disposal Areas	N/A	Private Sector
Future Disposal Area Uses	None	N/A
Management Arrangements	Unknown	DPA, Private
Educational & Informational Programs	Unknown	DPA, Solid Waste Ordinance Fee,

¹ These components and their subcomponents may vary with each system

Source: Genesee County Metropolitan Planning Commission



Evaluation Summary of 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 as a result 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. Obstacles to implementing the solid waste management system are identified under the Solid Waste System Deficiencies section in Technical Report 2. The proposed activities which will help overcome those problems are also addressed in that section to assure successful programs. Below outlines the findings of this evaluation and the basis for selecting this system:

The Genesee County Solid Waste System is based on a plan that incorporates recycling, landfilling and education in resource recovery. Over the next 5 year planning period, the County will research and determine the best methods for implementation of the priorities set forth through this plan. Because Genesee County has an established solid waste management system, this plan is focused primarily on the following items as means to enhance and improve the current system:

- Improve monitoring and data collection to enhance the quality and accuracy of the solid waste system.
- Evaluate and expand the education and awareness of recycling, composting, and reuse of materials.
- Reduce the overall amount of waste generated in Genesee County by utilizing resource conservation technologies.

- Examine best practices to develop a management program that retains and attracts economic development.

Technical Feasibility

The technical feasibility of materials management techniques, including recycling, composting, and landfilling, has been evaluated in the County in its current state. Evolving technologies, equipment, educational strategies, and effective management are crucial aspects of the effectiveness of these components in the Selected System.

Economic Feasibility

When evaluating economic feasibility of the Selected System components, there are several aspects to consider. When reviewing resource recovery techniques as part of the commercial sector (waste reduction and recycling), it is evident that employing these methods are beneficial for the private sector as reducing the amount of waste that is disposed would decrease overall costs to the business. Many waste products in the commercial sector are also lucrative for recycling, and because recycling is a market driven operation, this is a very cost-effective option for the commercial sector.

Residential recycling and composting was also analyzed as part of the Selected System. While demand for residential recyclables fluctuates depending on market demand, there are still many positive impacts from recycling, for example, the creation of jobs to process recyclables. Job creation could substantially increase by collecting recyclable materials from commercial and industrial sources. The plan also calls for implementation of a permanent household hazardous waste drop off facility in Genesee County, which would process hazardous materials from the residents, creating jobs within the County.

Lastly, landfilling was evaluated for economic feasibility, and while this method has been an inexpensive way to process solid waste in past years, legislation has more recently enforced stricter regulations on construction and operation of landfills. Thus, resource recovery options as discussed previously are increasingly becoming more popular and viable.

Access to Land and Transportation Routes

When referring to the Selected System's components and access to land, the availability of land space is specifically important for landfills in the event that more space is needed for waste disposal. Land capacity is adequate for the planning period described in this plan. The County has two interstate highways, one U.S. highway and four state highways that encompass the transportation network. These routes are adequate to serve the Selected System for Genesee County.

Energy Consumption and Production

Waste reduction and composting are methods utilized to reduce energy needed to operate a landfill. While landfills do require energy to operate efficiently, they are also producing energy by converting gas into electricity. Each landfill in the County participates in Landfill Gas Recovery, producing about 120,000 MegaWatts of gas which would be enough to power over 13,000 households in Genesee County.

Environmental Impacts

By expanding the resource recovery programs as stated in the Selected System, more natural resources will be preserved by decreasing disposal into landfills. A permanent household hazardous waste facility is planned for development within the County. The environmental impacts are currently unknown.

Public Acceptability

Our recent public surveys used in this plan amendment demonstrate that there is ample support for increasing and improving efforts for resource recovery programs. These surveys can be found in Technical Report 2.

Advantages and Disadvantages of 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:

1. The Selected System will enhance collaboration among the public and private sector on solid waste issues.
2. Education opportunities and programs will be expanded to enhance the knowledge of commercial and residential sectors about resource recovery.
3. An improved database will be used to track and monitor waste and recovery numbers across sectors.
4. The Selected System will be economically, environmentally and publicly feasible.
5. Expanded resource recovery programs will prolong landfill life and the environment.
6. Existing technology will be capable of handling the waste stream.

Disadvantages:

1. The Selected System still utilizes landfills as a primary means of disposal.
2. Recycling markets can be unstable at times.
3. Data is not collected from the commercial sector.
4. Staff time and monetary resources for education and recovery programs are limited.



Appendix B-Non-Selected System

Non-Selected System

Before selecting the solid waste management system contained within this plan amendment, 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.

System Components

The following briefly describes the various components of the non-Selected System.

Resource Conservation Efforts

Same as the Selected System discussed in the previous section. The only difference between the two systems is the consideration for new technologies. As new technologies are developed for the waste industry, there is potential for the solid waste system to change.

Volume Reduction Techniques

Same as the Selected System discussed in the previous section. The only difference between the two systems is the consideration for new technologies. As new technologies are developed for the waste industry, there is potential for the solid waste system to change.

Resource Recovery Programs

Same as the Selected System discussed in the previous section. The only difference between the two systems is the consideration for new technologies. As new technologies are developed for the waste industry, there is potential for the solid waste system to change.

Collection Processes

Same as the Selected System discussed in the previous section. The only difference between the two systems is the consideration for new technologies. As new technologies are developed for the waste industry, there is potential for the solid waste system to change.

Transportation

Same as the Selected System discussed in the previous section. The only difference between the two systems is the consideration for new technologies. As new technologies are developed for the waste industry, there is potential for the solid waste system to change.

Disposal Areas

Same as the Selected System discussed in the previous section. The only difference between the two systems is the consideration for new technologies. As new technologies are developed for the waste industry, there is potential for the solid waste system to change.

Institutional Arrangements

Same as the Selected System discussed in the previous section. The only difference between the two systems is the consideration for new technologies. As new technologies are developed for the waste industry, there is potential for the solid waste system to change.

Educational and Informational Programs

Same as the Selected System discussed in the previous section. The only difference between the two systems is the consideration for new technologies. As new technologies are developed for the waste industry, there is potential for the solid waste system to change.

Capital, Operational, and Maintenance Costs

Same as the Selected System discussed in the previous section. The only difference between the two systems is the consideration for new technologies. As new technologies are developed for the waste industry, there is potential for the solid waste system to change.

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.

Advantages and Disadvantages of the Non-Selected System

Each solid waste management system has pros and cons relating to its implementation within the County. At this time, there is no new information on the advantages and disadvantages of the non selected system.

Appendix C– Public Participation and Approval

Public Participation and Approval

This section summarizes the processes which were used in the development and local approval of the plan including a summary of public participation in those processes, documentation of each of the required approval steps, and a description of the appointment of the solid waste management planning committee along with the members of that committee.

Public Involvement Process

A description of the process used, including dates of public meetings, copies of public notices, documentation of approval from solid waste planning committee, County Board of Commissioners, and municipalities.

The Genesee County Public Participation Plan (PPP) outlines processes and methods through which GCMPC ensures that citizen input will figure prominently throughout the planning process.

The PPP email database contains over 1,200 email addresses. Notification of the public comment period and the public hearing was sent to this email list. This information was also sent to each local unit of government in Genesee County. **A copy of the draft plan was provided to the Shiawassee County Community Development Department as the Venice Park Landfill is included in our plan and is located close to the Genesee County border. Another copy of the draft plan was sent to the Saginaw County Planning Department because the landfill operators of People's Landfill located in Saginaw County have**



requested to be included in the Genesee County Solid Waste Plan.



GENESEE COUNTY SOLID WASTE MANAGEMENT PLANNING COMMITTEE MEETING
November 9, 2021, 1:30 p.m.

MINUTES

The Solid Waste Management Planning Committee met at 1:30 p.m. on Tuesday, November 9, 2021 in the Conference Room of the Genesee County Metropolitan Planning Commission (GCMPC), 1101 Beach Street, Room 111, Flint, Michigan.

I. CALL TO ORDER

Derek Bradshaw called the meeting to order at 1:30 p.m.

II. WELCOME/ INTRODUCTIONS

All members introduced themselves. **Present:** Derek Bradshaw, Derek Neal, Nancy Edwards, Tim Church, Amy Freeman, Mike Csapo, Daniel Bourdow, Heather Griffin, John O'Brien, Kyle Burnash, Darren Bagley, and Chad Young.

Absent/Excused: Debra Newman

Others present: Sarah Scheitler, Shelia Taylor, and Jill Floeter.

III. COMMITTEE ELECTION OF OFFICERS

John O'Brien was elected as Chairperson and Heather Griffin as Vice-Chairperson.

Motion: Action: Approve, **Moved by** Mike Csapo, **Seconded by** Nancy Edwards to approve the Committee Election of Officers.

Motion passed unanimously.

IV. OVERVIEW OF SOLID WASTE MANAGEMENT PLAN AMENDMENT PROCESS

Shelia Taylor gave a presentation overview of the Solid Waste Management Plan Amendment Process.

Discussion ensued.

V. OTHER BUSINESS

NONE

VI. ADJOURNMENT

Derek Bradshaw adjourned the meeting at 2:45 p.m.

GENESEE COUNTY SOLID WASTE MANAGEMENT PLANNING COMMITTEE MEETING

February 8, 2022, 1:30 p.m.

MINUTES

The Solid Waste Management Planning Committee met at 1:30 p.m. on Tuesday, February 8, 2022, in the Board of Commissioners Conference Room, 1101 Beach Street, Room 301, Flint, Michigan.

I. CALL TO ORDER

Chairperson John O'Brien called the meeting to order at 1:30 p.m.

II. WELCOME/ INTRODUCTIONS

All members introduced themselves. **Present:** Derek Neal, Kyle Burnash, DJ Bourdow, Darren Bagley, Heather Griffin (via phone), Derek Bradshaw, John O'Brien, Mike Csapo, Amy Freeman, and Nancy Edwards

Absent/Excused: Tim Church, Debra Newman, and Chad Young

Others present: Sarah Scheitler, Shelia Taylor, Cody Roblyer, and Gwynneth Coselman

III. Approval of November 9, 2021, Minutes ***

Motion: Action: Approve, **Moved by** Mike Csapo, **Seconded by** Nancy Edwards to approve the November 9, 2021 Minutes.

Motion passed unanimously.

IV. Solid Waste Management Plan Data Update (Presentation)

Gwynneth Coselman gave a presentation on the Solid Waste Management Plan data that has been updated so far during the amendment process.

Discussion ensued.

V. Evaluation of System Deficiencies

Cody Roblyer led an activity for committee members to provide input on solid waste related developments they have noticed since the last plan update in 2015. The committee then participated in an activity to provide comments on solid waste system deficiencies that need to be addressed in the future. The deficiencies provided by the committee were then prioritized.

VI. Solid Waste Management Plan Goals and Objectives

Cody Roblyer stated that goals and objectives would be discussed at the next committee meeting. The activities conducted today will help the committee in updating those goals and objectives.

VII. Adjournment

Motion: Action: Adjourn, **Moved by** Derek Bradshaw, **Seconded by** Amy Freeman to Adjourn the meeting.

Motion passed unanimously.

Chairperson John O'Brien adjourned the meeting at 2:58 p.m.

GENESEE COUNTY SOLID WASTE MANAGEMENT PLANNING COMMITTEE MEETING

April 12, 2022, 1:30 p.m.

MINUTES

The Solid Waste Management Planning Committee met at 1:30 p.m. on Tuesday, April 12, 2022, in the Board of Commissioners Conference Room, 1101 Beach Street, Room 301, Flint, Michigan.

I. CALL TO ORDER

Derek Bradshaw called the meeting to order at 1:35 p.m.

II. WELCOME/ INTRODUCTIONS

All members introduced themselves. **Present:** Derek Neal, Kyle Burnash, Derek Bradshaw, Tim Church, Patrick Scanlon, Mike Csapo, Amy Freeman, and Nancy Edwards

Absent/Excused: Debra Newman, Chad Young, John O'Brien, Heather Griffin, Darren Bagley, and DJ Bourdow

Others present: Shelia Taylor, Cody Roblyer, Renate Soto and Gwynneth Coselman

III. Approval of February 8, 2022, Minutes ***

Motion: Action: Approve, **Moved by** Nancy Edwards, **Seconded by** Amy Freeman to approve the February 8, 2022 Minutes.

Motion passed unanimously.

IV. Public Comment Period

No comments were made.

V. Approval of Solid Waste Deficiencies***

Cody Roblyer presented the updated deficiencies that were determined at the last meeting and asked for committee approval. Changes to the Legislation, Enforcement, and Local Waste Contracts sections were requested by the committee. Discussion ensued.

Motion: Action: Approve, **Moved by** Mike Csapo, **Seconded by** Amy Freeman to approve deficiencies as amended.

Motion passed unanimously

VI. Solid Waste Management Plan Goals and Objectives Activity

Gwynneth Coselman led an activity for committee members to provide input on the current goals and objectives. The committee proposed edits to each goal and objective. Staff then worked with the committee to refine each goal and objective. Staff will present the revised goals and objectives to the committee at the next meeting to take action on.

VII. Solid Waste Facility Descriptions Overview

Cody Roblyer gave a brief overview of the new solid waste facility descriptions to be discussed at the next meeting. Discussion ensued.

VII. Public Comment

No comments were made.

IX. Adjournment

Motion: Action: Adjourn, **Moved by** Mike Csapo, **Seconded by** Amy Freeman to Adjourn the meeting.

Motion passed unanimously.

Mike Csapo adjourned the meeting at 3:50 p.m.

GENESEE COUNTY SOLID WASTE MANAGEMENT PLANNING COMMITTEE MEETING

June 14, 2022, 1:30 p.m.

MINUTES

The Solid Waste Management Planning Committee met at 1:30 p.m. on Tuesday, June 14, 2022, in the Board of Commissioners Conference Room, 1101 Beach Street, Room 301, Flint, Michigan.

I. CALL TO ORDER

John O'Brien called the meeting to order at 1:30 p.m.

II. WELCOME/ INTRODUCTIONS

All members introduced themselves. **Present:** John O'Brien, Heather Griffin, Kyle Burnash, Derek Bradshaw, Tim Church (via phone), Patrick Scanlon, Mike Csapo, Amy Freeman (via phone), Nancy Edwards and Chad Young

Absent/Excused: Debra Newman, Derek Neal, Darren Bagley, and DJ Bourdow

Others present: Shelia Taylor, Cody Roblyer, Renate Soto, Jayna Clark, Gwynneth Coselman, John Gall, Paul Sgriccia, and Mark Emmendorfer

III. Approval of April 12, 2022, Minutes ***

Motion: Action: Approve, **Moved by** Nancy Edwards, **Seconded by** Mike Csapo to approve the April 12, 2022 Minutes.

Motion passed unanimously.

IV. Public Comment Period

Mark Emmendorfer, Montrose Township Supervisor, voiced his concerns regarding the proposed new Type III landfill in Montrose Township. His objections included the fact that Montrose Township already has 3 landfills (including 2 inactive), and that the proposed new landfill would be very expensive to run and cost the County millions of dollars. He also mentioned that he has presented other possible alternatives to the Genesee County Drain Commission.

John Gall, representative from People's Landfill in Saginaw County, stated there is a reciprocal agreement between counties with moving trash in and moving trash out of each county. He agreed with Mr. Emmendorfer that it would be very expensive to start up a new Type III landfill. He went on to say that he was there to represent People's Landfill and Venice Park Landfill in Shiawassee County if anyone had any questions.

V. Approval of Goals and Objectives***

Gwynneth Coselman stated that during the April 12th Solid Waste Management Planning Committee (SWMPC) Meeting, staff facilitated an activity with the committee members to update goals and objectives in Genesee County's current Solid Waste Management Plan. During the activity, committee members were given the opportunity to evaluate the current goals and objectives and propose potential changes. This process produced many different opinions about the county's solid waste system. These ideas were then discussed as a group and refined by staff to determine what should be removed, updated, and added to the plan. Ms. Coselman went on to say that the details for each goal and objective could be found in Technical Report 3, that was included in the agenda packet sent out to the committee. Ms. Coselman briefly went over the updated goals and objectives with a slide presentation. Discussion ensued.

At this time, staff is requesting approval of the updated solid waste goals and objectives to be added to the Genesee County Solid Waste Management Plan amendment.

Motion: Action: Approve, **Moved by** Mike Csapo, **Seconded by** Patrick Scanlon to approve Goals and Objectives.

Motion passed unanimously

VI. Solid Waste Facility Descriptions***

Cody Roblyer stated staff has received updated facility description forms from solid waste facilities that operate in Genesee County. He went on to say that these forms are required to be included in the Genesee County Solid Waste Management Plan (SWMP) to identify existing disposal areas which will be utilized to provide the required capacity needs for the solid waste generated in Genesee County. Staff collected all of the information on those forms to summarize the facility descriptions included in the agenda packet. Mr. Roblyer presented a slide presentation on the Solid Waste Facility Descriptions, during which he gave a brief summary of each facility currently in the plan as well as facilities not previously listed in the plan. Representatives from each facility being proposed to be added to the plan or with changes to the plan, presented updated descriptions of their respective facility. Discussion ensued.

VII. Implementation Strategies Overview

Cody Roblyer gave a brief overview of the new implementation strategies to be discussed at the next meeting. Discussion ensued.

VIII. Public Comment Period

No comments were made

VII. Adjournment

Motion: Action: Adjourn, **Moved by** Chad Young, **Seconded by** Nancy Edwards to Adjourn the meeting.

Motion passed unanimously.

John O'Brien adjourned the meeting at 3:21 p.m.

GENESEE COUNTY SOLID WASTE MANAGEMENT PLANNING COMMITTEE MEETING

August 9, 2022, 1:30 p.m.

MINUTES

The Solid Waste Management Planning Committee met at 1:30 p.m. on Tuesday, August 9, 2022, in the Board of Commissioners Conference Room, 1101 Beach Street, Room 301, Flint, Michigan.

I. CALL TO ORDER

Heather Griffin called the meeting to order at 1:31 p.m.

II. WELCOME/ INTRODUCTIONS

All members introduced themselves. **Present:** Heather Griffin, Kyle Burnash, Derek Bradshaw, Tim Church, Derek Neal, Mike Csapo, Amy Freeman (via phone), Nancy Edwards and Chad Young

Absent/Excused: Patrick Scanlon, John O'Brien, Debra Newman, Darren Bagley, and DJ Bourdow

Others present: Shelia Taylor, Cody Roblyer, Gwynneth Coselman, Renate Soto, Jayna Clark, Dan Potter, Jim Arduin, Tiffany Johnson, Christina Miller and Mark Emmendorfer

III. Approval of June 14, 2022, Minutes ***

Motion: Action: Approve, **Moved by** Nancy Edwards, **Seconded by** Mike Csapo to approve the June 14, 2022 Minutes.

Motion passed unanimously.

IV. Public Comment Period

Mark Emmendorfer stated that he attended the last meeting of this Committee on June 14, 2022 and again wants to state that Montrose Township is not in favor of the proposed new Type III landfill in Montrose Township. He continued on that there are other alternatives and locations that could possibly be available in the near future to dispose of and process sludge waste. He stated that it would be more appropriate to revisit this proposal in the future when the next Solid Waste Plan is being planned and after these additional methods and locations are further researched.

V. Presentations from the Department of Environment, Great Lakes, and Energy (EGLE) staff

a. PFAS - Jim Arduin from EGLE gave a presentation on PFAS and answered questions from the Committee. Discussion ensued.

b. Special Waste Landfills – Tiffany Johnson from EGLE presented a slide show regarding Type III Landfills (Special Waste). The Committee had questions that she answered. Discussion ensued.

c. Solid Waste Planning – Christina Miller from EGLE presented information about Solid Waste Planning and answered questions from the Committee. Discussion ensued.

VI. Other Discussion

Gwynneth Coselman stated that a survey was sent out to Committee members regarding implementation strategies, which will be discussed at the next meeting. She also mentioned that staff is still working on putting together the drafts for Tech Reports 1, 2 and 4 including facility descriptions. Ms. Coselman also gave details about the most current recycling events, including the tire collection event on June 12 (an additional tire event is to be held on August 27) and the Recycle Days (Household Hazardous Waste) that were held in June and July and the last event to take place on August 23, 2022.

Mike Csapo stated that before he is willing to vote on the Type III Landfill being proposed, that all other options need to be explored. Dan Potter replied that the Genesee County Drain Commission plans to robustly evaluate all of the other alternatives and they will have to do their own risk analysis on PFAS as well.

VII. Adjournment

Motion: Action: Adjourn, **moved by** Derek Bradshaw, **Seconded by** Nancy Edwards to Adjourn the meeting.

Motion passed unanimously.

Heather Griffin adjourned the meeting at 3:54 p.m.

GENESEE COUNTY SOLID WASTE MANAGEMENT PLANNING COMMITTEE MEETING

October 11, 2022, 1:30 p.m.

MINUTES

The Solid Waste Management Planning Committee met at 1:30 p.m. on Tuesday, October 11, 2022, in the Board of Commissioners Conference Room, 1101 Beach Street, Room 301, Flint, Michigan.

I. CALL TO ORDER

John O'Brien called the meeting to order at 1:30 p.m.

II. WELCOME/ INTRODUCTIONS

All members introduced themselves. **Present:** John O'Brien, Heather Griffin, Kyle Burnash, Derek Bradshaw, Tim Church, Mike Csapo, Amy Freeman, Nancy Edwards, Chad Young, Darren Bagley

Absent/Excused: Debra Newman, Derek Neal, and DJ Bourdow

Others present: Shelia Taylor, Cody Roblyer, Gwynneth Coselman, Renate Soto, Sarah Scheitler, and Angela Warren

III. Approval of August 9, 2022, Minutes ***

Motion: Action: Approve, **Moved by** Darren Bagley, **Seconded by** Heather Griffin to approve the August 9, 2022 Minutes.

Motion passed unanimously.

IV. Public Comment Period

None

V. Solid Waste Implementation Strategies Discussion

Ms. Coselman stated that staff sent out a survey a couple months ago asking for Committee Member's comments on the current Solid Waste Implementation Strategies. Staff took the feedback, refined it, and developed updated Implementation Strategies. Ms. Coselman reviewed the revised Implementation Strategies and stated some of the Strategies were changed and some remained unchanged. This will be an opportunity for open discussion for Committee Members to give further feedback and ask any questions they have. Ms. Coselman stated the intent is to take action at the next meeting of this Committee on December 13, 2022. Discussion ensued.

VI. Plan Timeline

Mr. Roblyer reviewed the Solid Waste Management Plan Amendment (SWMPA) timeline and went over the items that would be presented and possible action taken at each of the next meetings of the SWMPC in the future. Mr. Roblyer stated each of the steps necessary to produce a final draft of the SWMPA, including a 90-day public comment period, to present the Plan to the Genesee County Board of Commissioners for approval. The Plan would then be submitted to all Local Units of Government (LUGs) in the County for 67% approval and ultimately on to Environment, Great Lakes, and Energy (EGLE) for a six-month review process for the Plan to be finalized and implemented. Discussion ensued.

VII. Recycling Participation Survey

Ms. Coselman presented the results of the Recycling Participation Study that was conducted in Spring of 2022 to identify the residential curbside recycling participation rate for each community in Genesee County. During the Survey, staff observed randomly selected homes in each community to determine if residents placed their recycling containers out for collection on the designated pickup day. Ms. Coselman stated that the study determined there was very little change in participation rates from 2019 to 2022, with the rate being 52% in 2022 and in 53% in 2019. Discussion ensued.

Ms. Coselman stated that staff has developed an informative recycle sticker, flyer, and cover letter to send out to single family residences who have curbside recycling in Genesee County. Staff chose to implement a pilot program first, so these packets will be sent out to gauge any increase in recycling participation. Subsequently, another survey will be conducted. Discussion ensued.

VIII. Other Business

a. Committee Member Updates

Mr. Bagley stated that the MSU Extension's millage passed in August.

Ms. Griffin stated that City of Flint received confirmation that they received the \$4 million grant to purchase recycling carts to be distributed to Flint residents for curbside recycling.

Mr. Bradshaw stated that staff is working on a tentative location for permanent Household Hazardous Waste (HHW) facility. It is currently going through environmental assessments and review. Mr. Bradshaw also stated that based on feedback from our Recycle Day events this year, the preliminary plan is to offer multiple smaller events in 2023.

Ms. Edwards stated that Keep Genesee County Beautiful has provided lawn and leaf bags and other supplies to residents for community clean-ups.

Mr. Csapo stated that he is excited that Genesee County is moving forward with plans for a permanent HHW facility.

Ms. Freeman stated that Part 115 is still stuck in Congressional regulatory, and her hope is that it passes during Lane Duck. She invited Committee members to join the Michigan Organics Council, if interested.

Mr. O'Brien stated that the Genesee County Drain Commission (GCDC) met with NEFCO (New England Fertilizer Company) and received a preliminary proposal to process/dry out the sewage sludge. Based on the proposal, their costs would double, and this process does not resolve the PFAS issue, so Mr. O'Brien stated that the GCDC will still be pursuing the alternative Type 3 landfill.

IX. Adjournment

John O'Brien adjourned the meeting at 2:32 p.m.

Notification Proof of Public Comment Period in Newspaper

Notification Proof of Public Comment Period on Website

Feedback from EGLE

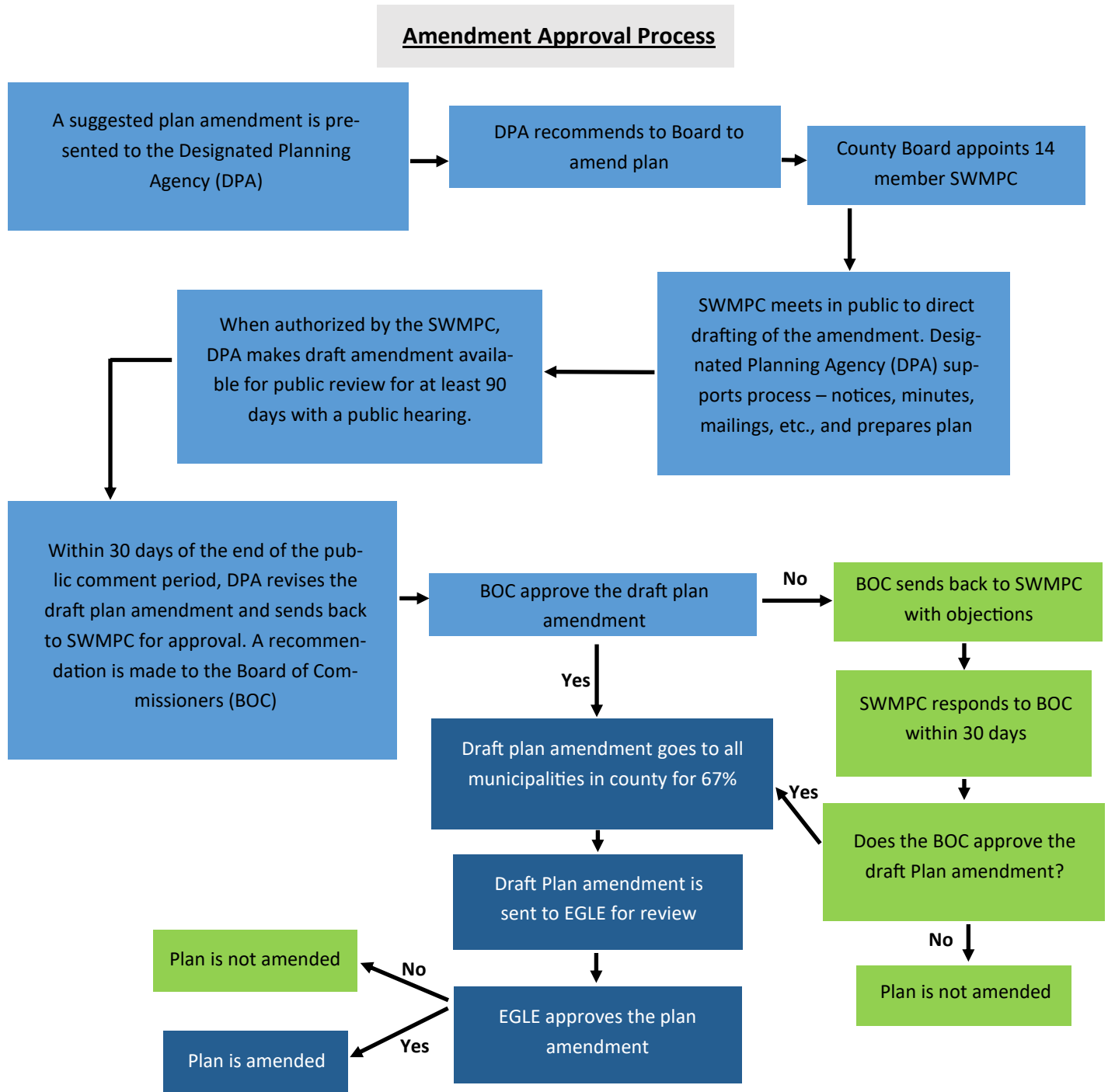
Feedback from EGLE

Feedback from EGLE

Feedback from EGLE

The Planning Process

The Designated Planning Agency (DPA) is the GCMPC whose staff is tasked with implementing the Solid Waste Management Plan. The amendment approval process for the Solid Waste Plan is shown below.



Planning Committee Appointment Procedure

BY-LAWS OF THE
GENESEE COUNTY SOLID WASTE MANAGEMENT
PLANNING COMMITTEE
COUNTY OF GENESEE
STATE OF MICHIGAN

2012

Article I: Establishment

Section 1: This Committee was established by the Genesee County Board of Commissioners on August 25, 2021 under the authority of Part 115 of PA 451 of Michigan Public Acts of 1994.

Section 2: The official title of this Committee shall be the Genesee County Solid Waste Management Planning Committee.

Article II: Scope and Purpose

Section 1: The Committee shall assist in the preparation of the Solid Waste Management Plan by providing advice and consultation. The duties of the Committee include, but are not limited to:

1. Identification of local policies and priorities.
2. Insuring coordination and public participation.
3. Periodically advising the County and Municipalities of the Plan's status.
4. Reviewing and approving the plan.
5. Submitting the plan for approval to the Genesee County Board of Commissioners

Section 2: It is the responsibility of the Committee to assure that the Genesee County Metropolitan Planning Commission is fulfilling all the requirements of the act and rules as to both the content of the plan and the public participation.

Article III: Membership

Section 1: Membership on the Committee shall be in accordance with Section 11534 of Part 115 of Act 451 of the Michigan Public Acts of 1994.

Section 2: Membership on the Planning Committee shall include:

1. Four (4) Solid Waste Management Industry
2. Two (2) Environmental Interest Groups

3. One (1) County Government
4. One (1) City Government
5. One (1) Township Government
6. One (1) Regional Solid Waste Planning Agency
7. One (1) Industrial Waste Generators
8. Three (3) General Public

Section 3: The Board of Commissioners of Genesee County shall appoint the Committee.

Article IV: Officers

Section 1: Each year the Committee shall select from its membership a Chairperson and Vice-Chairperson. All officers are eligible for re-election.

Section 2: The Chairperson shall: preside at all meetings; appoint subcommittees; and decide all questions of procedure under the Committee's rules of procedures subject to appeal by a majority vote of the full membership.

Section 3: The Vice-Chairperson shall: preside at a meeting in the absence of the Chairperson; assume the duties and responsibilities of the Chairperson when the Chairperson is absent.

Article V: Meeting

Section 1: All meetings shall be open to the public, and the public shall be afforded the opportunity to speak.

Section 2: Any person so requesting, shall be notified by letter not less than seven (7) days before each public meeting at which the Committee plans to discuss the County Plan.

Section 3: A quorum at any meeting shall consist of the MEMBERS PRESENT at the place and time of meeting. A simple majority of affirmative votes is necessary to pass a motion.

Article VI: Public Hearings and Adoption of a Plan

Section 1: A Public Hearing shall be held when required by: Part 115 of Public Act 451 of 1994, the duly adopted by-laws of the Solid Waste Planning Committee, or when a majority of the membership of the Committee deem a public hearing necessary. Such a hearing shall be advertised on the GCMPC website described in the initial public notice announcing the amendment to the plan, no less

than thirty (30) days before such a hearing. GCMPC staff will also send notices to the public participation list. Additional notices may be posted and sent when deemed necessary by the majority of the membership of the Committee. The notice shall indicate a location where copies of the plan are available for Public inspection and the time and place of the public hearing.

Section 2: The Solid Waste Management Plan, as designated in Part 115 of Public Act 451 of 1994, shall be approved in accordance with Part 115 of Act 451 of 1994.

Article VII: Parliamentary Procedures

Section 1: Current edition of Roberts Rules of Order will be referred to for parliamentary procedures.

Article VII: Amendments

Section 1: Amendments of these by-laws may be made at any meeting of the Committee, provided notice of such amendments was included in the call for the meeting. A majority vote of the members of the Committee is required to amend the by-laws.

Planning Committee

Committee member names and the company, group, or governmental entity represented from throughout the County are listed below.

Four representatives of the solid waste management industry:

1. Tim Church, Brent Run Landfill
2. Derek Neal, Citizens Disposal Landfill
3. Kyle Burnash, Happy Can Disposal
4. Daniel Bourdow, Green for Life Environmental

One representative from an industrial waste generator:

1. John O'Brien, Genesee County Drain Commission

Two representatives from environmental interest groups active within Genesee County:

1. Darren Bagley, Michigan State University Extension
2. Patrick Scanlon, Flint River Watershed Coalition

One representative from County government. All government representatives shall be elected officials or a designee of an elected official:

1. Debora Newman, Genesee County Board of Commissioners

One representative from township government:

1. Chad Young, Mundy Township

One representative from city government:

1. Heather Griffin, City of Flint

One representative from the regional solid waste planning agency:

1. Derek Bradshaw, Genesee County Metropolitan Planning Commission

Three representatives from the general public who reside within the County:

1. Mike Csapo, City of Fenton Resident
2. Amy Freeman, City of Fenton Resident
3. Nancy Edwards, Mundy Township Resident

Appendix D

Plan Implementation Strategy

Plan implementation strategies have been discussed in previous sections of the plan. There are no further strategies listed in this section. Subsequently, there is no applicable documentation of acceptance of responsibilities from any entities that will be performing a role in the Plan.

Resolutions

There are no resolutions from the County Board of Commissioners approving a municipality's request to be included in an adjacent County's Plan.

Listed Capacity

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



January 27, 2023

Gwynneth Coselman

Planner

Genesee County Metropolitan Planning Commission

1101 Beach Street

Flint, MI 48502

RE: Landfill Capacity Confirmation Letter

Ms. Coselman,

In response to your request on November 17, 2022, Brent Run Landfill would like to indicate that it will accept waste from Genesee County. Brent Run Landfill is a Type II Landfill and is located at: 8335 W. Vienna Rd. Montrose, MI 48457. Brent Run Landfill intends to accept waste for 10 or more years during which, Genesee County will continue to have disposal access.

Should you have any questions, please contact me at (810) 444-0811 or at

timothy.church@gflenv.com

Sincerely,

Tim Church

General Manager

Brent Run Landfill, Inc.



Sustainability in Action

December 5, 2022

Sent Via Email

Ms. Gwynneth Coselman
Planner
Genesee County Metropolitan Planning Commission
1101 Beach Street - Room 111
Flint, MI 48502

Subject: Certification of Remaining Capacity
Citizens Disposal, Inc.
Grand Blanc, MI 48439

Dear Ms. Coselman:

We are providing this letter in response to your letter dated November 16, 2022, which asked Citizens Disposal, Inc. to provide written documentation that our facility intends to operate for ten or more years, and that Genesee County will continue to have access to it as a disposal facility.

At this time, Citizens Disposal, Inc. intends to operate the landfill for at least the next ten years. During this time period, Genesee County will continue to have access to the landfill as a disposal facility.

We thank you for your time and if you have any questions, please call me at (248) 333-8654.

Sincerely,

CITIZENS DISPOSAL, INC.

A handwritten signature in blue ink, appearing to read "Rick Rolf", written over the printed name.

Rick Rolf
General Manager



PEOPLES LANDFILL

4143 East Rathbun Road
Birch Run, MI 48415
(989) 777-1145
(989) 777-1460 Fax

December 9, 2022

Ms. Gwynneth Coselman
Associate Planner
Genesee County Metropolitan Planning Commission
1101 Beach Street, Room 223
Flint, MI 48502

Subject: Peoples Landfill Inc.
Capacity for Genesee County Solid Waste Plan

Dear Ms. Coselman,

This letter is being sent in response to your request that Peoples Landfill, Inc. (Peoples) provide you with a letter confirming that Genesee County has access to Peoples listed capacity.

Peoples is a licensed Municipal Solid Waste Landfill and is authorized to accept solid waste in accordance with Michigan Part 115, Solid Waste Management if the Natural Resources and Environmental Protection Act, PA 451. As such, Peoples accepts residential, commercial, industrial, construction & demolition, contaminated soils, special, and solidification wastes for disposal.

Peoples intends to operate for more than ten years, and during this time will accept non-hazardous solid waste from Genesee County in accordance with the Solid Waste Management Plans for Shiawassee and Genesee Counties

Please feel free to contact me at (989) 721-9982 or by email at ngreen@wm.com if you have any questions.

Sincerely,

Nicole Dennis

Nicole Dennis
Environmental Engineer
Peoples Landfill Inc.



VENICE PARK RDF

9536 Lennon Road
Lennon, MI 48449
(810) 621-9080
(810) 621-3156 Fax

December 9, 2022

Ms. Gwynneth Coselman
Associate Planner
Genesee County Metropolitan Planning Commission
1101 Beach Street, Room 223
Flint, MI 48502

Subject: Venice Park Recycling and Disposal Facility
Capacity for Genesee County Solid Waste Plan

Dear Ms. Coselman,

This letter is being sent in response to your request that Venice Park Recycling and Disposal Facility (Venice Park) provide you with a letter confirming that Genesee County has access to Venice Park's listed capacity.

Venice Park is a licensed Municipal Solid Waste Landfill and is authorized to accept solid waste in accordance with Michigan Part 115, Solid Waste Management under the Natural Resources and Environmental Protection Act, PA 451. As such, Venice Park accepts residential, commercial, industrial, construction & demolition, contaminated soils, special, and solidification wastes for disposal.

Venice Park intends to operate for more than ten years, and during this time will accept non-hazardous solid waste from Genesee County in accordance with the Solid Waste Management Plans for Shiawassee and Genesee Counties

Venice Park's address is provided at the top of this letter.

Please feel free to contact me at (989) 721-9982 or by email at ngreen2@wm.com if you have any questions.

Sincerely,

Nicole Dennis

Nicole Dennis
Environmental Engineer
Venice Park Recycling and Disposal Facility

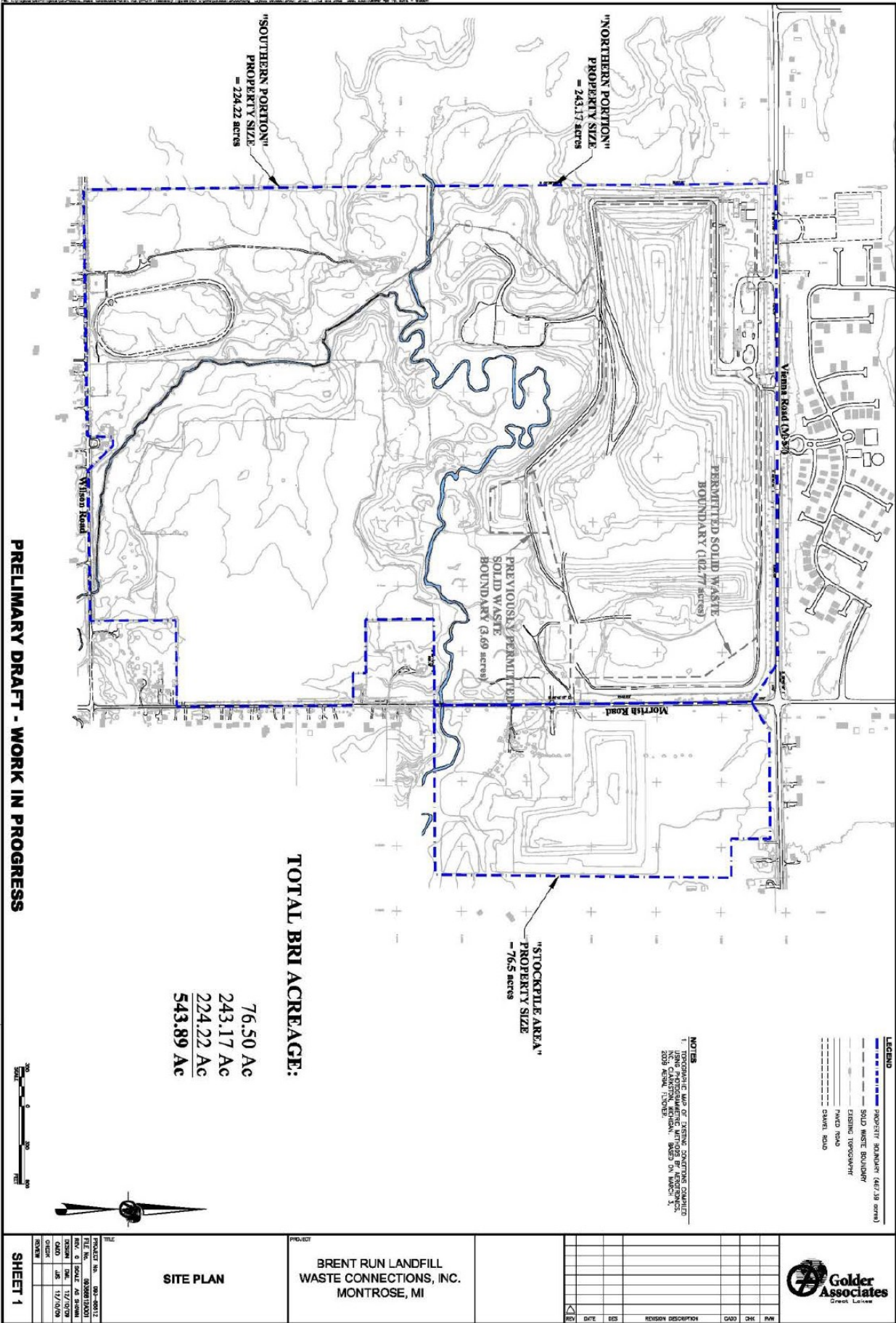
Maps

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

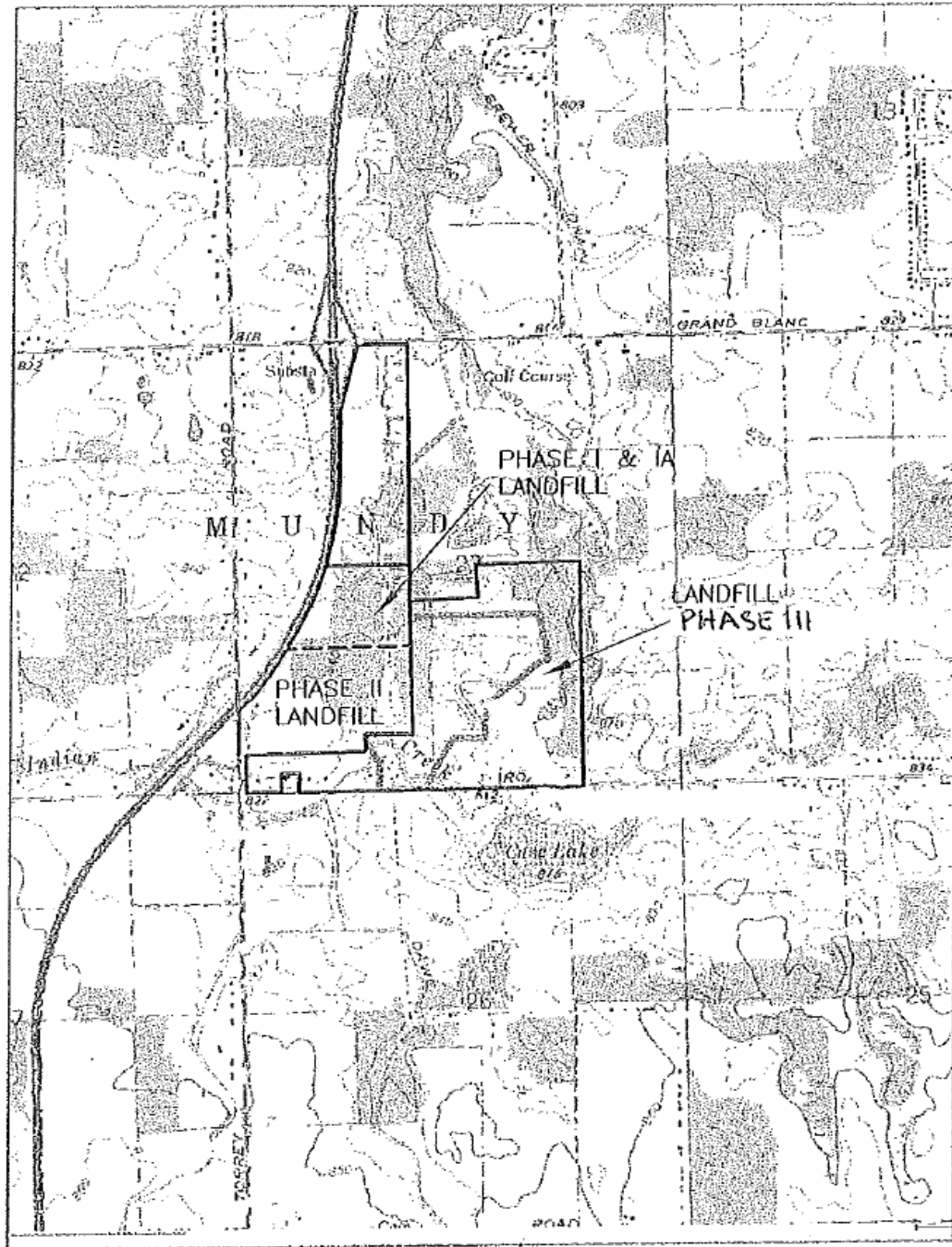
Brent Run Landfill Location



Brent Run Landfill Boundary



Citizen's Disposal Location



NOTE: DATA SUPPLIED FROM DELORME, MICHIGAN-FLINT SOUTH, 1999, 3-D TOPOQUADS.

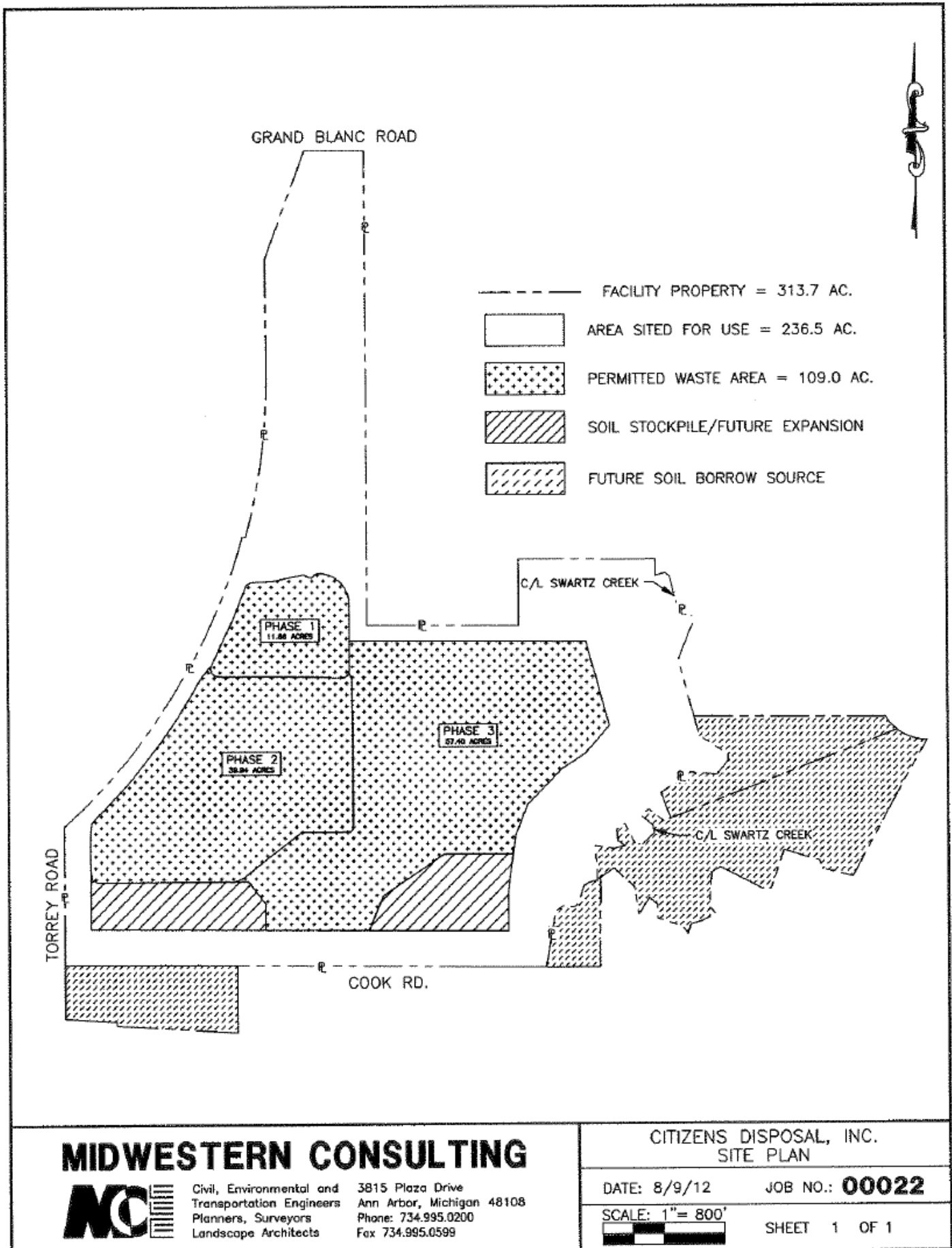


CITIZENS DISPOSAL, INC.
GRAND BLANC, MICHIGAN
SITE LOCATION MAP

DESIGNED BY	CXM	6/21/01
DRAWN BY	JLC	6/21/01
APPROVED BY	PLE	6/21/01
CADFILE	SCALE	
473596020	1"=2000'	
STS PROJECT NO.	FIGURE NO.	
73596	1	

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Citizen's Disposal Landfill Boundary



MIDWESTERN CONSULTING



Civil, Environmental and
Transportation Engineers
Planners, Surveyors
Landscape Architects

3815 Plaza Drive
Ann Arbor, Michigan 48108
Phone: 734.995.0200
Fax: 734.995.0599

CITIZENS DISPOSAL, INC. SITE PLAN

DATE: 8/9/12

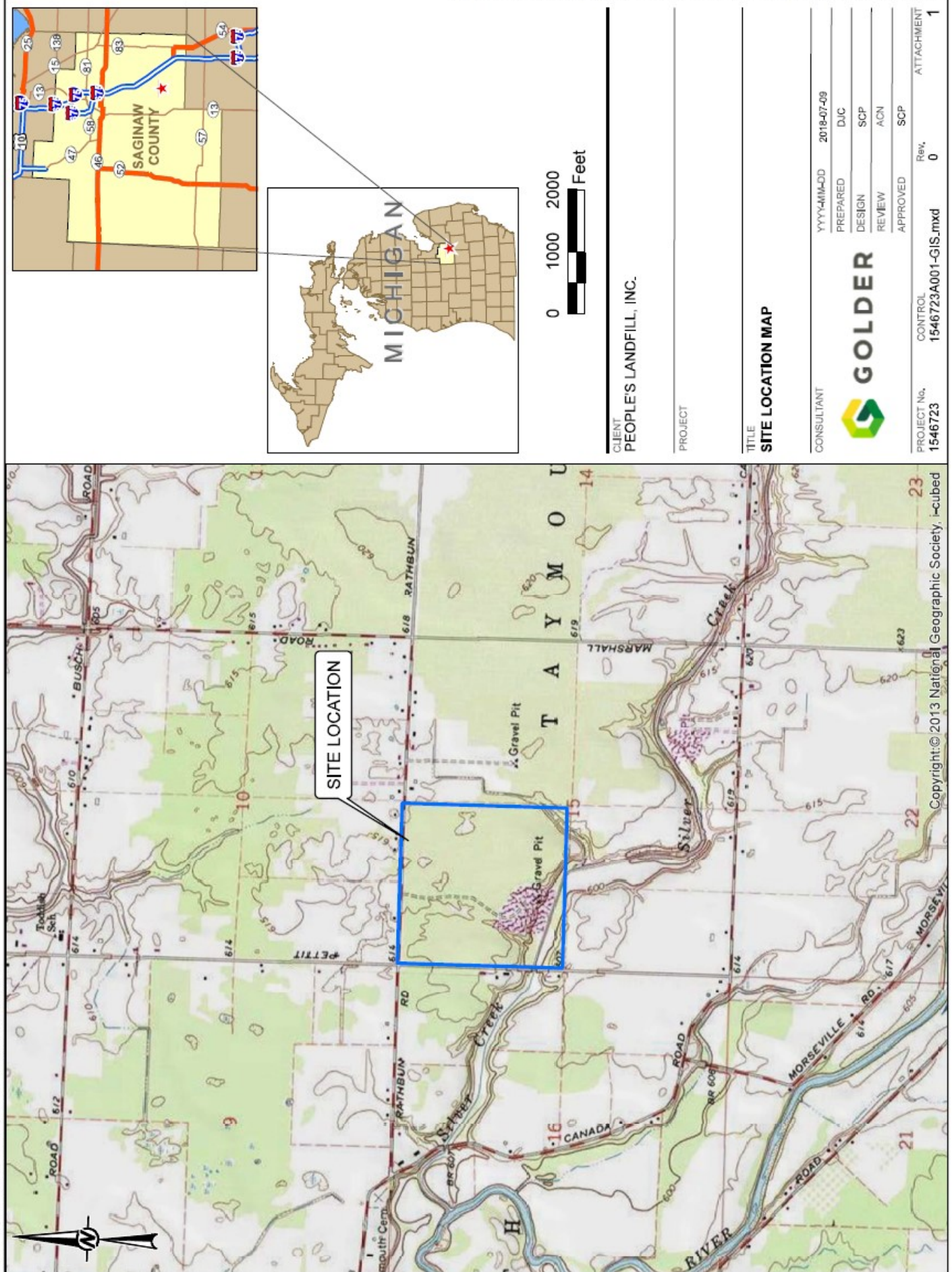
JOB NO.: **00022**

SCALE: 1" = 800'

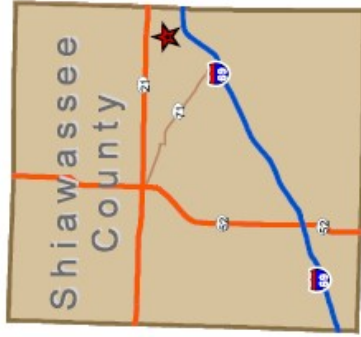
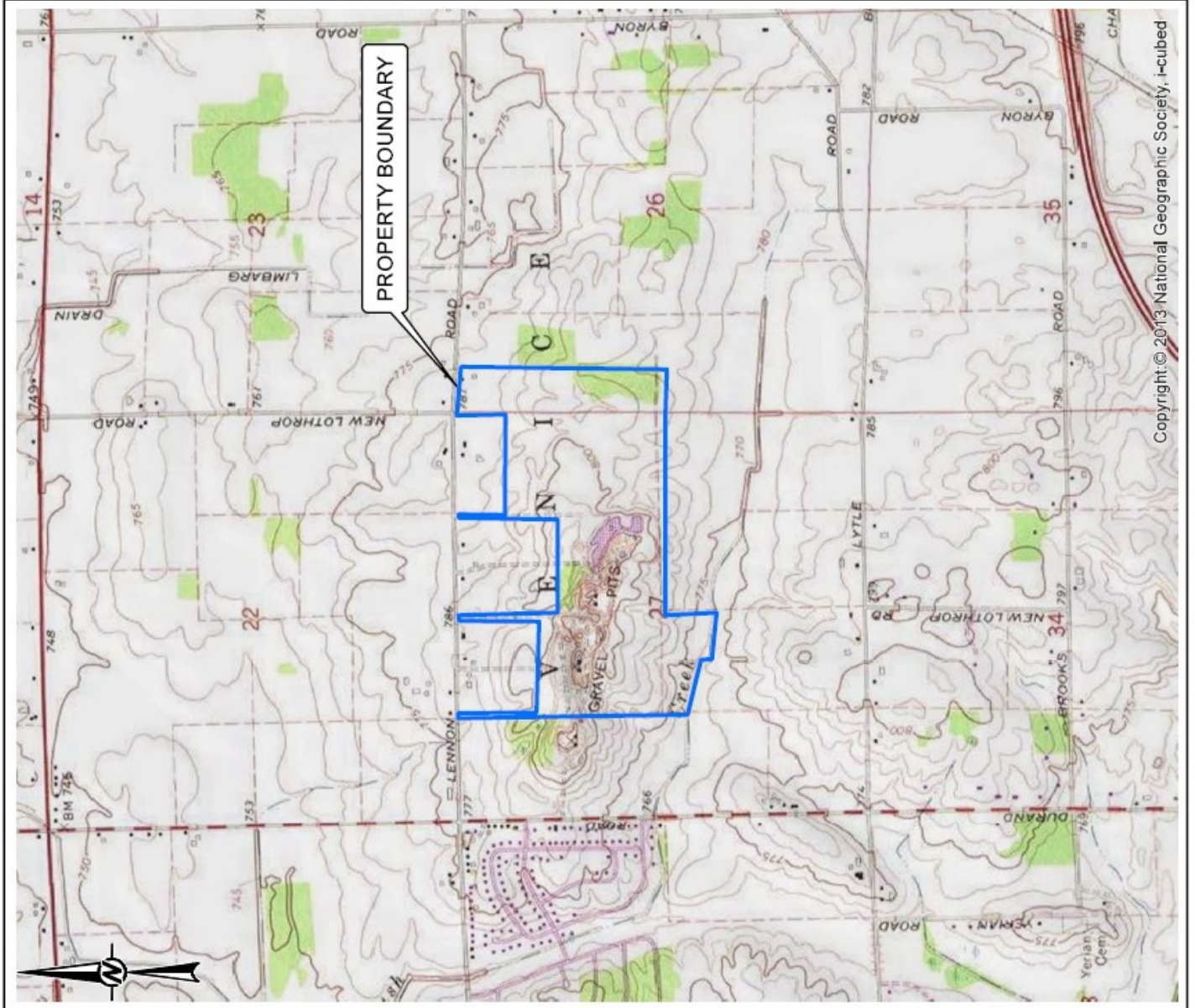


SHEET 1 OF 1

People's Landfill Location



Venice Park Landfill Location



CLIENT
WASTE MANAGEMENT OF MICHIGAN, INC.
VENICE PARK LANDFILL
LENNON, MICHIGAN
PROJECT

TITLE SITE LOCATION MAP

CONSULTANT

YYYY-MM-DD 2021-06-17

PREPARED DJC

DESIGN SCP

REVIEW ACN

APPROVED SCP



PROJECT No.

19124967

Rev.

0

FIGURE

1

Genesee County Department of Water and Waste Landfill Location



Inter-County Agreements

There are no copies of Inter-County agreements with other Counties.

Special Conditions

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

Appendix E

Genesee County Solid Waste Management Plan

Technical Report 1 Overview of County

DRAFT



GENESEE COUNTY
METROPOLITAN PLANNING
COMMISSION

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	Socioeconomic Projections
	Recycling Employment
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	Waste Generation
	Imported and Exported Waste Volumes
17	Diversion in the County
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16	Map 1.4 Average Exported Waste Volumes from Genesee County for 2016-2020 (Cubic Yards)

Introduction

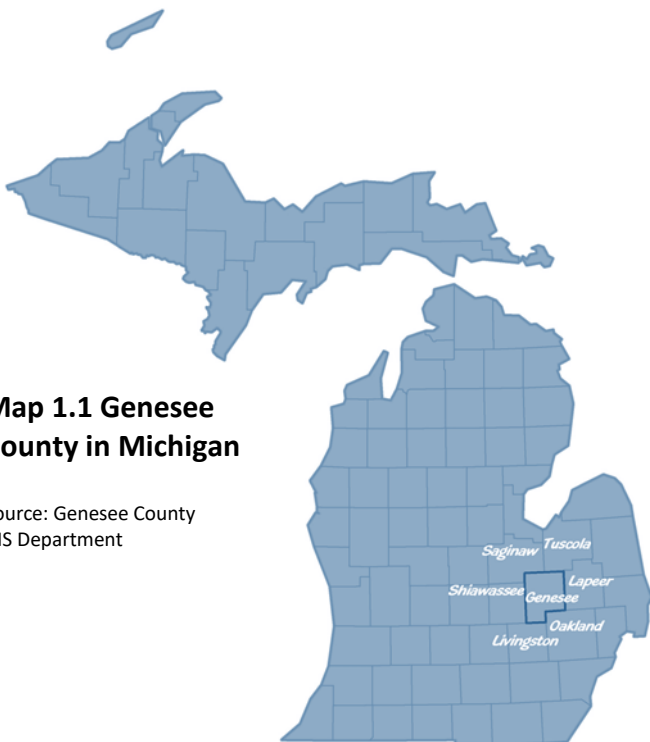
Over the last several years, approaches to solid waste planning across the country have evolved significantly. Technological advancements and the general need to conserve resources for economic, public health, and environmental reasons have helped shape dynamic solid waste programs.

The Genesee County Solid Waste Plan and corresponding programs have been serving the residents and businesses of the county for decades to ensure efficient disposal and recycling services as well as provide educational and recycling opportunities. This amendment of the Genesee County Solid Waste Plan will not only continue to ensure those core principles but will also expand upon the plan and programs to help reap the greatest sustainable benefits in the solid waste system.

This plan is organized according to the Michigan Department of Environment, Great Lakes, and Energy's (EGLE) regulations for solid waste plans. While following those guidelines, the plan also incorporates additional sections that are vital to understanding the importance of solid waste and recycling in Genesee County, as well as seeking to deliver detailed and measurable implementation steps for improving solid waste system planning.

Map 1.1 Genesee County in Michigan

Source: Genesee County GIS Department



Overall View of the County

Genesee County is located in Southeast Michigan. It is bordered to the north by Saginaw and Tuscola Counties; to the east by Lapeer County; to the south by Oakland and Livingston Counties; and to the west by Shiawassee County. The County covers approximately 636 square miles of which 50% is urban or built and 50% is rural or undeveloped.



Higher concentrations of population and residential areas are primarily in the Cities of Flint and Burton, as well as the townships of Grand Blanc, Flint, Genesee, and Mt. Morris as portrayed in **Figure 1.19** on page 21 of the Appendix. **Figure 1.1** shows a general view of the county based on 2020 data. Economic data is also provided in **Figure 1.19** for each municipality showing their total contributing percentage of employment to each industry. The City of Flint accounts for most of the economic activity, followed by Flint and Grand Blanc Townships. Overall, in the county, 49.4% of employment is accounted for in the Service sector, followed by Retail, Government and Finance which each make up between 10 to 12% of total employment.



Figure 1.1 Employment in Genesee County

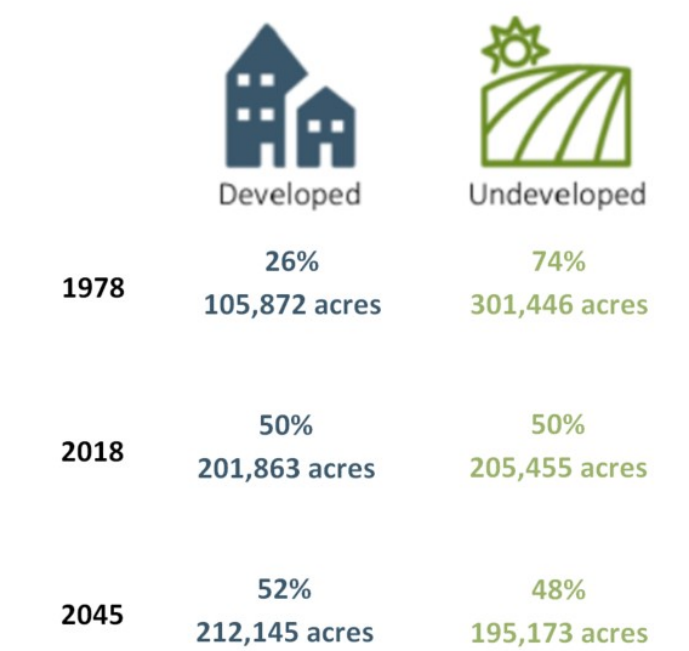
Pop 2020	# of Employees	U&B %	UND %	Econ M %	Econ O %	Econ T %	Econ F %	Econ R %	Econ W %	Econ S %	Econ G %
405,553	209,887	50%	50%	6.8%	5.7%	2.8%	10.2%	11.3%	2.9%	49.4%	10.9%

*U & B = Urban and Built, UND = Undeveloped, Econ M = Manufacturing, Econ O = Other, Econ T = Transportation, Warehousing & Real Estate, Econ F = Finance, Insurance & Real Estate, Econ R = Retail Trade, Econ W = Wholesale Trade, Econ S = Service, Econ G = Government. Figure A in the Appendix expands on this table to show all municipalities.
Source: 2020 Census Data and Genesee County LUG Employment Calculations

Land Use and Demographics

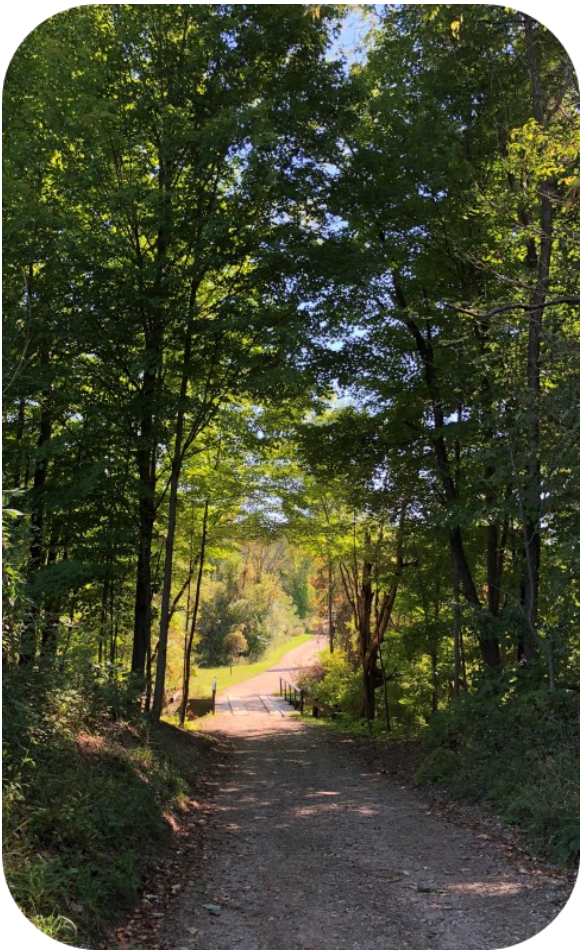
In 2018, GCMPC performed an analysis of the past and current land use trends in Genesee County. The results of this analysis show that of the 407,318 acres that make up Genesee County, about 50% of those acres are agricultural and other undeveloped land (see **Figure 1.2**). However, mainly due to residential development in our rural townships, agricultural land is depleting. Of the remaining land uses, the single family residential (SFR) use dominates the landscape. A total of 80% of the “built” environment in Genesee County is comprised of SFR development.

Figure 1.2 Genesee County Built Environment



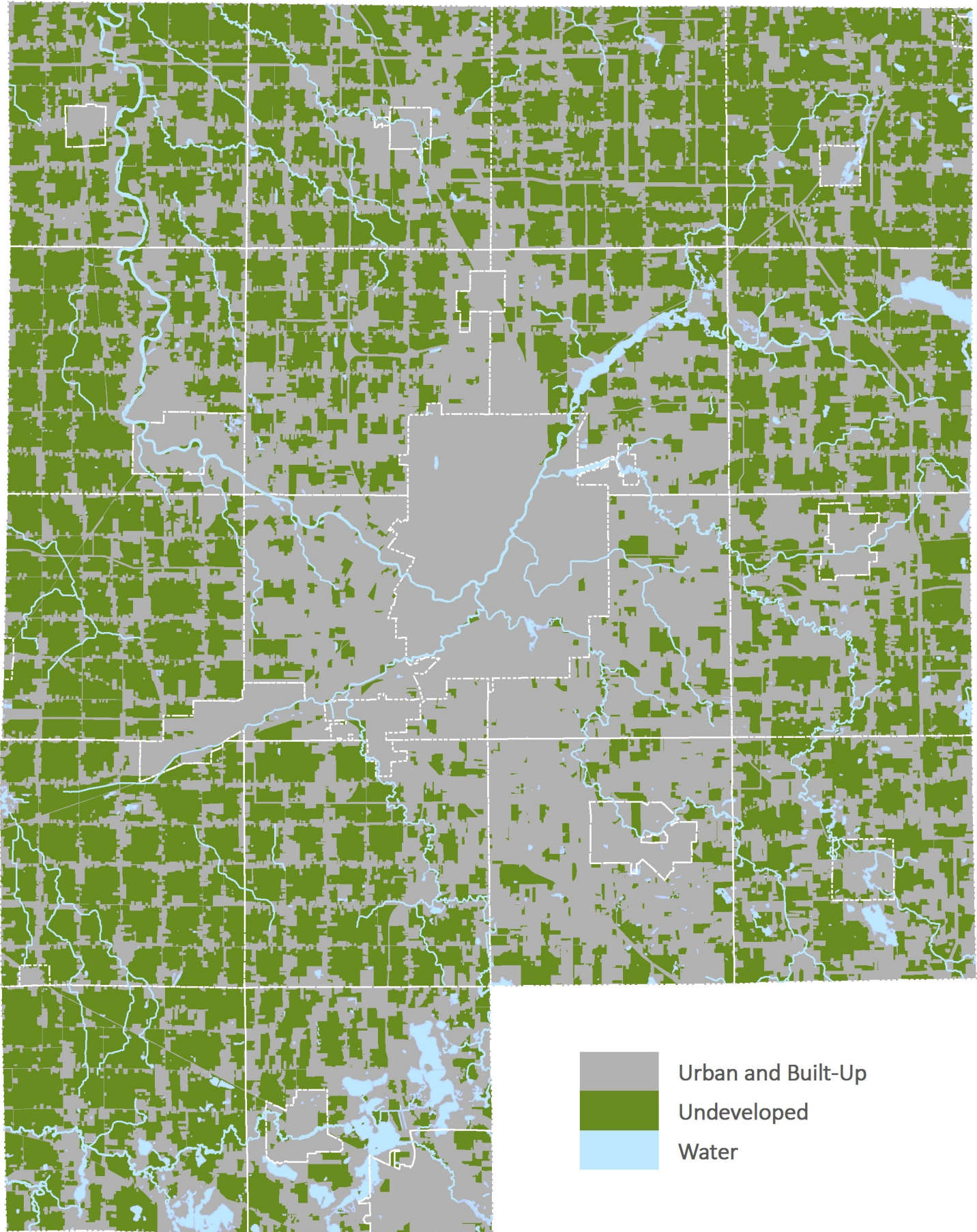
Source: Genesee: Our County, Our Future, Land Use Technical Report

Land use trends in the county have relied heavily on land consumption with the majority of development occurring on agricultural lands and other open



spaces. With a part of the county consisting of single-family residential developments and residential waste currently 32% of the total waste generated in the county, it is important to take into consideration land development trends when projecting solid waste capacity in Genesee County. Possible changes in waste generation may result from the residential sector if these land use trends should continue. **Map 1.2** identifies the land use in Genesee County as Urban and Built- Up or Undeveloped.

Map 1.2 Genesee County Built Environment



Source: Genesee: Our County, Our Future, Land Use Technical Report



Socioeconomic Projections

To accurately estimate the existing and future generated solid waste stream in the County, population and employment data was gathered. Genesee County has used population and employment data from a combination of sources that include the U.S. Census Bureau and projections made by GCMPC that were part of the Genesee: Our County, Our Future Plan (2020). **Figure 1.3** shows the population growth rate between 2014 and 2045 was found to be slightly lower than expected, changing from 412,895 to 407,870 over a 30 year period. Employment on the other hand, is projected to increase over this same period from 191,542 to 221,643. While Manufacturing, Retail Trade, and Wholesale Trade jobs will all decrease over this same period, Services, Transportation and Public Utilities, Government, and Other jobs are expected

to increase. The Services sector is substantially going to increase, resulting in an overall county estimate of about 32,000 more jobs by the year 2045. These projections significantly affect commercial waste generation estimates as each industry sector produces different amounts of waste per employee.



Figure 1.3 Genesee County 2014-2045 Socioeconomic Projections

Employment Category	2014	2020	2025	2035	2040	2045
Manufacturing	13,090	14,309	13,431	12,504	12,013	11,547
Other	10,487	12,023	12,068	11,670	11,416	11,168
Transportation and Public Utilities	5,362	5,822	5,823	6,134	6,387	6,645
Finance, Insurance and Real Estate	19,981	21,523	21,114	20,184	19,787	19,411
Retail Trade	24,602	23,701	23,200	22,373	22,072	21,780
Wholesale Trade	6,277	6,014	5,970	5,750	5,556	5,372
Services	89,533	103,929	109,972	115,393	118,523	121,743
Government	22,210	22,836	23,107	23,107	23,789	23,977
Total Employment	191,542	209,887	214,685	217,610	219,543	221,643
County Population Estimates	412,895	405,533	402,253	402,689	405,931	407,870

Source: Genesee: Our County, Our Future, 2045 Employment Projections

Recycling Employment

When analyzing the effectiveness of recycling in Genesee County, an important factor to consider are the various industries of recycling and how many people are employed as a result. Staff used the report, Employment Trends in North Carolina’s Recycling Industry, to determine sectors of recycling employment data. Even sectors such as Motor Vehicle Parts Manufacturing and Human Resource Consultants were found to contain recycling employment data. Staff then used similar 2017 NAICS codes found on the U.S. Census website to break the data into several different categories, reflecting the variety of recycling industries in the county. The industries that data was collected for were Recycling Collection Businesses, Recycling Process and Manufacture, Wholesale and Retail Reuse, and Supporting Businesses. This method was replicated for the 2021 plan amendment.

(2,742), with more than half of employees in this sector categorized in Motor Vehicle Parts Manufacturing. Another significant sector of recycling services in Genesee County are the Supporting Businesses, which include Engineering and Research Services as well as Marketing Consultants that aid with providing support to the rest of the recycling sector. All NAICS codes and titles used to determine employment factors can be found in Figure 1.20 on page 22.

Figure 1.4 Recycling Employment in Genesee County	
Type	Employment
Waste Collection	327
Waste Treatment and Disposal	69
Remediation and Other Waste Management Services	243
Recycling Process and Manufacture	
Paper	0
Copper	0
Plastics	519
Urethane and Other Foam	512
Gasket Packaging	100
Rubber	0
Construction Materials	0
Wholesale and Retail Reuse Employment Data	
Used and General Merchandise Stores	822
Electronics Maintenance and Repair	154
Household Goods Repair	61
Commercial Machinery Repair and Maintenance	104
Motor Vehicle Parts Manufacturing	1,550
Farm Equipment Manufacturing	0
Construction Machinery Manufacturing	0
Misc. Fabricated Metal Products Manufacturing	51
Supporting Business Employment Data	
Engineering and Research Services	338
Administrative Management Consulting Services	164
Human Resources Consultants	19
Marketing Consultants	34
Process and Logistics Services	138
Commodity Contracts, Brokerage	19
Freight Transportation Arrangement	159

Source: U.S. Census, North American Classification System (NAICS), and Employment Trends in North Carolina’s Recycling Industry Report



Figure 1.4 reveals the number of people employed at governmental organizations and facilities that directly oversee and process recycling collections. As part of the Recycling Process and Manufacture sector total employment is listed as 1,131 employees, where approximately one third of those jobs involve working with recycling various plastic materials. The Wholesale and Retail Reuse sector has the most significant number of employees

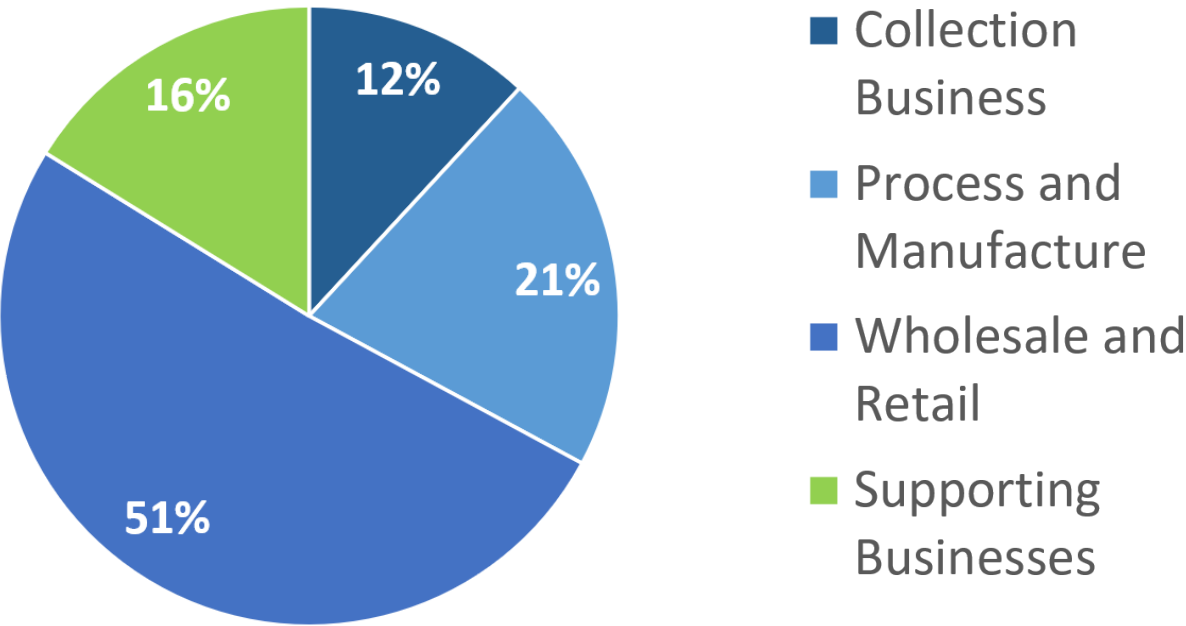
Recycling Employment

As shown in **Figure 1.5** and **Figure 1.6**, Genesee County supports a total of 5,383 employees through various recycling services, making up a small portion of total county employment. Recycling employment has greatly decreased since the last plan update due to the closure of businesses in these sectors in Genesee County. The majority of recycling employment is found in the Wholesale and Retail sector, where there are 2,742 employees making up 51% of the total recycling employment. Based on the data found through staff’s analysis, it is evident that the recycling sector could be improved in Genesee County’s economy. Additional policies and programs that support and increase recycling efforts in the county would clearly be benefits to this area of employment.

Figure 1.5 Genesee County Summary Recycling Employment Data	
Type	Employment
Collection Businesses	639
Process and Manufacture	1,131
Wholesale and Retail	2,742
Supporting Businesses	871
TOTAL	5,383

Source: U.S. Census and North American Classification System (NAICS)

Figure 1.6: Genesee County Recycling Employment Sectors

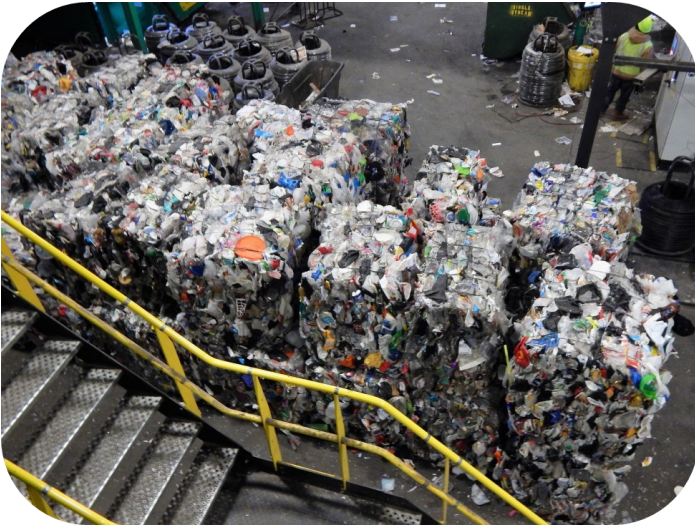


Source: U.S. Census and North American Classification System (NAICS)



Solid Waste in the County

This section elaborates on the sources of waste generation within Genesee County and indicates the total quantity of solid waste generated to be disposed and diverted. This information is a crucial factor in determining future landfill capacity as well as an indicator of where additional efforts need to be made to help divert waste from the landfills.



Sources of Waste Generation

Waste in Genesee County comes from a variety of sources; in general, the majority of non-hazardous waste generated is municipal solid waste or MSW, which includes residential, commercial, and industrial land uses. The rest of the waste is made up of construction and demolition debris or CDD and industrial special wastes or ISW.

Residential Waste Generation

Residential waste generation for Genesee County is determined based on the Annual Reports of Solid Waste Landfilled in Michigan, provided by the Department of Environment, Great Lakes, and Energy. These reports provide data on the origins of waste within the state broken down by county. Data on waste that is imported to and exported from Genesee County can also be found within each report. EGLE provides staff with invaluable resources every year in the form of these reports.

Commercial Waste Generation

Commercial waste generation for the county was one of the more difficult data pieces to account for

in the development of this plan as commercial and industrial waste contracts are typically between two private entities. With local data not available, staff reviewed a variety of data sources and methodologies. Staff concluded that national data averages for commercial waste generation and diversion may not accurately reflect our areas trends, however, the methodology used by Washtenaw County in their Solid Waste Plan Update to develop their commercial waste generation and diversion estimates seemed sound and could be used to calculate Genesee County quantities. County staff used the results of the Washtenaw County plan to determine the commercial waste generation for Genesee County.

The Washtenaw County methodology was developed by surveying a sample of local businesses regarding their waste and diversion quantities. They used the sample data to make assumptions regarding specific business sectors such as per employee waste generation quantities and diversion rates. The benefit of this methodology is that when projecting future waste generation and diversion quantities for industries one can better account for shifts in the economy, such as a workforce moving from a manufacturing-based economy to a service-based economy, that may dramatically increase or decrease waste generation and diversion. These quantities and rates determined by Washtenaw County were used with Genesee County industry sector employee data and employment projections to calculate current and future waste and diversion quantities for the county. This data was then used to create growth factors for future years for waste and diversion quantities. Recognizing that the quantities generated from this methodology are estimates, staff concluded that the growth factors themselves were developed from a sound methodology and should be used for further analysis in the development of the plan.

To estimate commercial waste generated in the year 2020, staff subtracted residential waste quantities provided by the Annual EGLE Landfill reports from the EGLE Municipal Solid Waste (MSW) generation total for Genesee County. This methodology was replicated more recently with updated data and

used in the Genesee: Our County, Our Future plan.

Total Municipal Solid Waste - Residential Waste = Commercial Waste

This quantity is identified as the base quantity of commercial waste generated for the plan. The calculated growth factor percentages were applied to this base quantity to generate future commercial waste generation. The commercial waste generation growth factor percentages were calculated from the corresponding industry sector charts listed in **Figure 1.21** of the appendix. The Waste Generation Rate and Work Days columns in **Figure 1.7** were taken from the Washtenaw County plan and used to determine the Total Commercial Waste Generated Percent Increase in **Figure 1.8**.

Total Waste Generated

Figure 1.9 details the total waste generated for 2017 in Genesee County, as well as waste generation projections through 2045 using population projections from the Genesee: Our County, Our Future plan. This estimated rate of waste generation gives the county an idea of how to plan for increases in waste and look for methods to help reduce waste generation. Overall, population in Genesee County is projected to slightly decrease. The total annual waste generation (CY) is projected to be about the same at 1,284,719 cubic yards in 2017 and 1,284,727 in 2045. The residential and industrial sections are projected to decrease while the commercial sector is projected to increase by 2.3%.

Figure 1.7 Commercial Waste Generation Rate

Industry	Waste Generation Rate lbs./employee/day	Work Days
Manufacturing	8.6	6.33
Other	8.6	5
Transportation	7.29	5
Finance	8.6	5
Retail	5.55	6.44
Wholesale	7.29	6.43
Service	8.6	5.71
Government	8.6	5

Source: Washtenaw County Solid Waste Management Plan

Figure 1.8 Commercial Waste Generated % Increase

Year	Total Commercial Waste Generated % Increase
2020	-
2025	0.50%
2030	0.08%
2035	0.22%
2040	0.19%
2045	0.21%

Source: GCMPC Waste Generation Table and EGLE Annual Landfill Reports



Figure 1.9 Total Waste Generated (cubic yards per year)

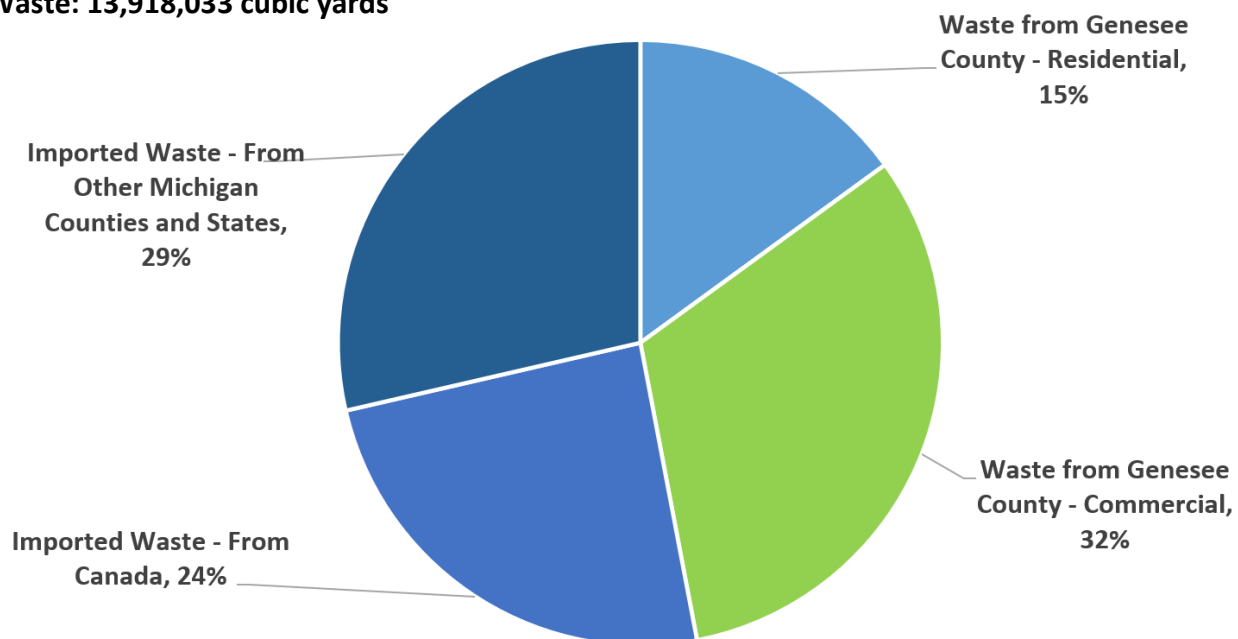
Sector	2017	2020	2025	2030	2035	2040	2045
Residential*	405,384	404,289	403,642	403,481	403,763	404,409	404,814
Commercial	413,518	417,943	420,032	420,410	421,335	422,136	423,211
MSW Sub-total	1,028,111	1,030,333	1,029,965	1,028,861	1,028,861	1,028,330	1,028,047
Construction / Demolition	203,853	240,000	203,985	203,943	203,928	203,922	203,910
Industrial Special Waste	52,755	52,793	52,789	52,778	52,775	52,773	52,770
Total Annual Cubic Yards	1,284,719	1,287,125	1,286,740	1,285,582	1,285,193	1,285,025	1,284,727
Population	408,868	405,553	402,253	401,362	402,689	405,931	407,870
Pop Growth Rate (%)	N/A	-0.27%	-0.16%	-0.04%	0.07%	0.16%	0.10%

*Does not include multi-family data

Source: Genesee: Our County, Our Future, 2045 Employment Projections

Figure 1.10 Waste Disposed in Genesee County Landfills (2016-2020)

Total Waste: 13,918,033 cubic yards



Source: Genesee: EGLE Annual Landfill Reports

Imported and Exported Waste Volumes

Part of the purpose of the Solid Waste Plan is to determine current and future landfill capacity in the county. One of the key determinants of landfill capacity and waste volumes in the county is imported and exported waste. Staff utilized the Michigan Department of Environment, Great Lakes, and Energy's Reports of Solid Waste Landfilled in Michigan from 2016 through 2020 to determine the average imported and exported waste volumes. The total numbers include municipal, industrial, and construction and demolition waste (see **Figure 1.10**).

comes from Canada and approximately 29% of waste comes from other Michigan counties and states. **Figures 1.11, 1.12, 1.13** and **Map 1.3** show further details on the significant amount of waste that Genesee County imported over a five-year period.

Imported Waste Volumes

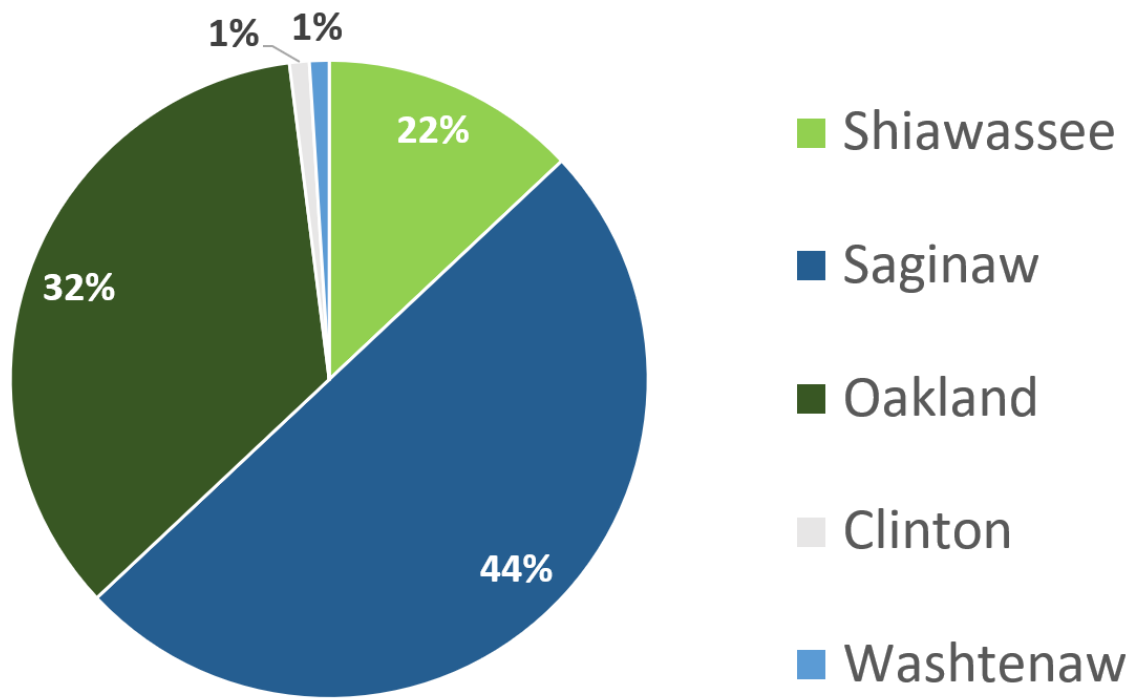
While Genesee County typically sends about 1.3 million Cubic Yards of waste to its own landfills, this only accounts for 47% of the average total waste entering the landfills. On average, over 24% of waste

Figure 1.11 Genesee County Imported Waste

Origin (2016-2020)	Waste in Cubic Yards	% of Waste Imported into Genesee Co.
Michigan Counties (excluding Genesee)	752,684	48.93%
Other States	99,998	6.49%
Canada	685,781	44.58%
Waste Imported (2016-2020)	1,538,463	100%

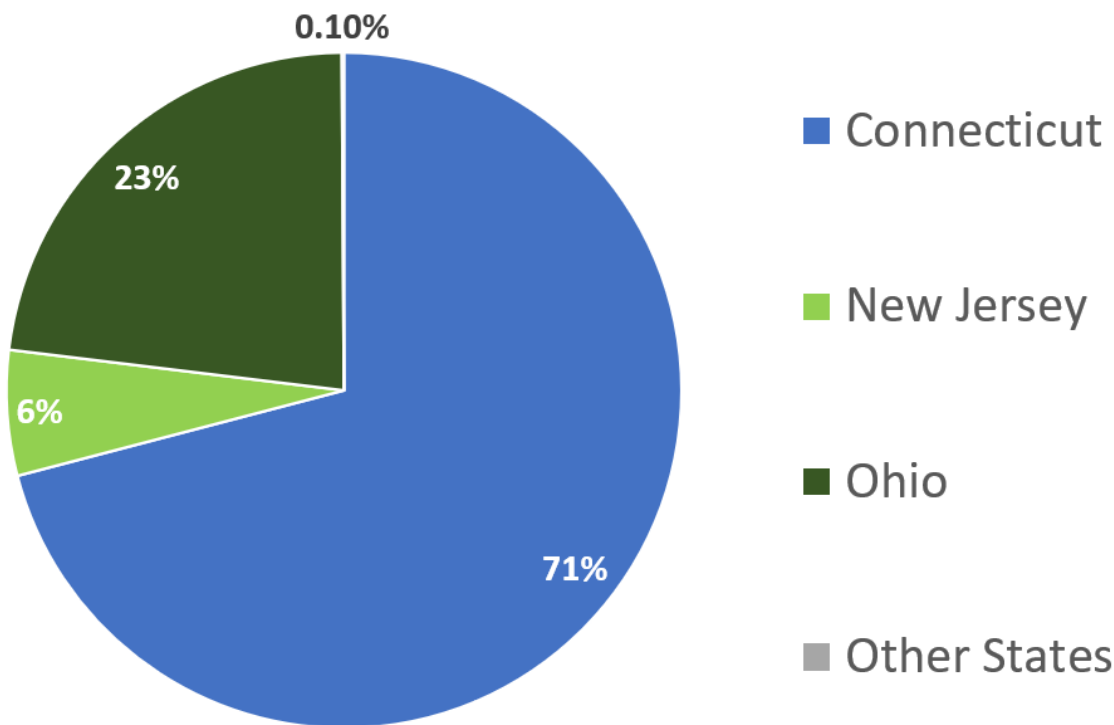
Source: EGLE Annual Landfill Reports

Figure 1.12 Imported Waste by County in Cubic Yards (2016-2020)



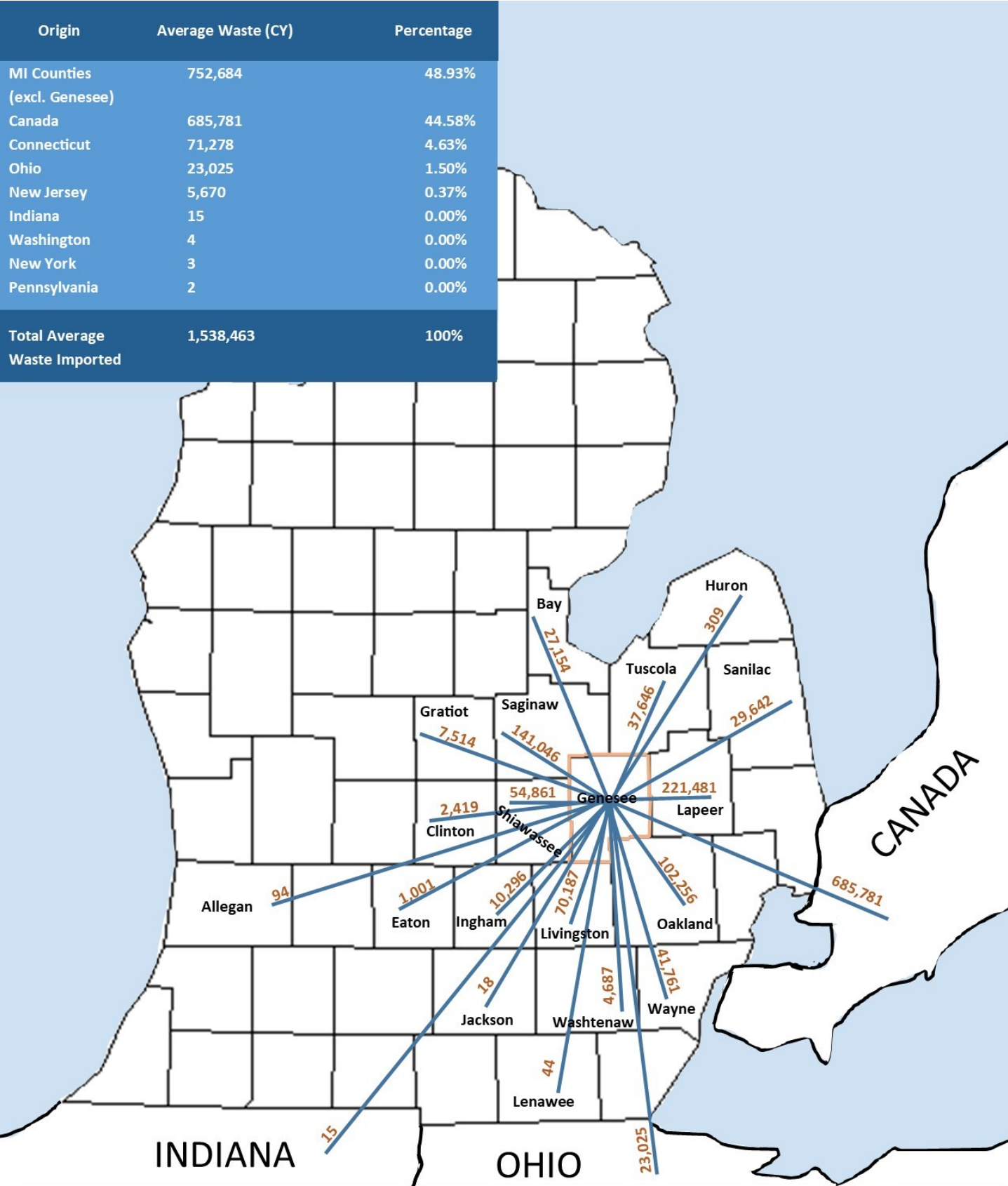
Source: Genesee: EGLE Annual Landfill Reports

Figure 1.13 Imported Waste by State in Cubic Yards (2016-2020)



Source: Genesee: EGLE Annual Landfill Reports

Map 1.3 Average Imported Waste Volumes from 2016-2020 to Genesee County, Michigan (Cubic Yards)



Source: Genesee: Our County, Our Future, Land Use Technical Report

Exported Waste Volumes

Over the last 5 years, the average annual amount of waste produced by Genesee County is about 1,506,174 cubic yards; of this amount, only 17% is exported to other counties in Michigan. Genesee County typically exports its waste to Oakland, Saginaw, Shiawassee, Washtenaw, and Clinton counties, with the majority of the waste being exported to Shiawassee County. With a high percentage of imported waste into the county, this reinforces that additional efforts need to be made to implement programs to divert waste from county landfills. **Figure 1.14** and **Map 1.4** show total average numbers for Genesee County exported waste volumes from the years 2016 through 2020.



Figure 1.14 Average Exported Waste Volumes from Genesee County (Cubic Yards)

Destination	2016	2017	2018	2019	2020	Total Average
Bay County	112	45	113	250	352	174
Clinton County	905	1,317	581	409	479	738
Monroe County	0	0	30	0	0	6
Oakland County	1	43	371	8,658	13,817	4,578
Saginaw County	21,702	0	16,690	30,201	27,275	19,173
Shiawassee County	246,754	264,390	235,355	226,388	202,170	235,011
Jackson County	0	0	0	0	624	124
St. Joseph	13	500	0	330	400	248
Washtenaw County	458	742	708	168	540	523
Wayne County	0	7	20	217	31	55
Total Average Exported						260,630

Source: EGLE Annual Landfill Reports

Map 1.4 Average Exported Waste Volumes from Genesee County for 2016-2020 (Cubic Yards)



Source: EGLE Annual Landfill Reports

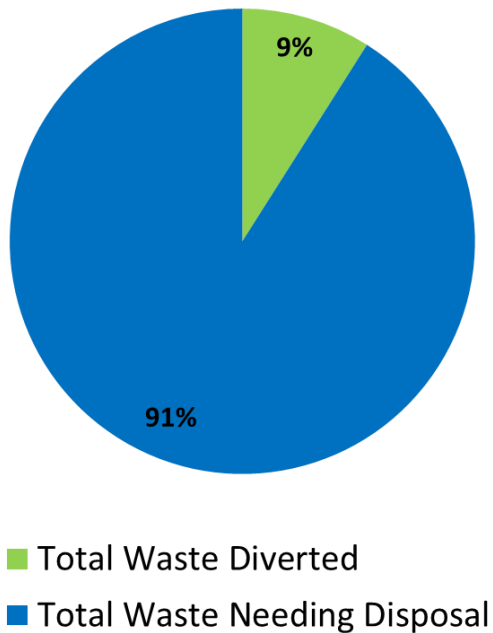
Diversion in the County

With solid waste being generated each year, waste diversion strategies have become critical to retain vital resources and sustain the natural environment for future generations. To better understand where Genesee County sits in terms of waste diversion and make informed decisions about recycling programming, staff must recognize the overall diversion rate for the county. In 2019, the County partnered with Resource Recycling Systems (RRS) on a Solid Waste Evaluation Study to determine a new diversion rate which is the amount of waste that is diverted from landfills. In addition to determining the county’s diversion rate, GCMPC staff conducted a windshield survey to establish curbside recycling participation rates for each municipality in Genesee County. By identifying this critical information, combined with other developments in recycling programs across the county, staff are better able to ascertain strategies to improve diversion in our community.

Genesee County Diversion Rate Study

Genesee County’s work with RRS provided staff crucial information on the status of waste diversion in the county. Through the Solid Waste Evaluation Study, RRS determined the county-wide diversion rate to be 9% (shown in **Figure 1.15**), which includes waste diverted through recycling and composting. To identify the county’s diversion rate, RRS collected data from Material Recovery Facilities (MRF) such as Resource Recovery and Recycling Authority of Southwest Oakland County (RRRASOC) and composting facilities like Country Oaks Landscape Supply in Burton. MRFs are plants that separate and prepare recyclable materials to be sold to end users for processing. MRFs track the quantity of recyclables collected from waste haulers, such as Republic Services and Emterra Environmental, and thus were able to identify recyclables coming from Genesee County. This recycling data is then combined with the quantity of yard waste that was delivered to local composting facilities generated from Genesee County. Once this information was compared to garbage generated and landfilled from Genesee County, RRS was able to establish the 9% diversion rate.

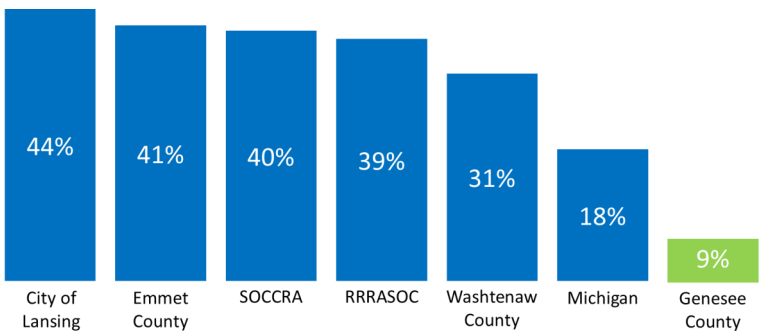
Figure 1.15 Genesee County Diversion Rate



Source: Genesee County Solid Waste Evaluation

To better understand how Genesee County matches up statewide, RRS provided diversion rates for other Michigan agencies, see **Figure 1.16**. Based on this data, the diversion rate for the City of Lansing was 44%, one of the highest rates in the state of Michigan. Similarly, Emmet County’s diversion rate was 41%. The Southeastern Oakland County Resource Recovery Authority (SOCCRA) and the Resource Recovery and Recycling Authority of Southwest Oakland County (RRRASOC) had diversion rates of 40% and 39% respectively. The statewide average diversion rate is approximately 18%. Knowing that there is room for improvement in terms of waste diversion compared to other agencies, Genesee County must look at best practices to enhance local diversion programs.

Figure 1.16 Diversion Rate Comparison



Source: Genesee County Solid Waste Evaluation



Genesee County Recycling Participation Survey

2019 Recycling Participation Survey

In 2019, GCMPC conducted a survey throughout all communities within the County that utilize curbside recycling services. This survey was done to gauge the rate of participation throughout Genesee County. Understanding participation rates provides an analysis of what types of services are the most effective as well as determines where recycling services and education may need to be improved. Gathering this data also assists staff in better understanding how recycling participation has changed in the County over time.

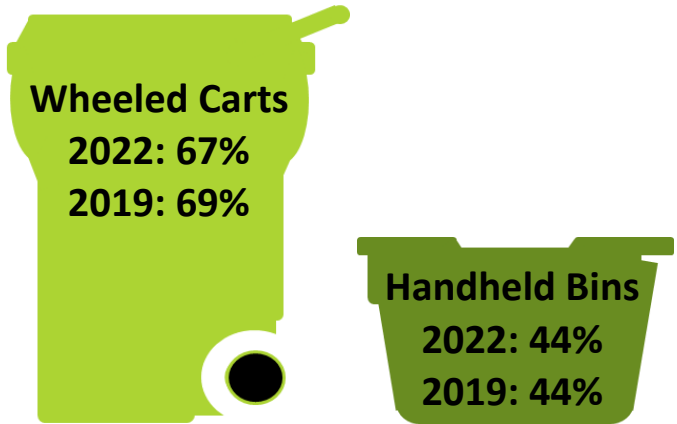
To conduct this survey, staff first confirmed which recycling provider each local unit has a contract agreement with before researching pickup schedules and when pickups occur. To gauge recycling participation in each community, staff conducted a windshield survey of how many houses utilize recycling services based on a sample size. Staff visited each municipality on its designated recycling pickup day and began collecting information from at least two randomly generated addresses. From a starting home, 10, 15, or 20 homes were surveyed, totaling between 20 to 80 sample houses per community. Communities with higher populations received larger sample sizes to gain a more accurate understanding of their participation. While conducting the survey, staff visually determined if there was a recycling receptacle at the curb of each home and took note if the receptacle used was a wheeled cart or a handheld bin. The results of the 2019 survey showed that there was a residential recycling participation

rate of 53% for all of the communities surveyed. Staff also concluded that participation in communities that were provided handheld bins was 44% and participation in communities that were provided wheeled carts was 69%, as shown in **Figure 1.17**. This is compelling evidence to suggest that communities with carts for recycling will have an overall higher recycling participation rate and thus a higher diversion rate.

2022 Recycling Participation Survey

A recycling participation study was conducted again in 2022 using an identical methodology. The results of this study determined a participation rate of 52%. Similarly, staff was also able to determine that the participation rate of communities with bins stayed the same at 44%, but the participation rate of communities with carts decreased by 2% to 67% compared to 2019. **Figure 1.18** on Page 20 shows the participation rates of every community from the 2019 and 2022 Recycling Participation Surveys. The results of the 2022 survey indicated other trends in recycling throughout the county. For example, in cities, the recycling participation rate tended to be 3% higher than in more rural areas like townships and villages. The communities with higher participation rates included the City of Linden and the City of Fenton. The communities with lower participation rates included the City of Flint and Mt Morris Township.

Figure 1.17 Recycling Participation Rates



Source: Genesee: Our County, Our Future, Recycling Report

Conclusions

Although the overall recycling participation rate stayed relatively the same from 53 percent in 2019 to 52 percent in 2022, there were major variations in recycling participation among some of the communities over the three-year period. The three communities with the highest decrease in recycling participation between the two surveys are the City of Flushing at a 27 percent decrease, Flushing Township at a 20 percent decrease, and the Village of Goodrich at a 14 percent decrease. The City of Flushing changed waste haulers during this timeframe which likely impacted residents' knowledge about their new curbside waste program, leading to a decrease in participation. Both the City of Flushing and Flushing Township participation decreases could be correlated to these communities providing a curbside recycling program that requires their residents to opt-in. Opting in means that residents must request a recycle bin from the municipality or purchase their own to participate in the program. This type of program can deter new residents as they may not know how to take part in the program. The Village of Goodrich's 14 percent decrease can be attributed to their program having bi-weekly recycling pickup. This type of program can lead to residents forgetting to put their recycling container out to the curb since it is not picked-up on a constant, weekly schedule. Although these explanations provide context to these participation decreases, not all communities with opt-in or bi-weekly pickup recycling programs experienced substantial decreases in participation during this timeframe.

The communities with the highest increase in recycling participation from 2019 to 2022 are Gaines Township at a 23 percent increase, the City of Clio at 20 percent increase, and the Village of Otisville at a 20 percent increase. It is difficult to pinpoint correlations between these three communities to explain their substantial participation increases since each of the communities have different curbside recycling programs. For example, each community has a different waste hauler; two of the communities use handheld bins and the other uses wheeled cart; two communities have residents opt-in to the recycling program while recycling containers are automatically provided to the third community. The main con-

nection that can be established between each of the communities is that they contracted with the same waste hauling company in 2019 and 2022 when both surveys were conducted. This stability allows residents of these communities to know how their program works including what can be recycled and when to put their recycle container to the curb year after year. However, it should be noted that the three communities have programs with bi-weekly recycling pickup which can cause fluctuations with how consistently residents are putting their container to the curb leading to potentially skewed survey data.

In general, the curbside recycling participation rate for Genesee County residents has stayed relatively the same between 2019 and 2022. The decrease from 53% to 52% is a minor difference, but residents are still participating in curbside recycling. Staff continues to be conscious of the changes that are made to recycling programs in the county in an effort to provide accurate recycling information to residents.

Figure 1.18 Recycling Participation by Community

Location	Percentage (2019)	Percentage (2022)	Percent Change
Argentine Township	43%	47%	4%
Atlas Township	43%	43%	0%
Burton City	35%	38%	3%
Clayton Township	70%	67%	-3%
Clio City	43%	63%	20%
Davison City	60%	67%	7%
Davison Township	50%	53%	3%
Fenton City	87%	80%	-7%
Fenton Township	83%	77%	-6%
Flint City	18%	20%	2%
Flint Township	52%	53%	1%
Flushing City	67%	40%	-27%
Flushing Township	63%	43%	-20%
Forest Township	40%	47%	7%
Gaines Township	47%	70%	23%
Gaines Village	35%	40%	5%
Genesee Township	50%	47%	-3%
Goodrich Village	77%	63%	-14%
Grand Blanc City	63%	77%	14%
Grand Blanc Township	58%	52%	-6%
Linden City	90%	83%	-7%
Montrose City	50%	43%	-7%
Montrose Township	73%	67%	-6%
Mt. Morris City	50%	37%	-13%
Mt. Morris Township	25%	23%	-2%
Mundy Township	83%	80%	-3%
Otisville Village	40%	60%	20%
Richfield Township	73%	60%	-13%
Swartz Creek City	70%	70%	0%
Thetford Township	47%	43%	-4%
Vienna Township	40%	40%	0%

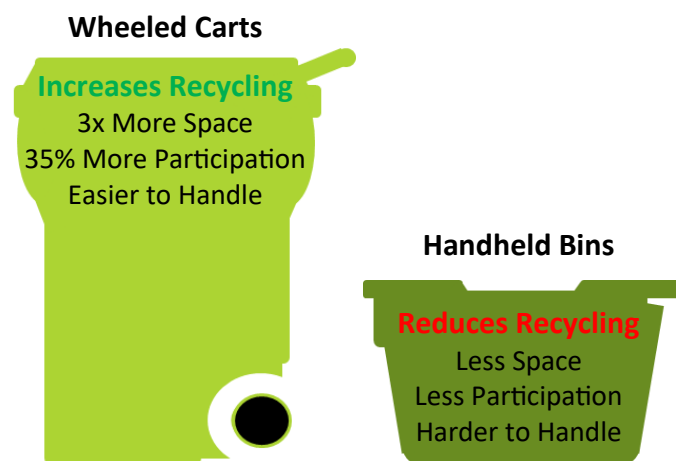
Source: Genesee County Recycling Participation Surveys

Enhancing Community Recycling Programs

The City of Flint contains the largest population in Genesee County and up until 2016, there was an absence of a residential curbside recycling program. The introduction of curbside recycling in the city has been a major milestone for the county and has surely contributed to an increased diversion rate. Additionally, the waste hauler that services the City of Flint provides a small-scale drop-off for anyone in the county to use to dispose of their single stream recycling. The drop-off site is primarily utilized by residents who live in multi-family homes that do not have curbside recycling as well as residents affected by the Flint water crisis to help them dispose of excess water bottles responsibly.

Currently, 31 out of 33 communities in Genesee County contract with a waste hauler to provide curbside recycling. Of the communities that do participate, changes have occurred to curbside recycling programs since the last plan update in 2011. For example, the City of Fenton and the City of Swartz Creek are now provided wheeled carts by their waste hauler rather than handheld bins. This increases the amount of recyclables that can be recovered daily as shown in **Figure 1.18**. Additionally, there have been more communities that have switched from bi-weekly recycling pickup to weekly pickup. Some of these communities include the City of Burton, Atlas Township, and the City of Flint.

Figure 1.19 Wheeled Recycling Carts Compared to Handheld Bins



Source: Genesee: Our County, Our Future, Recycling Report

Since the last plan update, recycling education and outreach has increased. In 2021, Genesee County staff partnered with the Michigan Department of Environment, Great Lakes, and Energy (EGLE) on their Recycling Raccoons campaign. This was an educational outreach campaign that used television, radio, social media, and billboard advertisements to teach Genesee County residents how to recycle properly. Targeted ads included information about keeping curbside recyclables loose in the bin and throwing away foam materials and plastic bags.

Strategies for Improvement

Communities in Genesee County are doing well at providing residents with accessible recycling options. However, there are steps that could be taken to enhance recycling participation and diversion rates in the county. To improve services, local units of government and Genesee County should consider the following potential strategies for improvement:

Encouraging Community Collaborations on Waste Service Contracts

Currently, there are five waste hauling companies operating curbside recycling programs in Genesee County. Each company negotiates a contract with a local unit of government to collect solid waste in their community, all at various costs. There is potential for cost savings if two or more communities work together to negotiate a contract with a waste hauler. Since waste and recycling services are some of the largest contracts that a community manages and recycling is becoming more of a necessity for all residents, it is now more important for local units of government to consider working with each other. To support this effort, staff can provide information and resources to local units to explain the benefits of shared contracts.

Establishing a Permanent Drop Off Site for General Recyclable Materials and Household Hazardous

The lack of a permanent recycling facility of any type has been a serious shortfall in Genesee County for a long time. County residents have determined a great need for a permanent facility by their increased participation in the Household Hazardous Waste Recycling Days that the County holds a few times a

year. With increasing costs needed for these events, it becomes more reasonable to consider a facility that is open year-round and that takes a multitude of hard to dispose items. To help accomplish this sizeable goal, the Genesee County Board of Commissioners increased the solid waste ordinance fee, which is collected from waste companies operating in the county, from 0.12 cents to 0.45 cents. This increase in revenue will allow Genesee County to establish a permanent recycling facility providing more convenience to residents while achieving a cost savings compared to events. This facility can also be expanded to accept additional materials including general recyclables like paper and cardboard from multi-family residents and even businesses.

Mandatory Wheeled-Cart Based Recycling

Benchmark study findings have determined that cart-based recycling increases the volume of materials recovered. County-wide studies such as the RRS Solid Waste Evaluation study and recycling participation studies performed by County staff have also confirmed this fact. Larger carts as opposed to bins leave more designated capacity for recyclables. This ensures that these materials are less likely to be thrown away by residents due to a lack of space. Additionally, wheeled carts are more convenient than bins for residents of all ages because of the increased mobility of a cart. If more recyclables

were picked up with the use of carts, Genesee County would better be able to support a materials recovery facility. To encourage the use of wheeled carts, staff should make recommendations and provide information, including grant opportunities, to local units of government explaining the benefits of carts compared to handheld bins.

Education

A significant barrier to waste diversion is the lack of knowledge. Residents are not always readily informed on where to recycle, and what types of materials are accepted - and it's really not their fault! Diversion programs change, people move to a different community, and waste contracts expire. It is up to county staff, waste haulers, and local units of governments to keep the public informed on local waste diversion programs. To better educate the public, county staff should enhance outreach efforts through presentation, social media, attending events, and other methods to properly engage the public around proper materials management practices.



Conclusions

Waste Generation

Waste generation within Genesee County is projected to stay constant over the next 25 years. This is due to the fact that the population projections show a stable population until 2045. However, employment data suggests a significant increase within the Services sector which primarily includes jobs in the healthcare industry. Although there is an increase, the Services sector is not known to be significant in the creation of waste. Genesee County saw an 8.4% decrease in waste from the 2011 plan update according to the base years of each waste generation projection.

Imported Waste

Genesee County imported a yearly average of roughly 1,538,463 cubic yards of waste between 2016 and 2020. This is a 43% decrease compared to the 2011 plan update. The COVID-19 global pandemic greatly impacted how waste was managed and was a likely contributor to this decrease as neither Brent Run nor Citizens Landfill received any waste from Canada. Brent Run contributed to about 82% of this decrease as they increased their tipping fees in 2019. Imported waste is anticipated to increase as the pandemic fades and waste is able to be moved without issue.

Exported Waste

Between 2016 and 2020, a yearly average of 260,630 cubic yards of waste was exported from Genesee County. This is also only a small portion of the total waste within the county. Exported waste on average accounts for 9.4% of all waste generated within the county. Subsequently, this is a 32.4% change from the data recorded in the last plan. Additionally, the waste hauling company Waste Management has been offering fewer contracts with communities for curbside services in Genesee County, which means they are exporting less waste to landfills that they own in Shiawassee and Saginaw Counties. However, these changes are still insignificant to exported waste numbers as this type of waste still only accounts for 9.4% of all waste, therefore, exported waste is anticipated to remain stable moving forward.



Diversion

Through a partnership with Resource Recycling Systems (RRS) staff were able to determine that the diversion rate within the county was 9%. This rate accounts for recyclable materials that are picked up curbside and yard waste that is diverted from a landfill but does not account for industrial or commercial recycling. This rate was then compared to other similar agencies around Michigan and staff determined that Genesee County was significantly behind even the state of Michigan's overall diversion rate of 18%. This shows that there is room for improvement when it comes to the county's residential recycling programs.

Final Thoughts

Although waste generation is projected to remain consistent and diversion programs are in place throughout the County, there are still many opportunities for improvement. In comparison to other communities' recycling and composting rates, Genesee County is trailing behind. To achieve higher diversion and become a top recycling community in the state, local programs need to be enhanced and expanded. By improving these programs, both the environment and economy will benefit through job creation in the recycling industry, by sending less waste to landfills in turn extending their capacity, and conserving vital natural resources.

Technical Report 1 Appendix

Figure 1.20 Overall View of the County – Population, Land Coverage & Economic Base *

Local Unit	Pop 2020	U & B %	UND %	Econ M %	Econ O %	Econ T %	Econ F %	Econ R %	Econ W %	Econ S %	Econ G %
Cities											
Burton	29,715	0.62%	1.35%	2.27%	10.59%	5.63%	5.52%	12.58%	8.78%	6.49%	2.97%
Clio	2,525	0.29%	0.06%	0.24%	0.52%	0.88%	0.77%	1.56%	0.86%	0.74%	1.35%
Davison	5,143	0.49%	0.10%	1.25%	0.91%	0.69%	1.75%	2.27%	0.50%	1.30%	2.83%
Fenton	12,014	1.84%	0.30%	3.52%	3.26%	1.15%	7.62%	9.23%	2.33%	4.50%	1.69%
Flint	81,252	10.40%	0.24%	59.83%	21.68%	49.74%	35.38%	14.64%	29.95%	30.04%	61.32%
Flushing	8,411	1.02%	0.12%	0.10%	1.84%	0.91%	1.26%	1.88%	1.06%	1.56%	1.27%
Grand Blanc	8,091	1.06%	0.08%	2.37%	2.35%	0.65%	4.82%	1.68%	1.95%	3.56%	2.07%
Linden	4,142	0.66%	0.08%	0.04%	0.82%	1.24%	0.17%	0.58%	0.18%	0.60%	0.29%
Montrose	1,743	0.24%	0.07%	0.00%	0.14%	0.36%	0.46%	0.19%	0.25%	0.56%	0.39%
Mount Morris	3,170	0.27%	0.09%	0.06%	0.51%	0.76%	0.36%	0.56%	0.07%	0.53%	0.95%
Swartz Creek	5,897	1.18%	0.10%	2.04%	0.91%	1.39%	1.15%	2.03%	1.75%	1.19%	0.92%
Townships											
Argentine	7,091	3.15%	7.69%	0.12%	1.06%	0.00%	0.21%	0.26%	0.58%	0.74%	0.78%
Atlas	8,352	4.97%	5.38%	0.65%	1.41%	0.09%	0.00%	0.30%	0.22%	0.41%	0.22%
Clayton	7,460	2.95%	7.67%	0.10%	1.20%	0.48%	0.69%	0.43%	0.48%	0.72%	0.71%
Davison	20,434	5.37%	5.09%	0.77%	2.45%	0.86%	2.90%	2.72%	0.68%	2.83%	0.71%
Fenton	16,843	4.14%	3.26%	1.32%	4.23%	1.00%	1.20%	0.60%	3.64%	1.24%	0.55%
Flint	31,447	6.11%	1.23%	2.46%	10.26%	12.85%	17.49%	23.44%	16.01%	14.29%	6.29%
Local Unit	Pop 2020	U & B %	UND %	Econ M %	Econ O %	Econ T %	Econ F %	Econ R %	Econ W %	Econ S %	Econ G %
Flushing	10,701	3.56%	6.28%	0.23%	1.55%	0.34%	0.25%	0.20%	0.38%	0.75%	0.43%
Forest	4,447	3.11%	7.66%	0.13%	0.76%	0.03%	0.19%	0.09%	0.68%	0.20%	0.00%
Gaines	6,664	2.74%	8.10%	0.01%	1.47%	0.10%	0.05%	0.06%	0.43%	0.14%	0.47%
Genesee	20,581	5.48%	3.68%	0.74%	4.42%	4.09%	1.67%	4.05%	2.56%	3.75%	1.14%
Grand Blanc	39,846	7.75%	2.57%	16.30%	5.88%	5.20%	4.80%	6.97%	8.55%	10.05%	2.34%
Montrose	6,005	3.78%	6.96%	0.00%	1.52%	0.36%	0.33%	0.62%	0.71%	0.37%	0.56%
Mount Morris	20,024	5.11%	4.80%	3.01%	8.00%	6.49%	3.97%	4.43%	6.87%	4.52%	6.19%
Mundy	15,281	4.68%	6.62%	0.92%	4.61%	1.41%	4.33%	5.17%	5.35%	4.78%	0.88%
Richfield	8,991	4.26%	6.72%	0.31%	3.02%	1.15%	0.38%	0.32%	2.00%	0.32%	0.81%
Thetford	6,640	3.54%	7.28%	0.11%	1.68%	0.15%	0.23%	0.35%	0.15%	0.40%	0.67%
Vienna	13,301	4.96%	6.02%	0.79%	2.18%	1.92%	1.47%	2.19%	2.69%	2.13%	0.11%
Villages											
Gaines	377	0.08%	0.04%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Goodrich	2,022	0.46%	0.22%	0.26%	0.37%	0.09%	0.48%	0.43%	0.28%	1.11%	0.44%
Lennon	509	0.03%	0.04%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Otisville	819	0.24%	0.04%	0.02%	0.42%	0.00%	0.09%	0.18%	0.05%	0.18%	0.62%
Otter Lake	426	0.04%	0.08%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total	410,364										

Source: 2020 Census Information and Genesee County LUG employment calculations

Figure 1.21 SIC and NAICS Codes

GCMPC Categories	SIC Categories	NAICS Codes	NAICS Titles
Manufacturing	Durables	33	Manufacturing
	Non-Durables	31-32	Manufacturing
	Mining	21	Mining
	Construction	23	Construction
Other	Agr,For,Fish Services	11	Agriculture, Forestry, Fishing and Hunting
	Farm	11	Agriculture, Forestry, Fishing and Hunting
Transportation, Warehousing & Real Estate	Trans & Public	48-49	Transportation and Warehousing
	Utilities	22	Utilities
Finance, Insurance, & Real Estate	Fin, Ins & Real Es	52	Finance and Insurance
		53	Real Estate, Rental and Leasing
Retail Trade	Retail Trade	44-45	Retail Trade
Wholesale Trade	Wholesale Trade	42	Wholesale Trade
		51	Information
		54	Professional, Scientific and Technical Services
		55	Management of Companies and Enterprises
		56	Administrative, Support, Waste Management and Remediation Services
		61	Educational Services
		62	Health Care and Social Assistance
		71	Arts, Entertainment and Recreation
		72	Accommodation and Food Services
		81	Other Services (except Public Administration)
Service	State and Local	92	Public Administration
		92	Public Administration
		92	Public Administration
Government	Federal Civilian	92	Public Administration
	Federal Military	92	Public Administration

Source: Genesee: Our County, Our Future 2045 Employment Projections

2020 **Figure 1.22 Waste Generated by Industry**

Industry	Employees	Work Days	Waste Generation Rate lbs./employee/day	Total Waste Generated (tons/year)	Total Waste Generated Per Employee (tons/year)	% of Gen-see County Waste	Diversion Rate	Total Diverted	% of Gen-see County Waste	Total Diverted	% of Gen-see County Waste
Manufacturing	14,039	6.33	8.6	19,871	1.42	7.93%	0.58	8,346	3.33%	11,525	4.60%
Other	12,023	5	8.6	13,442	1.12	5.37%	0.11	11,963	4.78%	1,479	0.59%
Transportation	5,822	5	7.29	5,518	0.95	2.20%	0.15	4,690	1.87%	828	0.33%
Finance	21,523	5	8.6	24,063	1.12	9.61%	0.2	19,250	7.69%	4,813	1.92%
Retail	23,701	6.44	5.55	22,025	0.93	8.79%	0.2	17,620	7.03%	4,405	1.76%
Wholesale	6,014	6.43	7.29	7,330	1.22	2.93%	0.2	5,864	2.34%	1,466	0.59%
Service	103,929	5.71	8.6	132,692	1.28	52.98%	0.15	112,788	45.03%	19,904	7.95%
Government	22,836	5	8.6	25,531	1.12	10.19%	0.25	19,148	7.64%	6,383	2.55%
Total	209,887			250,470				199,669		50,801	

2025

Industry	Employees	Work Days	Waste Generation Rate lbs./employee/day	Total Waste Generated (tons/year)	Total Waste Generated Per Employee (tons/year)	Percent of Gen-see County Waste	Diversion Rate	Total Diverted	Percent of Gen-see County Waste	Total Diverted	Percent of Gen-see County Waste
Manufacturing	13,431	6.33	8.6	19,010	1.42	7.41%	0.58	7,984	3.11%	11,025	4.30%
Other	12,068	5	8.6	13,492	1.12	5.26%	0.11	12,008	4.68%	1,484	0.58%
Transportation	5,823	5	7.29	5,518	0.95	2.15%	0.15	4,691	1.83%	828	0.32%
Finance	21,114	5	8.6	23,605	1.12	9.20%	0.2	4,691	7.36%	4,721	1.84%
Retail	23,200	6.44	5.55	21,560	0.93	8.40%	0.2	18,884	6.72%	4,312	1.68%
Wholesale	5,970	6.43	7.29	7,276	1.22	2.83%	0.2	5,821	2.27%	1,455	0.57%
Service	109,972	5.71	8.6	140,407	1.28	54.70%	0.15	119,346	46.49%	21,061	8.20%
Government	23,107	5	8.6	25,834	1.12	10.06%	0.25	19,375	7.55%	6,458	2.52%
Total	214,685			256,703				205,357		51,345	

2030 **Figure 1.22 Waste Generated by Industry Continued**

Industry	Employees	Work Days	Waste Generation Rate lbs./employee/day	Total Waste Generated (tons/year)	Total Waste Generated Per Employee (tons/year)	Percent of Genesee County Waste	Diversion Rate	Total Diverted	Percent of Genesee County Waste	Total Diverted	Percent of Genesee County Waste
Manufacturing	13,002	6.33	8.6	18,403	1.42	7.14%	0.58	7,729	3.00%	10,674	4.14%
Other	11,959	5	8.6	13,370	1.12	5.19%	0.11	11,899	4.61%	1,471	0.57%
Transportation	5,921	5	7.29	5,611	0.95	2.18%	0.15	4,770	1.85%	842	0.33%
Finance	20,578	5	8.6	23,006	1.12	8.92%	0.2	18,405	7.14%	4,601	1.78%
Retail	22,591	6.44	5.55	20,994	0.93	8.14%	0.2	16,795	6.51%	4,199	1.63%
Wholesale	5,871	6.43	7.29	7,155	1.22	2.78%	0.2	5,724	2.22%	1,431	0.56%
Service	112,180	5.71	8.6	143,226	1.28	55.55%	0.15	121,743	47.22%	21,484	8.33%
Government	23,326	5	8.6	26,078	1.12	10.11%	0.25	19,559	7.59%	6,520	2.53%
Total	215,428			257,844				206,624		51,221	

2035

Industry	Employees	Work Days	Waste Generation Rate lbs./employee/day	Total Waste Generated (tons/year)	Total Waste Generated Per Employee (tons/year)	Percent of Genesee County Waste	Diversion Rate	Total Diverted	Percent of Genesee County Waste	Total Diverted	Percent of Genesee County Waste
Manufacturing	12,504	6.33	8.6	17,698	1.42	6.79%	0.58	7,433	2.85%	10,265	3.94%
Other	11,670	5	8.6	13,047	1.42	5.01%	0.11	11,612	4.46%	1,435	0.55%
Transportation	6,134	5	7.29	5,813	0.95	2.23%	0.15	4,941	1.90%	872	0.33%
Finance	20,184	5	8.6	22,566	1.12	8.66%	0.2	18,053	6.93%	4,513	1.73%
Retail	22,373	6.44	5.55	20,791	0.93	7.98%	0.2	16,633	6.38%	4,158	1.60%
Wholesale	5,750	6.43	7.29	7,008	1.22	2.69%	0.2	5,606	2.15%	1,402	0.54%
Service	115,393	5.71	8.6	147,329	1.28	56.53%	0.15	125,229	48.05%	22,099	8.48%
Government	23,602	5	8.6	26,387	1.12	10.12%	0.25	19,790	7.59%	6,597	2.53%
Total	217,610			260,639				209,298		51,341	

2040 Figure 1.22 Waste Generated by Industry Continued

Industry	Employees	Work Days	Waste Generation Rate lbs./employee/day	Total Waste Generated (tons/year)	Total Waste Generated Per Employee (tons/year)	Percent of Genesee County Waste	Diversion Rate	Total Diverted	Percent of Genesee County Waste	Total Diverted	Percent of Genesee County Waste
Manufacturing	12,013	6.33	8.6	17,003	1.42	6.46%	0.58	7,141	2.71%	9,862	3.75%
Other	11,416	5	8.6	12,763	1.12	4.85%	0.11	11,359	4.32%	1,404	0.53%
Transportation	6,387	5	7.29	6,053	0.95	2.30%	0.15	5,145	1.96%	908	0.35%
Finance	19,787	5	8.6	22,122	1.12	8.41%	0.2	17,697	6.73%	4,424	1.68%
Retail	22,072	6.44	5.55	20,511	0.93	7.79%	0.2	16,409	6.24%	4,102	1.56%
Wholesale	5,556	6.43	7.29	6,771	1.22	2.57%	0.2	5,417	2.06%	1,354	0.51%
Service	118,523	5.71	8.6	151,325	1.28	57.51%	0.15	128,626	48.88%	22,699	8.63%
Government	23,789	5	8.6	26,596	1.12	10.11%	0.25	19,947	7.58%	6,649	2.53%
Total	219,543			263,145				211,742		51,402	

2045

Industry	Employees	Work Days	Waste Generation Rate lbs./employee/day	Total Waste Generated (tons/year)	Total Waste Generated Per Employee (tons/year)	Percent of Genesee County Waste	Diversion Rate	Total Diverted	Percent of Genesee County Waste	Total Diverted	Percent of Genesee County Waste
Manufacturing	11,547	6.33	8.6	16,343	1.42	6.15%	0.58	6,864	2.58%	39,479	3.57%
Other	11,168	5	8.6	12,486	1.12	4.70%	0.11	11,112	4.18%	1,373	0.52%
Transportation	6,645	5	7.29	6,297	0.95	2.37%	0.15	5,353	2.01%	945	0.36%
Finance	19,411	5	8.6	21,701	1.12	8.16%	0.2	17,361	6.53%	4,340	1.63%
Retail	21,780	6.44	5.55	20,240	0.93	7.61%	0.2	16,192	6.09%	4,048	1.52%
Wholesale	5,372	6.43	7.29	6,547	1.22	2.46%	0.2	5,238	1.97%	1,309	0.49%
Service	121,743	5.71	8.6	155,436	1.28	58.47%	0.15	132,121	49.70%	23,315	8.77%
Government	23,977	5	8.6	26,806	1.12	10.08%	0.25	20,105	7.56%	6,702	2.52%
Total	221,643			265,858				214,346		51,512	

Source: GCMPC Waste Generation Table and Annual EGLE Landfill Reports

Figure 1.23 - Total Imported Waste Volumes Into Genesee County (Cubic Yards)

Origin	2016	2017	2018	2019	2020	Total Average	% of Total Avg
Allegan Bay	77	92	115	185	1	94	0.01%
Canada	29,208	20,254	36,884	23,805	25,618	27,154	1.76%
Clinton	972,930	1,278,913	990,503	186,560	-	685,781	44.58%
Connecticut	1,948	3,747	1,840	1,969	2,590	2,419	0.16%
Eaton	61,856	-	126,138	125,747	42,648	71,278	4.63%
Gratiot	738	1,523	571	978	1,193	1,001	0.07%
Huron	19,948	6,190	3,430	2,921	5,083	7,514	0.49%
Indiana	1,366	40	137	-	-	309	0.02%
Ingham	53	-	-	20	-	15	0.00%
Jackson	6,013	13,321	9,630	11,713	10,801	10,296	0.67%
Lapeer	-	2	10	11	67	18	0.00%
Lenawee	174,856	219,437	257,864	235,637	219,612	221,481	14.40%
Livingston	33	41	1	19	125	44	0.00%
New Jersey	84,538	66,741	66,572	68,309	64,777	70,187	4.56%
New York	-	276	21,956	6,119	-	5,670	0.37%
Oakland	16	-	-	-	-	3	0.00%
Ohio	92,772	91,853	138,834	103,948	85,225	102,526	6.66%
Pennsylvania	15,297	31,513	28,636	24,039	15,642	23,025	1.50%
Saginaw	11	-	-	-	-	2	0.00%
Sanilac	175,750	137,202	164,174	136,858	91,245	141,046	9.17%
Shiawassee	4,839	15,770	16,420	56,337	54,843	29,642	1.93%
Tuscola	57,634	69,305	62,556	55,486	29,324	54,861	3.57%
Washington	30,712	33,245	39,629	41,753	42,889	37,646	2.45%
Washtenaw	15	6	-	-	-	4	0.00%
Wayne	8,498	4,195	1,001	9,525	216	4,687	0.30%
Total	42,581	78,646	50,909	31,149	5,519	41,761	2.71%
Total	1,781,689	2,072,312	2,017,810	1,123,088	697,418	1,538,463	

Source: EGLE Annual Landfill Reports of Solid Waste Landfilled in Michigan

Genesee County

Solid Waste Management Plan

Technical Report 2

Solid Waste Evaluation Surveys

DRAFT

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Introduction

The following section of the plan takes a closer look at the needs of the solid waste system in Genesee County. Since the last plan amendment, staff has conducted a series of surveys to gain an overall perspective of how satisfied residents are with their solid waste and recycling services in their own communities; the results of the survey were summarized and analyzed.

In addition to the public's opinion of the solid waste system, staff participated in a working session with the Solid Waste Management Planning Committee to identify the deficiencies of our current system and determine how we can play off of our strengths to arrive at a more efficient and sustainable solid waste system. This section summarizes the working session and provides a priority list that will be utilized to identify goals for this plan.

Technical Report 2 also lists an inventory of the solid waste disposal areas in Genesee County. In combination from this inventory and previous data collection analysis, landfill capacity was projected. The landfill capacity will help in determining where we can expect our solid waste system to be in the future.

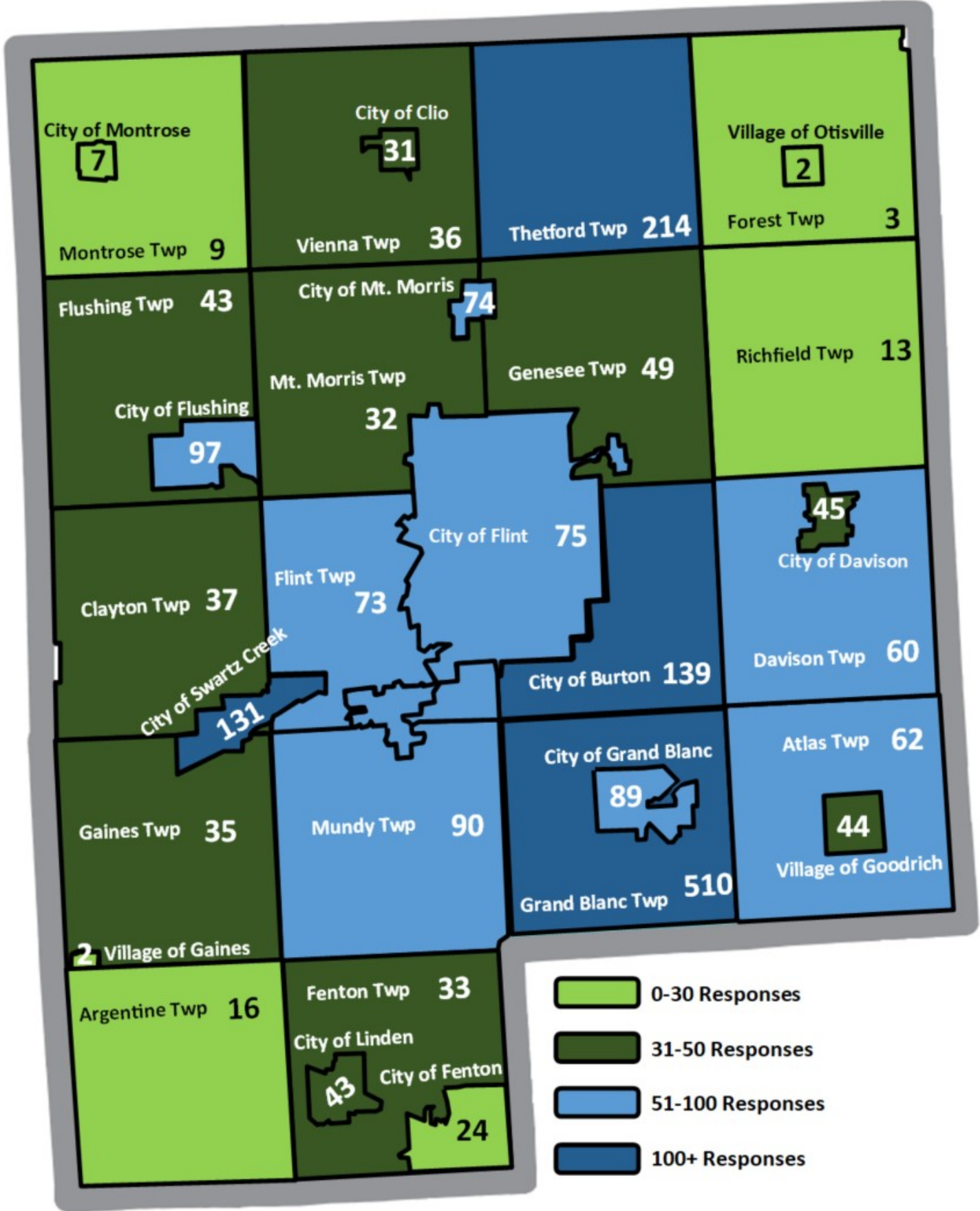
Solid Waste Evaluation Surveys

The Genesee County Metropolitan Planning Commission used a number of surveys to determine how residents felt about the effectiveness of materials management strategies within the county. In this plan, staff used data from the 2019 Genesee County Solid Waste Evaluation and the 2020 Genesee: Our County, Our Future county-wide combined plan. Both documents survey residents about different aspects of waste and recycling services within the county.

In 2019, Genesee County staff partnered with Resource Recycling Systems (RRS) to develop two surveys in order to gain a public perspective about the effectiveness of our solid waste system. The first survey was a Public Input Survey and was sent out to the residents of Genesee County. This survey asked individuals to identify which community they resided in and then proceeded with general questions about the solid waste and recycling services in their area. Staff received over 2,000 survey responses, as shown in **Map 2.1**. The second survey was distributed to the local units of government in Genesee County. This survey asked the local units questions about recycling programs to help evaluate current recycling practices and ways to improve them. Of the communities contacted, staff received a total of 26 responses representing 17 communities. Upon completion of the surveys, RRS provided data analysis to GCMPC staff for further solid waste system developments.



Map 2.1 2019 Public Input Survey Responses by Community: Genesee County, Michigan



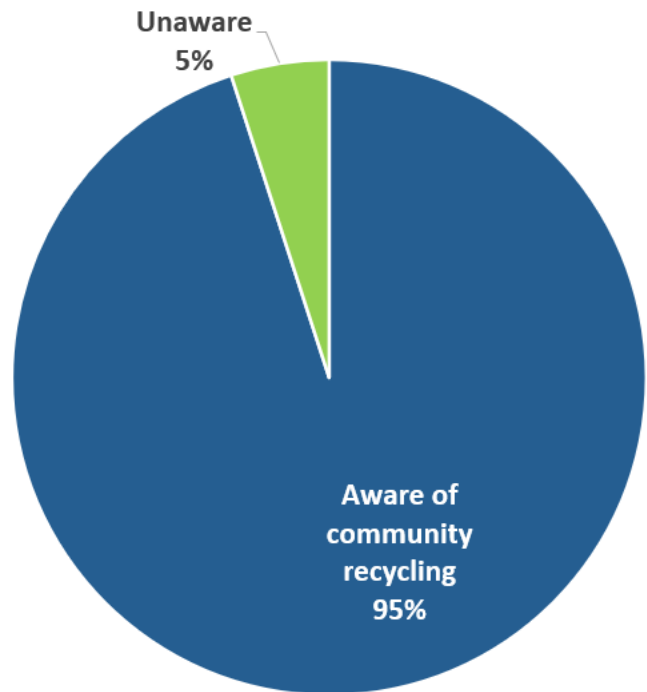
Source: Genesee County Public Input Survey Analysis

Genesee County Public Input Survey

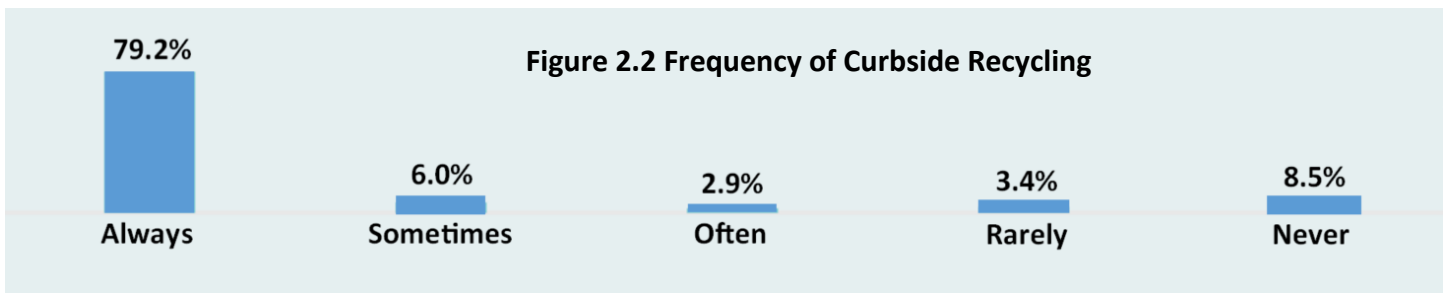
When asked if residents know that their community participates in recycling, 95% indicated that they do as shown in **Figure 2.1**. Most often, residents recycle at the curb, almost 80% noted that they always recycle, while 8.5% indicate that they never participate in curbside recycling (see **Figure 2.2**). Reasons for not recycling include lost bins, lack of access, lack of knowledge of recycling, and the poor perception of recycling.

It is important to note that the majority of respondents are also from communities that not only have curbside recycling, but also have very active recycling programs available to residents.

Figure 2.1 Did You Know Your Community Provides Curbside Recycling?



Source: Genesee County Public Input Survey Analysis



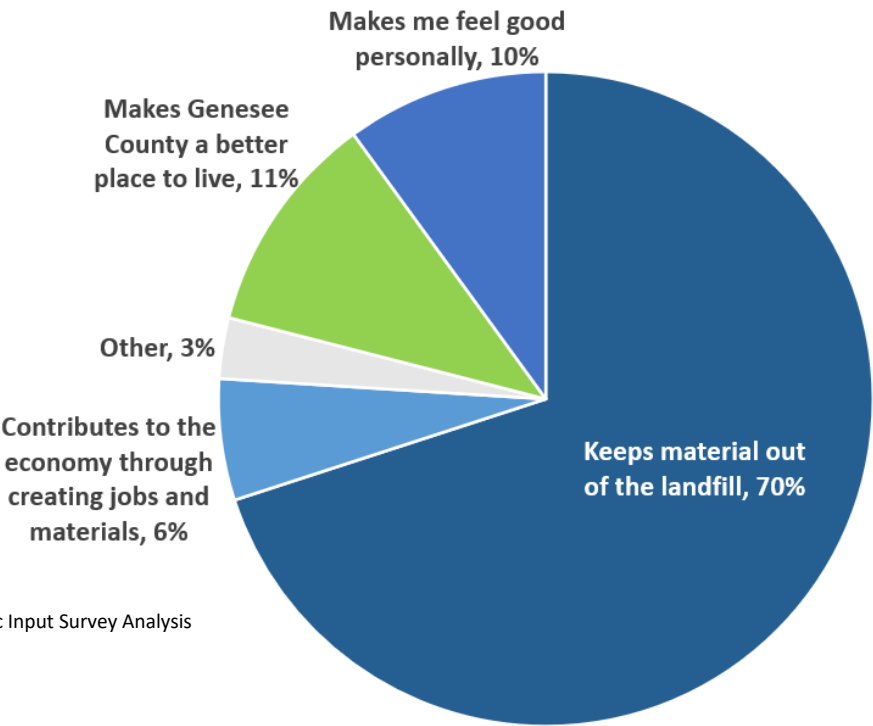
Source: Genesee County Public Input Survey Analysis



To gain perspective on recycling in communities in Genesee County, residents were asked what motivates them to recycle. **Figure 2.3** shows that the vast majority of responses from residents indicate that they recycle to keep materials out of landfills. Recycling makes Genesee County a better place to live and contributing to the economy through creating jobs and materials were also frequent answers on this survey.

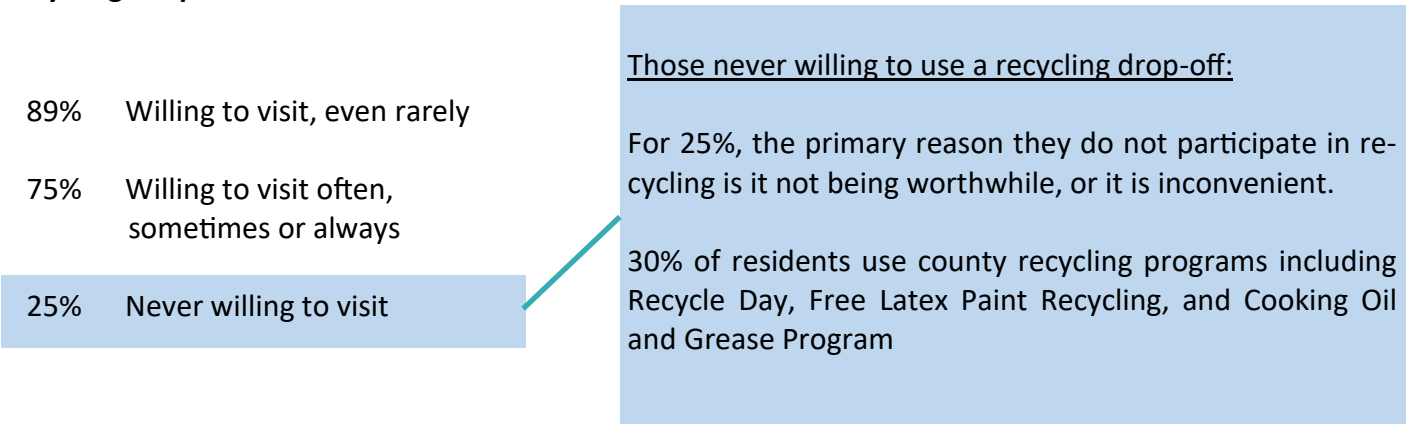
This question was followed with how many residents are willing to use a drop off center to recycle hard to dispose of materials. Of 2,109 respondents, 89% indicated that they would be willing to visit a drop-off site and 25% indicated that they would never be willing to visit (see **Figure 2.4**). However, 30% of the never willing respondents mentioned that they do participate in the Recycle Days held by county staff. Recycle Days are intended for residents to dispose of their household hazardous waste in a safe and effective manner. These events are hosted by the county up to four times a year at various locations.

Figure 2.3 What Motivates Residents to Recycle?



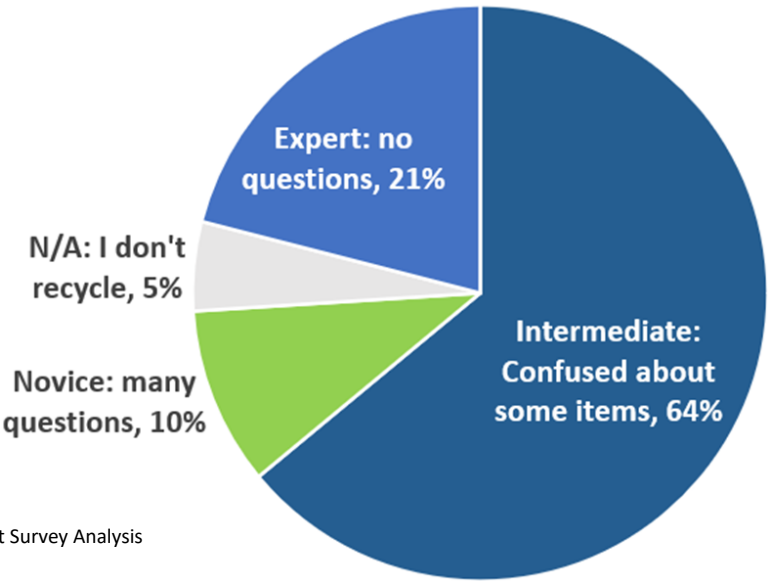
Source: Genesee County Public Input Survey Analysis

Figure 2.4 How Many Are Willing to Use A Recycling Drop-Off Center?



Source: Genesee County Public Input Survey Analysis

Figure 2.5 Are Residents Confused About Recycling?



Source: Genesee County Public Input Survey Analysis

Subsequently, residents were also asked about their knowledge regarding recycling and waste education. The majority of residents chose the intermediate option on the survey where they stated that they were unsure about whether some items could be placed in a curbside recycling bin (see **Figure 2.5**). This could be because every waste hauler operating in the county provides little to no education on what can and cannot be put into curbside recycling bins. Surprisingly, over 90% of respondents stated that they were also interested in learning more about recycling. For those that don't recycle at all or don't recycle as much as they would like to, it may be key to implement better educational outreach strategies or incentive programs.

It is important to find out how and where people are getting their solid waste and recycling information so we can make changes or improvements where needed. In **Figure 2.6**, the majority of respondents said they received their information through their community website, general internet searches, or their waste company. Other responses included social media, television advertisements, and outreach programs as sources of information. **Figure 2.7** provides an example of an acceptable material guide that can be found on various community websites.

Figure 2.6 Where Residents Find Recycling Information



Source: Genesee County Public Input Survey Analysis

Figure 2.7 Acceptable Materials Guide



Source: GCMPC Curbside Programs

In terms of recycling receptacle, wheeled carts and handheld bins are the most used recycling containers in Genesee County. Only one waste hauler operating within the county allows residents to use any container as a recycling receptacle. The average size of a small bin is anywhere between 14 and 18 gallons, while the larger bins vary in size from 50 to 96 gallons in size. Based on 2018 survey data, about 39% of communities use wheeled carts for recycling collection and 55% of communities use handheld bins. 6% of respondents say that they provide their own container. In **Figure 2.8**, just under half of survey participants indicated that using a wheeled cart provides enough space for all recyclables if residents have a bi-weekly collection schedule.

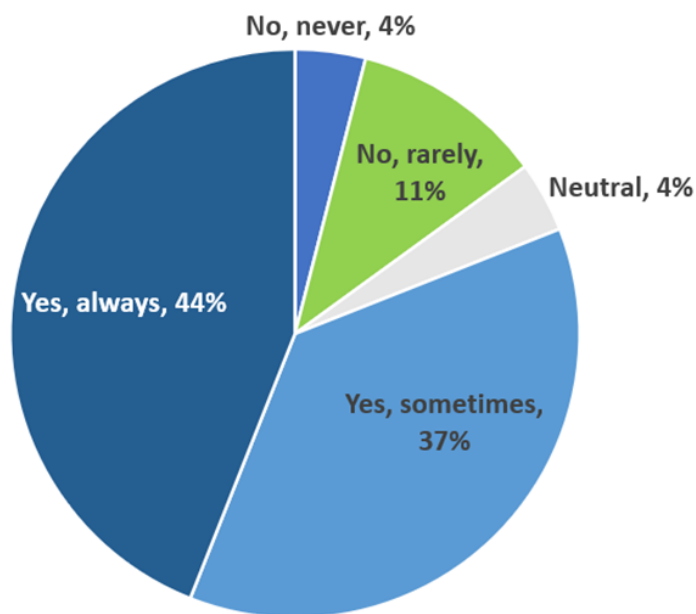
On the other hand, in **Figure 2.9**, only 15% of residents using handheld bins indicated that the bins provided enough space for recycling collection if materials are picked up bi-weekly. Similarly, about 11% mentioned that there was rarely enough room in one bin for all of their recyclables with a weekly pick-up. Residents said that they combat the lack of space in their receptacle by saving excess recyclables for the next pick-up date, putting the excess in the trash, or using a secondary container. There are several weeks during the year that likely see a larger influx of potential recyclables. Supplying larger bins to communities in Genesee County would help to remove current barriers in recycling, providing a more convenient, easier way to recycle. Larger bins or carts would particularly be beneficial to communities that only receive bi-weekly recycling.

Public Input Survey Conclusions

This survey indicates that most of the residents in Genesee County are aware of recycling opportunities in their community and frequently utilize the curbside option for recycling pickup. It is clear that the desire to keep materials out of county landfills is a strong motivator for residents to continue to divert recyclable materials. A permanent drop off center for recycling curbside materials is also in high demand from Genesee County residents. Additionally, it was found that over 60% of residents

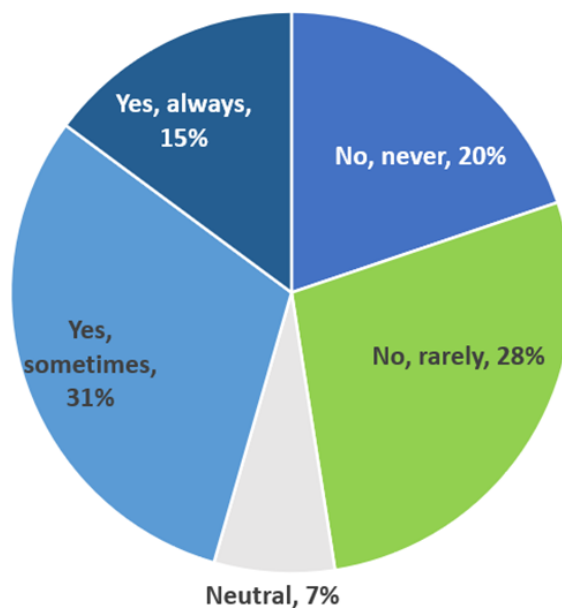
still do not feel fully confident about recycling certain items. They also indicate that being provided with larger recycling receptacles, such as wheeled carts, and more frequent curbside pickups are more favorable than their current receptacles and collection schedules.

Figure 2.8 Is A Wheeled Cart Enough Space Based On A Bi-weekly Collection Schedule?



Source: Genesee County Public Input Survey

Figure 2.9 Is A Handheld Bin Enough Space Based On A Biweekly Collection Schedule?



Source: Genesee County Public Input Survey

Genesee County Local Unit of Government Survey

In 2019, in conjunction with the public input survey, staff and RRS sent out a survey to the local units of government within Genesee County asking questions about recycling programs to help observe current recycling practices and determine ways to improve them. This survey covered the topics of education and engagement, collection data, and end market data. Of the 33 communities contacted, 26 responses representing 17 communities or roughly 50% of communities in Genesee County were received.

The first question asked within this survey was whether a community included educational information about recycling on their website (see **Figure 2.10**). A majority of the LUGs, about 75%, answered yes to this question. Of those communities who said yes, they also added what kind of information is provided, such as links to service providers, explanations on what materials are accepted curbside, and what materials are excluded from curbside programs. Another question asked about education was if communities provided a website link to the Genesee County Metropolitan Planning Commission's webpage. Four communities skipped this question, but of the remaining 20 responses, only six communities say they include the link to the county's webpage.

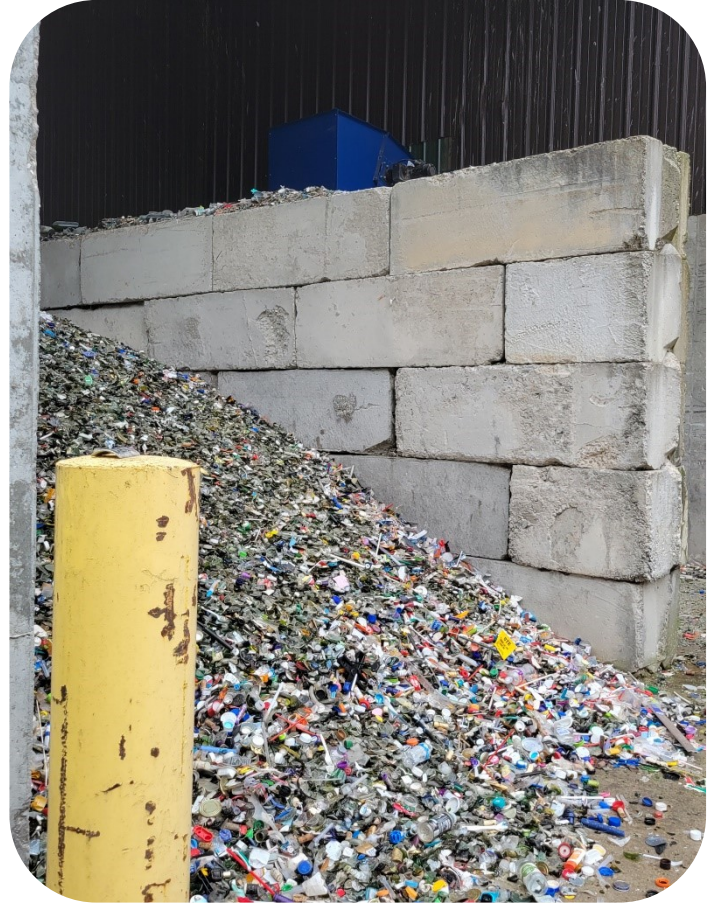
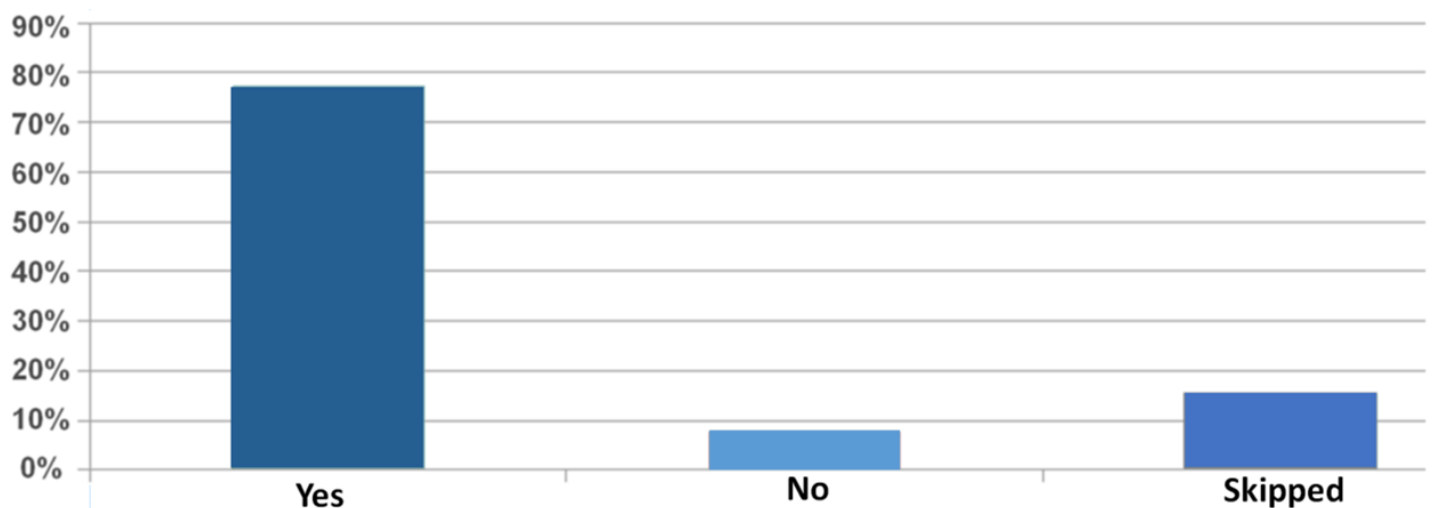


Figure 2.10 Does Your Community Include Educational Information About Recycling?

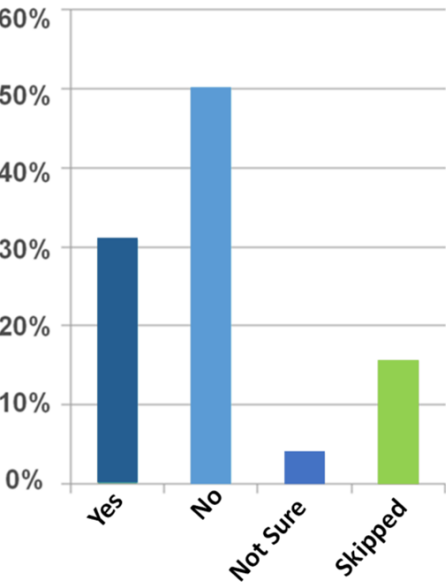


Source: Genesee County LUG Survey Analysis

To improve waste diversion and recycling, it is important to understand collection data to set a baseline and understand how much a community is currently recycling. The results of this survey, shown in **Figure 2.11** and **Figure 2.12**, demonstrate that collecting and sharing data could be improved within Genesee County. Local units were also asked if they were provided with recycling collection data from their waste hauler. Of the local units that answered, only eight communities say that they do receive this information. This leaves 13 communities in this survey that do not receive any data about recycling collection statistics. Similarly, only two communities are provided information regarding the recycling contamination rate for their area.

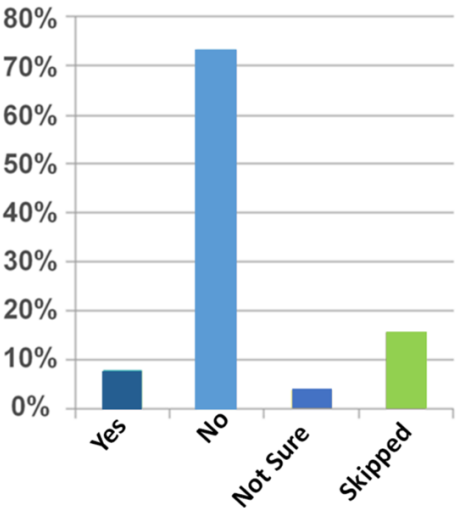
There were also three questions that addressed access to end markets. The first (see **Figure 2.13**) asked which materials are currently collected for recycling. Of the 26 responses, 20 or more responses say that their communities are collecting and recycling plastic, paper, cardboard, glass, and metal containers compared to the 12 communities collecting cartons. The next question asked communities to identify items not collected that they would like to recycle. Seven communities said there are items their recycling program does not currently collect but they would like collected such as electronics, styrofoam, and frozen food bags. The last question identifies other problem items that could be added to Genesee County Recycle Days. Textiles and mattresses were common answers.

Figure 2.11 Do You Receive Recycling Collection Data From Your Hauler?



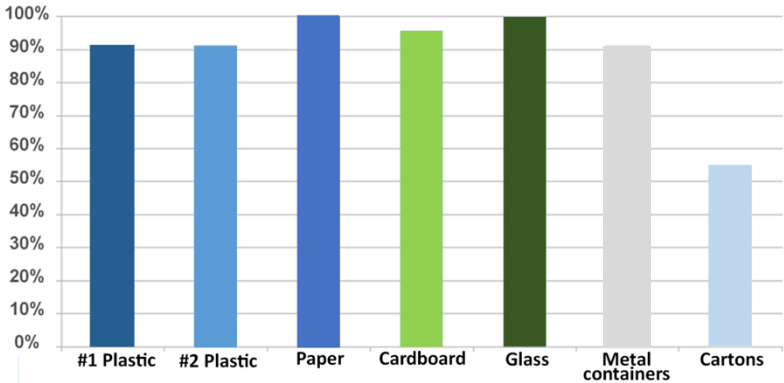
Source: Genesee County LUG Survey Analysis

Figure 2.12 Has Your Recycling Service Provider Communicated Recycling Contamination Rate Details or Information to the Community?



Source: Genesee County LUG Survey Analysis

Figure 2.13 Which Items Are Currently Being Collected in Your Recycling Program?



Source: Genesee County LUG Survey Analysis

Local Unit of Government Survey Conclusions

While this survey did not capture responses from all the communities in Genesee County, capturing responses from roughly 50% helps to gain a better understanding of curbside collection programs. Data collection seems to be the largest gap in the county-wide recycling programs. Working with waste haulers to increase transparency in areas like tonnage will help local units to better understand what is currently being collected and also helps them set future goals aimed at increasing recycling. Additionally, becoming aware of contamination rates and materials collected within the communities will identify how to better educate residents on proper recycling strategies.



Genesee: Our County, Our Future

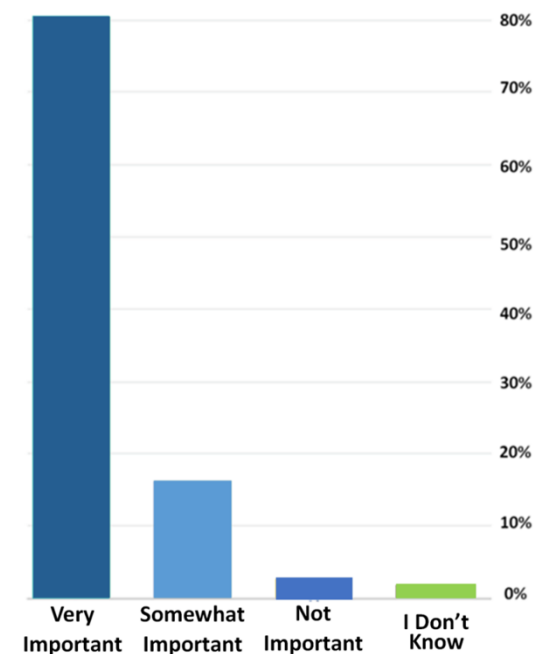
Community Survey

In 2018, the Genesee County Metropolitan Planning Commission began developing a county-wide planning document that would encompass many areas of community planning. This plan was titled Genesee: Our County, Our Future and was intended to be a vision for the county that incorporates an analysis of necessary components when planning for a community’s future needs. Included in this plan are topic related to land use, transportation, housing, environment, and infrastructure.

In April, GCMPC developed a community-wide survey to hear from residents and community leaders. The start of the survey indicated the official kickoff for the development of the Genesee: Our County, Our Future plan. In the first ten weeks, 1,079 surveys were completed, representing almost every community in the county.

GCMPC staff felt it was important to know how Genesee County residents felt about current garbage and recycling services in their communities. As shown in **Figure 2.14**, when asked how important residents felt that it was to recycle, 81% of respondents felt it was very important, 16% some

Figure 2.14 Overall, How Important Do You Think it is to Recycle?



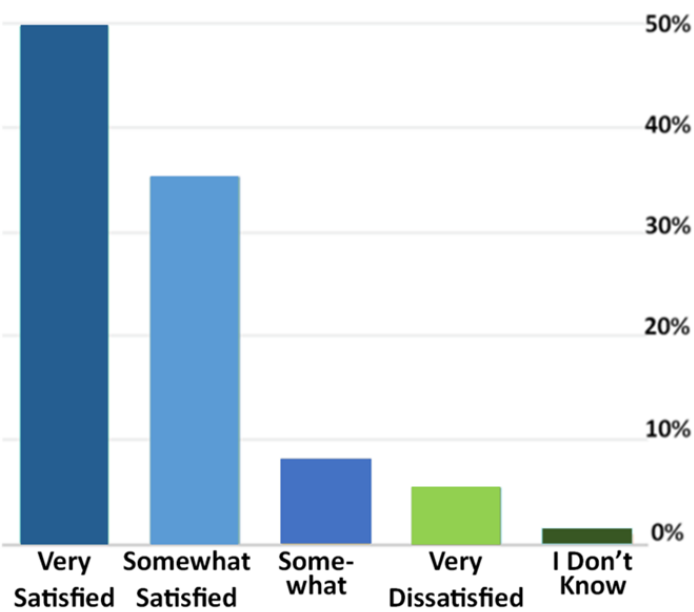
Source: Genesee: Our County, Our Future Community Survey

what important, and 3% felt that recycling was not important at all.

Respondents were then asked how satisfied they were with the options available to dispose of garbage and recyclables (see **Figure 2.15**). About 50% felt very satisfied, 35% felt somewhat satisfied, and about 6% felt very dissatisfied. When asked to select ways communities should improve recycling collection methods, opening a drop-off recycling center and providing a larger curbside wheeled cart were among the top answers for most communities.



Figure 2.15 How Satisfied Are You With the Options You Have Available to Dispose of Your Garbage and Recyclables?



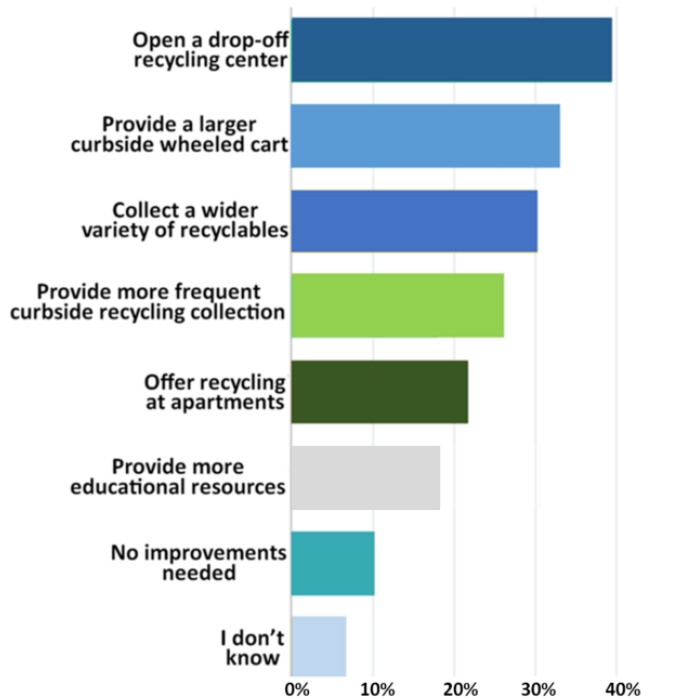
Source: Genesee: Our County, Our Future Community Survey

Other answers to that question included offering recycling at multi-family residences, providing more educational resources, and collecting a wider variety of recyclables curbside (see **Figure 2.16**). For garbage disposal, **Figure 2.17** shows nearly half of respondents felt communities should collect household hazardous waste or provide special collection events on their own.

Community Survey Conclusions

One of the important factors of revitalizing our solid waste system comes directly from the responses and ideas of those living in Genesee County. Residents provided truly valuable thoughts on what is working well and what should be changed. This community survey allowed us to gain a clearer perspective on how well communities are being serviced and where we can make improvements. The results indicate that overall, most residents in Genesee County believe that recycling is important and are fairly satisfied with the services to them to dispose of garbage and recyclables. Another notable conclusion from this survey was the surprising amount of respondents that wish to see even more options available to them for disposing of waste.

Figure 2.16 Please Select the Top 2 Ways Your Community Should Improve Recycling:

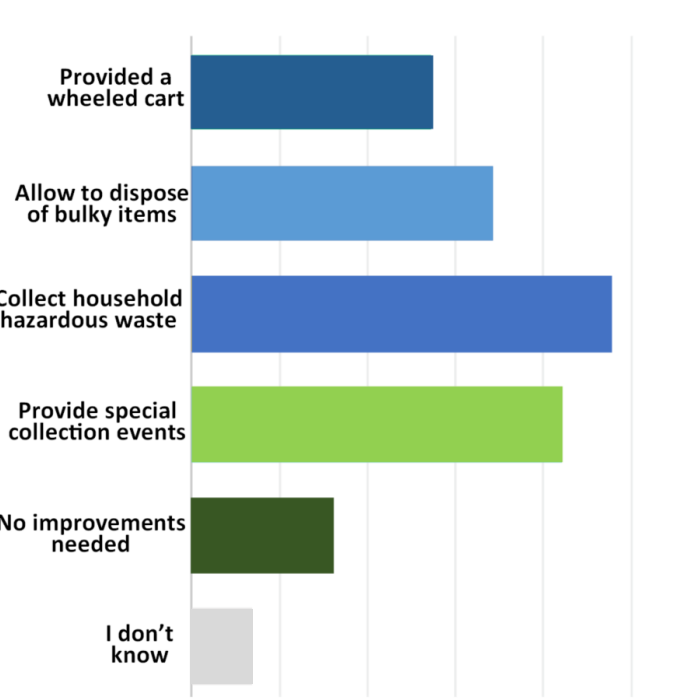


Source: Genesee: Our County, Our Future Community Survey

Solid Waste Evaluation Survey Conclusions

Through these surveys, it is clear that the residents of Genesee County believe that recycling is important and are eager to utilize the opportunities available to them to recycle. However, they also believe that there could be more improvements made to increase the collection of recyclable materials. Larger recycling collection receptacles and a permanent drop off center are among the common responses when asked about specific improvements. There also seems to be more enthusiasm for education about proper waste disposal and recycling. This could potentially be an opening for local units of government to provide more resources on recycling education to residents. Local units could also work with their waste hauler to request data about recycling in their communities. These surveys encourage communication between county staff and residents in order to determine strengths and weaknesses of the current solid waste system in Genesee County. These responses identify where improvements can be made moving forward.

Figure 2.17 Please Select the Top 2 Ways Your Community Should Improve Garbage Disposal:



Source: Genesee: Our County, Our Future Community Survey

Evaluation of Solid Waste Deficiencies

In collaboration with the Solid Waste Management Planning Committee (SWMPC), staff was able to analyze the current solid waste system through a visioning process that took place at a regularly scheduled SWMPC meeting. The goal of this process was to provide the committee with an opportunity to discuss current issues of the solid waste system and how it could potentially be improved for the future. This process ultimately led to the identification of current solid waste system deficiencies as well as development of goals and objectives for the Solid Waste Management Plan.

Solid Waste System Activity

During the February 8, 2022, meeting, staff facilitated an engaging activity to gather input from committee members on the solid waste system. Staff asked members to identify deficiencies in the current solid waste system. These ideas were prioritized by the committee and summarized by staff. **Figure 2.18** shows a list of the results from the solid waste deficiencies activity. Results are shown in order of priority identified for each deficiency.

Figure 2.18 Solid Waste Deficiencies			
Hard to Dispose Materials	Education	Legislation	Enforcement
<ul style="list-style-type: none"> • Battery, medication disposal • Incentivize community cleanups • More Recycle Day Events • Paint, fuel, oil, coolant disposal • Permanent HHW drop-offs • Simplify non-curb waste • Tires 	<ul style="list-style-type: none"> • Adult education • Clear messages about recycling • Lack of education • Public involvement • Waste reduction education • What is recyclable vs trash 	<ul style="list-style-type: none"> • Expand bottle bill • Get rid of plastic • More proactive counties • More producer responsibility • Part 115 	<ul style="list-style-type: none"> • Environmental protection regulations • Ordinance enforcement • Penalties for dumping
Diversion	Local Waste Contracts		Other Deficiencies Mentioned
<ul style="list-style-type: none"> • Food waste collection options • Food waste reduction at schools • Food/yard compost options • Keep yard waste ban, add organics 	<ul style="list-style-type: none"> • Increased office recycling • Multi-family recycling • Recycling at schools 		<p>Consumption, contract terms, costs, more disposal traffic, large item disposal, material separation, material recovery facility, recycling vs fuel usage, and trash in school parking lots, and weekly recycling</p>

Source: SWMPC Input

Solid Waste System Deficiencies

Staff refined the input provided by the solid waste planning committee into six main deficiencies. Genesee County's solid waste system deficiencies are identified as hard to dispose materials, education, legislation, enforcement, diversion, and local waste contracts. Below is a brief description of each deficiency paired with an established goal identifying how the deficiency could be addressed.

Hard to Dispose Materials

Although household hazardous waste (HHW) collection events are held periodically throughout the year, it is difficult for residents to properly dispose of these items as many of them cannot legally be taken to a landfill. The current event format for HHW collection is seasonal which means a person must wait until a specific time and location is set up for them to dispose of their unwanted materials. These events are frequently very busy and there are few other local drop off disposal sites that accept the same type of materials. Residents also struggle to properly dispose of large-scale items including mattresses, construction waste, tires, or appliances. Sometimes these items may be accepted through a curbside garbage collection program, but there could be certain requirements for how the item should be put to the curb. More often, waste haulers will not take these items curbside, so residents must find a local company that would potentially accept the item. However, this is a confusing process for the resident since there isn't a one-stop location where residents can be sure that their hard-to-dispose items will be accepted. One potential solution on how to address this significant issue is to establish a permanent HHW collection site where residents can drop-off items on a regular basis.

Goal Addressing Hard to Dispose Materials Deficiency:

Implement a sustainable materials management program with the main objective of reducing the overall amount of waste generated in Genesee County. Utilize resource conservation technologies such as recycling and composting.

A permanent HHW collection site is becoming more of a necessity to Genesee County as the event format used in previous years is becoming unsustainable. Once this site is established, expanding operations to collect electronics and large materials such as tires will further enhance materials management strategies in the county.

Education

Education is an important factor in our solid waste system to assist in moving towards higher recycling participation as well as better quality recycling. Despite the efforts that are currently being conducted by county staff for materials management education, including presentations, attending local events, and social media efforts, the education program lacks the overall strength it needs to reach more people. This programming has become even more difficult during the COVID-19 pandemic where in-person gatherings and events are few and far between. To get an idea of how many people in Genesee County are aware of and participating in their communities' curbside recycling program, staff conducted a recycling participation windshield survey. This survey conducted in 2022 determined that about 52% of residents were participating in curbside recycling. This data point allows staff to target communities where there is a significant need for materials management education across Genesee County. While waste haulers within the county provide local units with recycling guides based on their services, they do not regularly provide recycling information or resources to their communities. Education in this area should not only be specific to recycling, but other environmental issues such as waste reduction, littering, composting, and reuse. Future educational efforts should aim to be clear, concise, and focus on local recycling issues.

Goal Addressing Education Deficiency:

Improve education and awareness of recycling, composting, and reuse of materials to support overall diversion of waste in the county.

To address the issue of education, the county will need to further expand the education program to reach a greater population of school children, community groups, and adult residents. Most residents find their information from their community's website as well as other internet sources. It will be important to continuously update these sources to provide updated information on what kinds of materials residents can recycle. Educating residents on the overall benefits of reducing waste generation should also become a priority.

Legislation

Another deficiency that was prioritized related to legislation, specifically support for updating Part 115 which is Michigan's solid waste policy and laws under the Natural Resources and Environmental Protection Act (Act 451 of 1995). In recent years, shifting from establishing landfill capacity to the mindset of materials management and diversion techniques has become a popular topic of discussion in Michigan. State officials from EGLE have helped to pass the new update to Part 115 of Act 451 which relates to solid waste management policies. These policy changes are crucial in assisting Michigan in reaching the statewide goal of increasing diversion through recycling and composting. Even though Part 115 has passed, support and guidance for implementing this bill is still needed. Support during this update will have a positive effect on not only Genesee County's Solid Waste System, but Michigan's statewide system as well. The state has a bottle deposit bill in place where consumers pay a 10-cent deposit on each can or bottle of certain beverages they purchase. These funds are then repaid to the consumer when they return the can or bottle for recycling at a store capable of accepting the containers. This program has helped to increase recycling rates for these materials. However, the bottle bill mainly applies to pop and beer containers only. Some consider the current bottle bill to be lacking and could be expanded to include additional beverage containers such as

juice and water bottles. However it is important to consider the effects that expanding this bill will have on material recovery facilities (MRF) due to the subsequent decrease in plastic based materials that MRFs would no longer receive. Expansion could result in negative financial impacts for many recycling facilities. Additionally, bans on materials like plastic bags have taken place in other states and cities across the United States. Due to the significant negative impact that plastics tend to have on the environment, it is important to consider banning certain plastics. Although addressing these deficiencies may be out of the scope of the solid waste planning committee, it is important to establish support for potential changes to statewide legislation that will have a positive impact on materials management.

Goal Addressing Legislation Deficiency:

Implement and maintain an integrated materials management plan to ensure a healthy environment and financially sound solid waste system.

The newly passed Part 115 will make improvements to the solid waste planning process, require composting facilities to be added into solid waste plans, and put more of a focus on materials management rather than landfilling all waste. Staff should also inform local units and encourage support for other legislation that outlines more extended producer responsibilities for materials management.



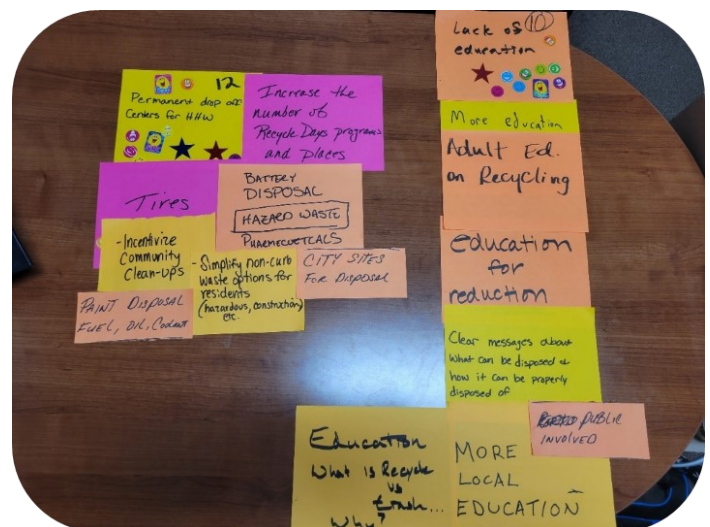
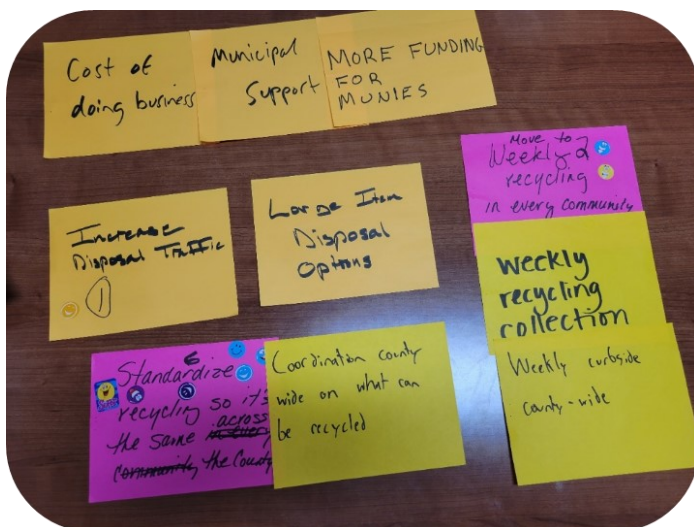
Enforcement

There were a variety of enforcement issues also identified. The current Genesee County Solid Waste Ordinance and fees collected through the Ordinance do not include adequate enforcement of solid waste activities in the county. The ordinance states that the ordinance administrator is responsible for enforcing its provisions with no other specific enforcement language included. Waste haulers operating within the county are required to report to county staff quarterly, but more can always be done to increase the accountability of these haulers. For example, waste haulers are currently not required to report how much yard waste is picked up. This is potentially a factor that could be added to the quarterly reports to get a better idea of how much waste is diverted from the landfills and where this material is taken. Landfills here are monitored and held accountable by the state, but there are still county-wide enforcement improvements that could be made. Another enforcement issue mentioned was related to illegal waste dumping in local communities. There is currently little enforcement done by local units of government to prevent illegal dumping nor are there any measures being taken to penalize offenders or clean up dumped waste. Additionally, there needs to be more education on what should be placed into curbside recycling bins. Adult education should be prioritized to solve this issue. Residents frequently bag recyclables, place items in their bins that cannot be recycled, and contaminate materials with other dirty recyclables.

Goal Addressing Enforcement Deficiency:

Implement a sustainable materials management program with the main objective of reducing the overall amount of waste generated in Genesee County. Utilize resource conservation technologies such as recycling and composting.

To improve enforcement strategies, staff should evaluate the Ordinance to include specific language on how enforcement will be administered consistently and incorporate more complete collection and monitoring requirements. Look at other best practices to establish penalties for dumping and county-wide environmental protection regulations.



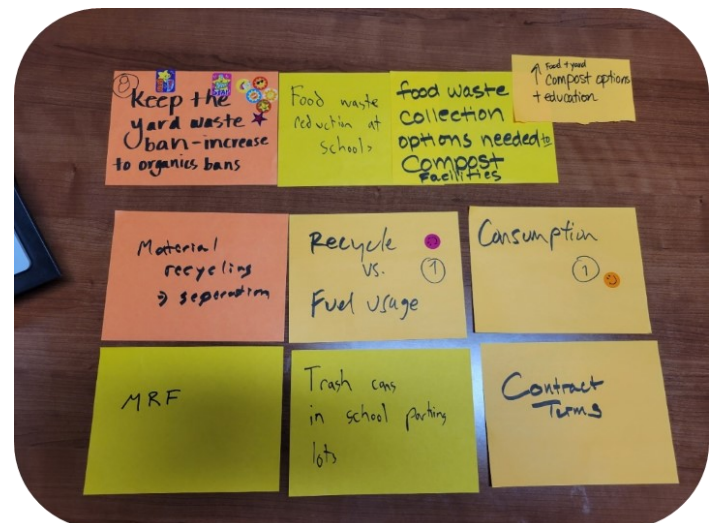
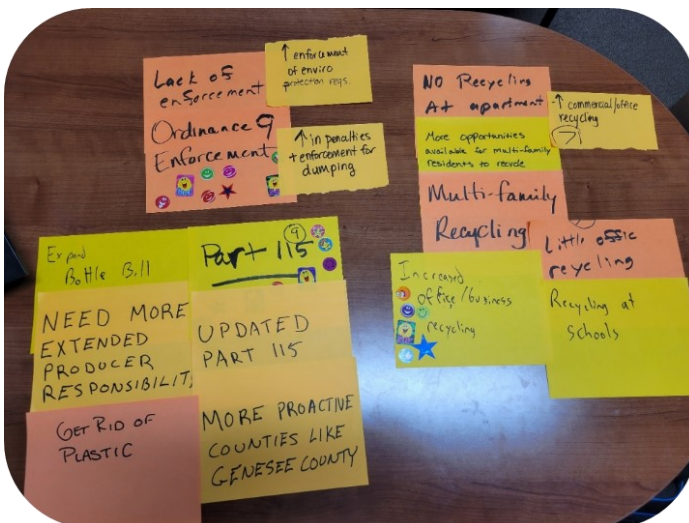
Diversion

Currently, all communities in the county provide curbside yard waste pickup services during select times of the year. Outside of these pickups, residents are left to properly dispose-of yard waste through local companies as it is not allowed to be disposed at landfills. Although there are programs geared towards yard waste disposal, organic waste like food scraps are often left out. More food waste collection programs could be implemented as well as education around food waste reduction could take place to improve this deficiency. There is also no large-scale drop-off recycling center in Genesee County. This means that multi-family housing developments are not able to recycle since they are typically not included with curbside recycling programs and often are not provided recycling by their property owners. Also, many businesses and public facilities like schools throughout the county are not providing recycling unless they have specifically requested this service from their waste hauler at an additional cost. With a current diversion rate of 9%, it is evident that diverting waste from the landfills in Genesee County needs to be enhanced. The county's low diversion is primarily due to the lack of composting and recycling access across all housing types. Data collection also makes it difficult to identify programming that should be prioritized, as well as materials management infrastructure such as recycling centers, material recovery facilities, and transfer stations where material separation occurs.

Goal Addressing Diversion Deficiency:

Implement and maintain an integrated materials management plan to ensure a healthy environment and financially sound solid waste system.

Waste diversion is an important factor in decreasing the overall amount of waste sent to landfills. Specific actions should be taken to increase the diversion rate in the county through education and awareness. Data collection of all materials able to be diverted from a landfill should be evaluated to accomplish this goal. Waste assessments could become vital to increasing the diversion rate within the County. Special attention should be given to organic diversion. This can be accomplished by establishing regular food and yard waste collection programs. Other types of single stream recycling programs can assist with increasing diversion rates as well such as, providing recycling to multi-family residences, office buildings, and schools.



Local Waste Contracts

In Genesee County, the local units of government contract with various haulers at different price points and often receive different services such as weekly or bi-weekly recycling as well as being provided a handheld recycle bin or a wheeled recycle cart. Since communities are not working together on shared waste service contracts, sometimes information on what can be recycled or when pickup days are can become confusing to residents. Additionally, since each communities' waste service program varies, it creates more challenges for staff to properly educate and help residents to understand the nuances of each program. If a shared standard on collection and disposal components was adopted by local units, waste hauling companies, and material recovery facilities, recycling education programs could become more simplified within the county. On the other hand, if too many local units were to establish regional contracts with neighboring communities, it could potentially be damaging to the waste hauling economy here as there is not one company that can meet the needs of every community on its own. Waste haulers determine the price that local units pay for their services based on factors such as the proximity to the service location, the number of households in the community, and the density of households within the service routes. Partnerships to create a shared standard on recyclables, but not necessarily on pricing could be beneficial to Genesee County waste services.

Goal Addressing Local Waste Contracts Deficiency:

Develop a materials management program that helps retain and attract economic development in Genesee County.

Local waste contracts are present in every community and outline the specifics of how solid waste will be handled in that municipality. In an effort to promote cost effectiveness and efficiency for all, it is suggested that communities and businesses collaborate to reduce costs and increase management opportunities. Every community could see financial and environmental benefits from a countywide shared standard of recyclable items and best recycling practices. Developing these more refined materials management practices will improve the quality of life in Genesee County, creating a more desirable area to live and work in, in addition to attracting and retaining other forms of economic development.



Solid Waste Area Summaries

In November 2021, GCMPC requested that all waste disposal, transfer station, recycling, and compost facility owners submit description surveys about their facilities for the Plan amendment. Staff collected facility information from three in county landfills, two out of county landfills, four transfer stations, one recycling center, and one compost facility. The facility descriptions are provided for the purpose of showing that Genesee County can continue to dispose of waste in those locations over the next 26 years. There are two Type II landfills in operation that are located in Genesee County and one Type III landfill that will only operate if there are changes to state or federal disposal regulations related to PFAS. Brent Run and Citizens Disposal are both open for public use and take municipal solid waste and the Genesee County Department of Water and Waste Services Landfill will only accept wastewater sludge and biosolids for disposal. All landfills accepting waste in and out of the County are privately owned. The Venice Park landfill in Shiawassee County and the People's Landfill in Saginaw County are included because waste generated in Genesee County is frequently exported there. Also listed as part of the facility descriptions are transfer stations and a compost facility. Transfer stations operate by collecting waste from disposal trucks and transporting it to landfills. There are two types of transfer facilities identified in state regulations. Type A facilities accept over 200 cubic yards of waste per day from mechanical compaction vehicles. Type B facilities accept less than 200 cubic yards per day and do not use mechanical compaction vehicles. Compost facilities collect yard waste, food scraps, and other organics to be turned into compost, mulch, or other soil additives. All disposal and waste diversion facilities in this plan are crucial for managing solid waste and other material within the county.

Facility Description Definitions

Total Area of a Facility Property– the entire property the solid waste facility area owns

Total Area Sited for Use– the acreage the County is authorizing to be permitted

Total Area Permitted– the acreage that has received an operating permit from EGLE (this would include closed cells, operating cells, and areas that have not yet been excavated but have been permitted)

Facilities List

- Brent Run Landfill, Type II
- Citizens Disposal Landfill, Type II
- People's Landfill, Type II
- Venice Park Landfill, Type II
- Genesee County Department of Water and Waste Services Landfill, Type III
- Genesee Waste Services Transfer Station, Type A
- GFL Transfer Station, Type A
- Happy Can Disposal Transfer Station, Type A
- Resource Recovery of Burton Transfer Station, Type A
- Averill Recycling Inc, Recycling Center
- Country Oaks Landscape Supply, Compost Facility



Solid Waste Facility Description Form

Facility Type: Type II Municipal Solid Waste Landfill

Town: 9N Range: 5E Section(s): 23

Facility Name: Brent Run Landfill

County: Genesee

Address: 8335 W Vienna Road, Montrose, MI 48457

Map identifying location in Attachment Section: ☒ Yes ☐ No

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

☐ Public ☒ Private Owner: GFL Environmental Inc.

Operating Status (check):

Waste Types Received (check all that apply):

- ☒ Open
- ☐ Closed
- ☒ Licensed
- ☐ Unlicensed
- ☒ Construction Permit
- ☐ Open, but Closure
- ☐ Pending

- ☒ Residential
- ☒ Commercial
- ☒ Industrial
- ☒ Construction & Demolition
- ☒ Contaminated Soils
- ☒ Special Wastes*
- ☐ Other: _____

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

Non-hazardous, non-regulated solid waste.

Site Size:

Total area of facility property	<u>942.6</u>	acres
Total area sited for use:	<u>764.2</u>	acres
Total area permitted:	<u>154.5</u>	acres
Operating:	<u>131.37</u>	acres
Not excavated:	<u>23.13</u>	acres
Current capacity:	<u>12,995,292</u>	<input type="checkbox"/> tons or <input checked="" type="checkbox"/> yards cubed
Estimated lifetime:	<u>12.9</u>	years
Estimated days open per year:	<u>286</u>	days
Estimated yearly disposal volume:	<u>370,034</u>	<input type="checkbox"/> tons or <input checked="" type="checkbox"/> yards cubed
Annual energy production (If Applicable):		
Landfill gas recovery projects:	<u>61,320</u>	megawatts
Waste-to-energy incinerators:	<u>N/A</u>	megawatts

*Permit No. 4138, issued on December 20, 2013, identifies 154.5 acres permitted for waste disposal. Construction for waste disposal beyond this acreage will require a new construction permit.

This facility is automatically consistent as written in this plan.

Solid Waste Facility Description Form

Facility Type: Type II Municipal Landfill

Town: 6N Range: 6E Section(s): 23

Facility Name: Citizens Disposal

County: Genesee

Address: 2361 W. Grand Blanc Rd, Grand Blanc, MI 48439

Map identifying location in Attachment Section: ☒ Yes ☐ No

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

☐ Public ☒ Private Owner: Citizen's Disposal Inc

Operating Status (check):

Waste Types Received (check all that apply):

- ☒ Open
- ☐ Closed
- ☒ Licensed
- ☐ Unlicensed
- ☒ Construction Permit
- ☐ Open, but Closure
- ☐ Pending

- ☒ Residential
- ☒ Commercial
- ☒ Industrial
- ☒ Construction & Demolition
- ☒ Contaminated Soils
- ☒ Special Wastes*
- ☒ Other: Asbestos

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

Non-hazardous waste permitted for disposal under Part 115 rules; asbestos accepted in accordance with NESHAP regulations.

Site Size:

Total area of facility property 313.7 acres

Total area sited for use: 236.5 acres

Total area permitted: 109 acres

Operating: 91.14 acres

Not excavated: 17.86 acres

Current capacity: 17,400,000 ☐ tons or ☒ yards cubed

Estimated lifetime: 14 years

Estimated days open per year: 286 days

Estimated yearly disposal volume: 400,000 ☒ tons or ☐ yards cubed

Annual energy production (If Applicable):

Landfill gas recovery projects: 60,000 megawatts

Waste-to-energy incinerators: _____ megawatts

Solid Waste Facility Description Form

Facility Type: Type II Landfill

Town: 10N Range: 5E Section(s): 10, 15

Facility Name: Peoples Landfill, Inc.

County: Saginaw

Address: 4143 East Rathbun Road, Birch Run, Michigan, 48415

Map identifying location in Attachment Section: ☒ Yes ☐ No

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

☐ Public ☒ Private Owner: Waste Management of Michigan

Operating Status (check):

Waste Types Received (check all that apply):

- ☒ Open
- ☐ Closed
- ☒ Licensed
- ☐ Unlicensed
- ☒ Construction Permit
- ☐ Open, but Closure
- ☐ Pending

- ☒ Residential
- ☒ Commercial
- ☒ Industrial
- ☒ Construction & Demolition
- ☒ Contaminated Soils
- ☒ Special Wastes*
- ☐ Other: _____

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

asbestos, sludge, soil

Site Size:

Total area of facility property 163.5 acres

Total area sited for use: 104.9 acres

Total area permitted: 104.9 acres

Operating: 70 acres

Not excavated: 7.4 acres

Current capacity: 20,200,000 ☐ tons or ☒ yards cubed

Estimated lifetime: 21 years

Estimated days open per year: 281 days

Estimated yearly disposal volume: 230,000 ☒ tons or ☐ yards cubed

Annual energy production (If Applicable):

Landfill gas recovery projects: 4.0 megawatts

Waste-to-energy incinerators: _____ megawatts

Solid Waste Facility Description Form

Facility Type: Type II Landfill

Town: 7N Range: 4E Section(s): 26-27

Facility Name: Waste Management of Michigan / Venice Park Recycling and Disposal Facility

County: Shiawassee

Address: 9536 Lennon Rd Lennon Michigan 48449

Map identifying location in Attachment Section: ☒ Yes ☐ No

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

☐ Public ☒ Private Owner: Waste Management of Michigan

Operating Status (check):

Waste Types Received (check all that apply):

- ☒ Open
- ☐ Closed
- ☒ Licensed
- ☐ Unlicensed
- ☒ Construction Permit
- ☐ Open, but Closure
- ☐ Pending

- ☒ Residential
- ☒ Commercial
- ☒ Industrial
- ☒ Construction & Demolition
- ☒ Contaminated Soils
- ☒ Special Wastes*
- ☒ Other: Solidification Operation

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

Asbestos, Medical Wastes

Site Size:

Total area of facility property	<u>346.97</u>	acres
Total area sited for use:	<u>208.4</u>	acres
Total area permitted:	<u>208.4</u>	acres
Operating:	<u>96.7</u>	acres
Not excavated:	<u>19.4</u>	acres
Current capacity:	<u>20,860,000</u>	<input type="checkbox"/> tons or <input checked="" type="checkbox"/> yards cubed
Estimated lifetime:	<u>24.0</u>	years
Estimated days open per year:	<u>281</u>	days
Estimated yearly disposal volume:	<u>290,000</u>	<input checked="" type="checkbox"/> tons or <input type="checkbox"/> yards cubed
Annual energy production (If Applicable):		
Landfill gas recovery projects:	<u>6.4</u>	megawatts
Waste-to-energy incinerators:	_____	megawatts

This facility is automatically consistent as written in this plan.

Solid Waste Facility Description Form

Facility Type: Type III Low Hazard Industrial Waste Landfill

Town: 9N Range: 5E Section(s): 10

Facility Name: Genesee Treatment

County: Genesee

Address: 9290 Farrand Road, Montrose, MI 48457

Map identifying location in Attachment Section: ☒ Yes ☐ No

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

☒ Public ☐ Private Owner: County Agency - Genesee

Operating Status (check):

Waste Types Received (check all that apply):

- ☐ Open
- ☐ Closed
- ☐ Licensed
- ☐ Unlicensed
- ☐ Construction Permit
- ☐ Open, but Closure
- ☒ Pending

- ☐ Residential
- ☐ Commercial
- ☐ Industrial
- ☐ Construction & Demolition
- ☐ Contaminated Soils
- ☒ Special Wastes*
- ☐ Other: _____

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

Biosolids from Waste Water Treatment Plant

Alum Sludge from Water Treatment Plant

Site Size:

Total area of facility property	<u>322.62</u>	acres
Total area sited for use:	<u>89.2</u>	acres
Total area permitted:	<u>N/A</u>	acres
Operating:	_____	acres
Not excavated:	_____	acres

Current capacity:	<u>2,579,997</u>	<input type="checkbox"/> tons or <input checked="" type="checkbox"/> yards cubed
Estimated lifetime:	<u>40</u>	years
Estimated days open per year:	<u>180</u>	days
Estimated yearly disposal volume:	<u>67,000</u>	<input type="checkbox"/> tons or <input type="checkbox"/> yards cubed

Annual energy production (If Applicable):

Landfill gas recovery projects:	<u>N/A</u>	megawatts
Waste-to-energy incinerators:	<u>N/A</u>	megawatts

The Genesee County Drain Commissioner's Office requested the following language to be included with their facility description: Construct a County owned landfill in Section 10 of Montrose Township if the need develops for the facility. The site will only be used as a "back-up" site if the private enterprise is unwilling or unable to provide landfill capacity. This 80-acre site located north of Farrand Road and west of Marshall Road is presently owned by the County.

This landfill will only be considered included in the plan in the event that changes in state or federal laws no longer make the currently available alternatives for PFAS disposal viable and sending this waste to a Type III landfill becomes the only option.

Solid Waste Facility Description Form

Facility Type: Type A Transfer Station/Processing Facility

Town: 8N Range: 7E Section(s): 32

Facility Name: Genesee Waste Services/Resource Recovery of Flint

County: Genesee

Address: 5125 N. Dort Highway, Flint, MI 48505

Map identifying location in Attachment Section: ☐ Yes ☒ No

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

☐ Public ☒ Private Owner: Johnnie Moore

Operating Status (check):

Waste Types Received (check all that apply):

- ☒ Open
- ☐ Closed
- ☐ Licensed
- ☐ Unlicensed
- ☐ Construction Permit
- ☐ Open, but Closure
- ☒ Pending

- ☒ Residential
- ☒ Commercial
- ☒ Industrial
- ☒ Construction & Demolition
- ☐ Contaminated Soils
- ☐ Special Wastes*
- ☐ Other: _____

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

Site Size:

Total area of facility property 3.5 acres

Total area sited for use: 3.5 acres

Total area permitted: N/A acres

Operating: _____ acres

Not excavated: _____ acres

Current capacity: N/A ☐ tons or ☐ yards cubed

Estimated lifetime: N/A years

Estimated days open per year: 290 days

Estimated yearly disposal volume: 10,071.32 ☒ tons or ☐ yards cubed

Annual energy production (If Applicable):

Landfill gas recovery projects: N/A megawatts

Waste-to-energy incinerators: N/A megawatts

This facility is automatically consistent as written in this plan.

Solid Waste Facility Description Form

Facility Type: Type A Transfer Station; Processing Facility; MRF

Town: 7N Range: 6E Section(s): 35

Facility Name: Bristol Road Transfer Station

County: Genesee

Address: 2051 W. Bristol Road, Flint, MI 48507

Map identifying location in Attachment Section: ☒ Yes ☒ No

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

☐ Public ☒ Private Owner: GFL Environmental, Inc.

Operating Status (check):

Waste Types Received (check all that apply):

- ☐ Open
- ☐ Closed
- ☐ Licensed
- ☐ Unlicensed
- ☐ Construction Permit
- ☐ Open, but Closure
- ☒ Pending

- ☒ Residential
- ☒ Commercial
- ☒ Industrial
- ☒ Construction & Demolition
- ☐ Contaminated Soils
- ☐ Special Wastes
- ☐ Other: _____

Waste Received Description:

Currently operate a MRF that accepts cardboard, paper, and metal. Intend to upgrade MRF to accept single-stream recyclables

Looking to Site a Type A Transfer Facility to accept MSW and C&D waste

Site Size:

Total area of facility property approx. 30 acres

Total area sited for use: approx. 30 acres

Total area permitted: _____ acres

Operating: _____ acres

Not excavated: _____ acres

Current capacity: TBD ☐ tons or ☐ yards cubed

Estimated lifetime: _____ years

Estimated days open per year: 312 days

Estimated yearly disposal volume: TBD ☐ tons or ☐ yards cubed

Annual energy production (If Applicable):

Landfill gas recovery projects: N/A megawatts

Waste-to-energy incinerators: N/A megawatts

This facility is automatically consistent as written in this plan.

Solid Waste Facility Description Form

Facility Type: Type A Transfer Station/Processing Facility

Town: 7N Range: 7E Section(s): 10

Facility Name: Happy Can Disposal

County: Genesee

Address: 120 S. Center Rd Flint MI 48506

Map identifying location in Attachment Section: ☒ Yes ☐ No

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

☐ Public ☒ Private Owner: Kyle Burnash

Operating Status (check):

Waste Types Received (check all that apply):

- ☒ Open
- ☐ Closed
- ☐ Licensed
- ☒ Unlicensed
- ☐ Construction Permit
- ☐ Open, but Closure
- ☐ Pending

- ☒ Residential
- ☒ Commercial
- ☒ Industrial
- ☒ Construction & Demolition
- ☐ Contaminated Soils
- ☐ Special Wastes*
- ☒ Other: Recycle OCC & Wood

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

Site Size:

Total area of facility property

7 acres

Total area sited for use:

3 acres

Total area permitted:

N/A acres

Operating:

_____ acres

Not excavated:

_____ acres

Current capacity:

N/A ☐ tons or ☐ yards cubed

Estimated lifetime:

N/A years

Estimated days open per year:

260 days

Estimated yearly disposal volume:

< 200 Daily ☐ tons or ☒ yards cubed

Annual energy production (If Applicable):

Landfill gas recovery projects:

N/A megawatts

Waste-to-energy incinerators:

N/A megawatts

This facility is automatically consistent as written in this plan.

Solid Waste Facility Description Form

Facility Type: Type A Transfer Station/Processing Facility

Town: 7N Range: 7E Section(s): 29

Facility Name: Resource Recovery of Burton

County: Genesee

Address: 3376 Associates Drive, Burton, MI 48529

Map identifying location in Attachment Section: ☐ Yes ☒ No

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

☐ Public ☒ Private Owner: Johnnie Moore

Operating Status (check):

Waste Types Received (check all that apply):

- ☐ Open
- ☒ Closed
- ☒ Licensed
- ☐ Unlicensed
- ☐ Construction Permit
- ☐ Open, but Closure
- ☐ Pending

- ☒ Residential
- ☒ Commercial
- ☒ Industrial
- ☒ Construction & Demolition
- ☐ Contaminated Soils
- ☐ Special Wastes*
- ☐ Other: _____

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

Site Size:

Total area of facility property 1.5 acres

Total area sited for use: 1.5 acres

Total area permitted: N/A acres

Operating: _____ acres

Not excavated: _____ acres

Current capacity: 0 ☐ tons or ☐ yards cubed

Estimated lifetime: N/A years

Estimated days open per year: 0 days

Estimated yearly disposal volume: 0 ☐ tons or ☐ yards cubed

Annual energy production (If Applicable):

Landfill gas recovery projects: N/A megawatts

Waste-to-energy incinerators: N/A megawatts

This facility is automatically consistent as written in this plan.

Solid Waste Facility Description Form

Facility Type: Recycling Center

Town: 7N Range: 8E Section(s): 9

Facility Name: Averill Recycling Inc.

County: Genesee

Address: 220 S Averill Street, Flint, MI 48506

Map identifying location in Attachment Section: ☒ Yes ☐ No

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

☐ Public ☒ Private Owner: Boyt Johnson

Operating Status (check):

Waste Types Received (check all that apply):

- ☐ Open
- ☒ Closed
- ☐ Licensed
- ☐ Unlicensed
- ☐ Construction Permit
- ☐ Open, but Closure
- ☐ Pending

- ☒ Residential Recycling
- ☒ Commercial Recycling
- ☒ Industrial Recycling
- ☐ Construction & Demolition
- ☐ Contaminated Soils
- ☐ Special Wastes*
- ☐ Other: _____

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

Site Size:

Total area of facility property	<u>14</u>	acres
Total area sited for use:	<u>14</u>	acres
Total area permitted:	<u>N/A</u>	acres
Operating:	_____	acres
Not excavated:	_____	acres
Current capacity:	<u>N/A</u>	<input type="checkbox"/> tons or <input type="checkbox"/> yards cubed
Estimated lifetime:	<u>N/A</u>	years
Estimated days open per year:	<u>N/A</u>	days
Estimated yearly disposal volume:	<u>N/A</u>	<input type="checkbox"/> tons or <input type="checkbox"/> yards cubed
Annual energy production (If Applicable):		
Landfill gas recovery projects:	<u>N/A</u>	megawatts
Waste-to-energy incinerators:	<u>N/A</u>	megawatts

This facility is automatically consistent as written in this plan.

Solid Waste Facility Description Form

Facility Type: Compost Facility

Town: T7N Range: R7E Section(s): 28

Facility Name: Country Oaks Landscape Supply

County: Genesee

Address: 3218 E. Atherton Road, Burton, Michigan 48529

Map identifying location in Attachment Section: ☐ Yes ☒ No

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

☐ Public ☒ Private Owner: Mark Cherry

Operating Status (check):

Waste Types Received (check all that apply):

- ☒ Open
- ☐ Closed
- ☒ Licensed
- ☐ Unlicensed
- ☐ Construction Permit
- ☐ Open, but Closure
- ☐ Pending

- ☒ Residential Organic Waste
- ☒ Commercial Organic Waste
- ☐ Industrial
- ☐ Construction & Demolition
- ☐ Contaminated Soils
- ☒ Other*

*Explanation of other wastes:

Municipal Leaf & Yard Trimmings, Food Waste, Organic Residuals, Cardboard, Landscape Contractor Residuals,
Homeowner leaf & yard materials, tree debris.

Site Size:

Total area of facility property	<u>28</u>	acres
Total area sited for use:	<u>10</u>	acres
Total area permitted:	<u>10</u>	acres
Operating:	<u>N/A</u>	acres
Not excavated:	<u>N/A</u>	acres
Current capacity:	<u>15,000</u>	<input checked="" type="checkbox"/> tons or <input type="checkbox"/> yards cubed
Estimated lifetime:	<u>N/A</u>	years
Estimated days open per year:	<u>280</u>	days
Estimated yearly disposal volume:	<u>N/A</u>	<input type="checkbox"/> tons or <input type="checkbox"/> yards cubed
Annual energy production (If Applicable):		
Landfill gas recovery projects:	<u>N/A</u>	megawatts
Waste-to-energy incinerators:	<u>N/A</u>	megawatts

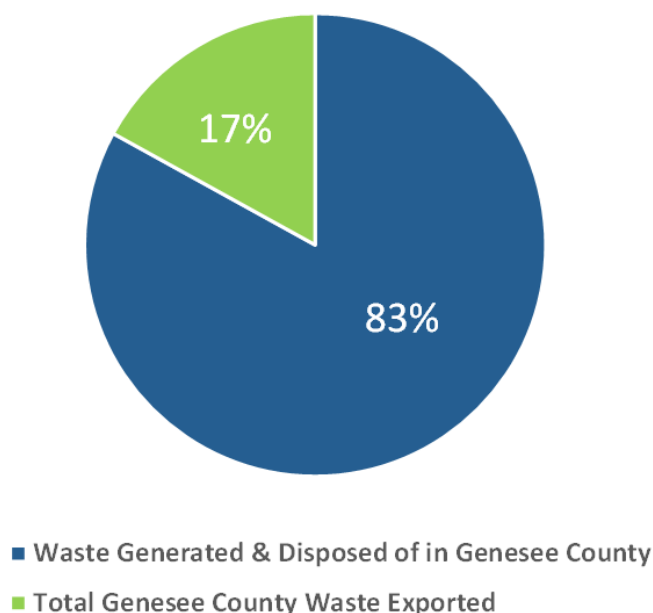
This facility is automatically consistent as written in this plan.

Landfill Capacity

Landfill capacity is based on current waste entering the landfills as well as waste disposal projected into the future. These factors are compared to permitted disposal capacity listed by each landfill to determine an estimated landfill capacity. Currently the two public use landfills in Genesee County have a combined estimated lifetime of 26 years. This capacity accounts for waste that is not only coming from Genesee County, but waste that is being imported into the county from Michigan counties, other states, and Canada. While almost 83% of Genesee County waste was taken to county landfills between 2016-2020, imported waste still accounts for approximately 65% of total waste entering the county landfills. **Figure 2.19** shows another relationship between imported and exported waste in the county over the same five year period. **Figure 2.20** indicates that the amount of waste Genesee County generates and sends to our own landfills is not the sole indicator of capacity, rather that the county imports a large amount of waste which reduces landfill capacity. Landfill capacity is mostly driven by the waste market, where importing waste is a driver of a successful operation.

If the landfills were to only take Genesee County waste (not including waste that the county exports), the total combined lifetime would be 55.32 years, depending on site area that is permitted, instead of 26 years which includes all the waste that is imported. **Figure 2.21** on the next page identifies specific capacity information relevant to landfills operating in Genesee County.

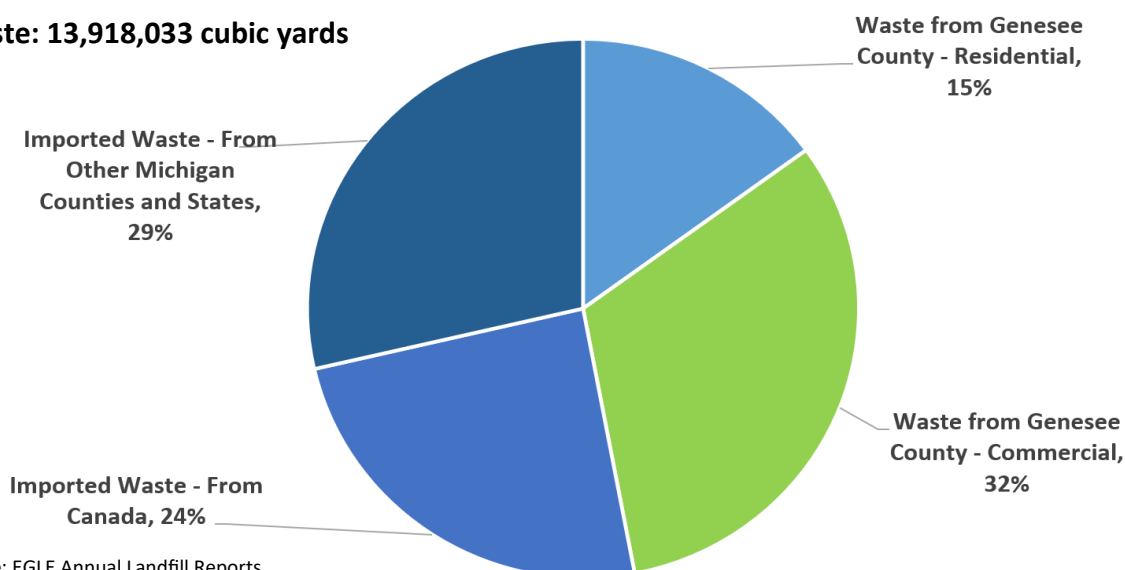
Figure 2.19 Percent of Genesee County Waste Generated/Disposed vs Exported (2016-2020)



Source: EGLE Annual Landfill Reports

Figure 2.20 Waste Disposed in Genesee County Landfills (2016-2020)

Total Waste: 13,918,033 cubic yards



Source: Genesee: EGLE Annual Landfill Reports

Figure 2.21 Genesee County Landfill Capacity

Landfill	Estimated Yearly Disposal Volume of Waste (Tons)	Total Area (Acres)	Area Sited for Use (Acres)	Area Permitted (Acres)	Current Capac- ity (CY)	Estimated Life- time (Yrs)
Brent Run	518,047	942.60	764.20	243.17	12,995,292	12.90
Citizen's Disposal	400,000	313.70	236.50	91.14	17,400,000	14.00
Total	918,047	1,256.30	1,000.70	334.31	30,395,292	26.90
Genesee	67,000	322.62	89.20	N/A	2,579,997	40
Total	67,000	322.62	89.20	N/A	2,579,997	40

Source: Solid Waste Facility Descriptions/ EGLE Annual Landfill Reports

Energy Production

According to the U.S. EPA, "Municipal Solid Waste (MSW) landfills are the third largest human generated source of methane emissions in the United States, releasing an estimated 94.2 million metric tons of carbon dioxide in 2020." However, these emissions are an opportunity for landfills to capture a significant source of energy that can be beneficial for the environment, generate renewable energy, as well as create jobs and cost savings. Landfills can capture methane gas and convert it using a variety

of different methods; in Genesee County, landfill gas is converted to electricity through a combination of various technologies, including internal combustion engines and turbines.

Each landfill in the county participates in Landfill Gas Recovery, producing thousands of megawatts of energy per year. **Figure 2.22** shows that the landfills produce over 120,000 Megawatts of gas which would be enough to power over 13,000 households in Genesee County.

Figure 2.22 Genesee County Landfill Annual Energy Production

Landfill	Annual Energy Production— Landfill gas Recovery Projects (MWhrs/yr.)	Estimated Number of Households Powered (per yr.)
Brent Run	61,320	7,500
Citizens Disposal	60,000	5,607
Total	121,320	13,107

Source: Solid Waste Facility Descriptions/EGLE Annual Landfill Reports

Solid Waste Disposal Collection Services

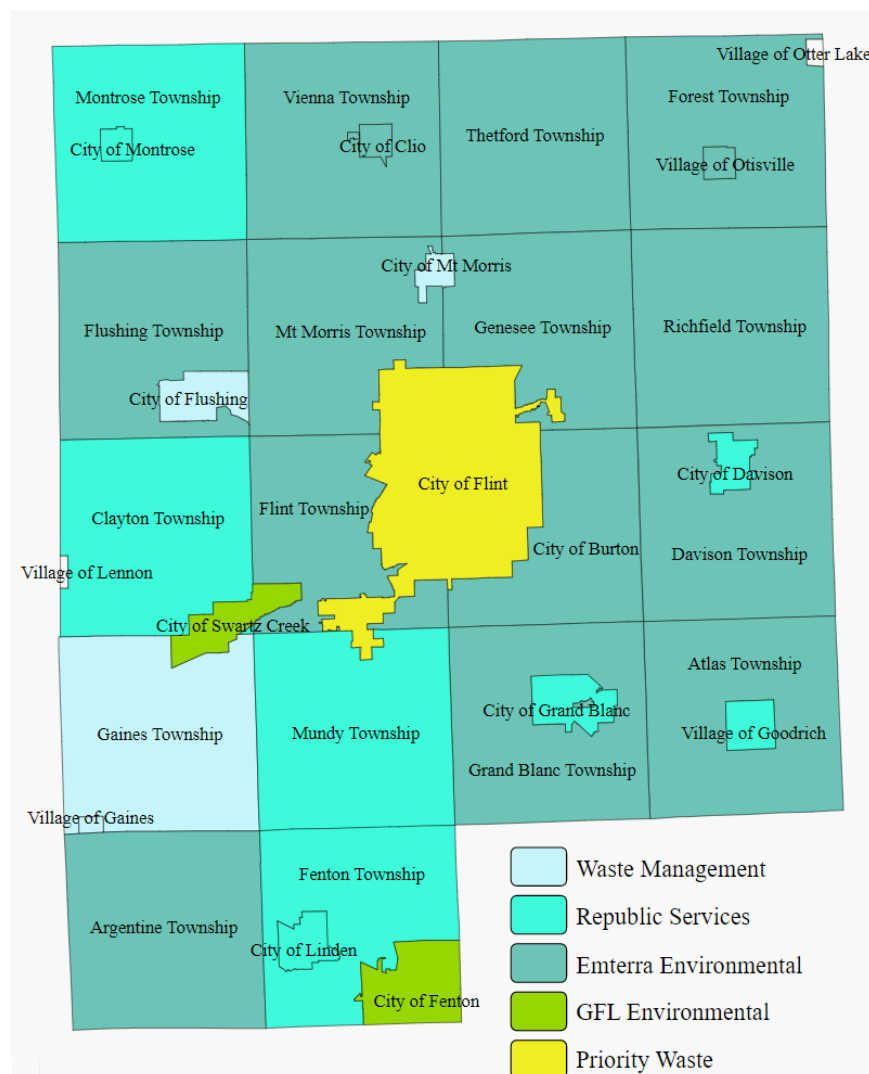
Figure 2.23 on the following page identifies collection services by municipality as well as costs per household per month and is a key factor in analyzing potential coordination among local municipalities to combine contracts for cost-effectiveness.

Map 3 shows the solid waste disposal collection services for each municipality in Genesee County. Local units may have similar services or even the same waste hauler, yet are paying varying amounts for these services. If these municipalities work together, they could arrive at less expensive contracts with their haulers, resulting in potentially enhanced services such as cost saving or weekly recycling.

In early 2021, staff determined that if certain communities combined waste hauling contracts, those municipalities may see significant cost savings and possibly expanded services. After reviewing each community, those with contracts expiring around the same time and within close proximity to one another were grouped. These two aspects would make it easier for the communities to negotiate with waste haulers for a shared service contract. The municipal groups identified to consider sharing a service contract include:

- Gaines Township and the Village of Gaines
- Village of Otisville and the Village of Otter Lake
- City of Swartz Creek, Clayton Township, and the City of Flushing,
- Mt. Morris Township, City of Mt. Morris, and Genesee Township

Map 2.2 2023 Solid Waste Disposal Collection Services



Source: GCMPC Website

Figure 2.23 2023 Solid Waste Disposal Collection Services

	Municipality	Collection Company	Households	HH Cost per Month
Cities				
	Burton	Emterra Env.	12,240	13.44
	Clio	Emterra Env.	1,099	10.44
	Davison	Republic	2,428	16.80
	Fenton	GFL	5,023	11.39
	Flint	Priority Waste	40,807	15.50
	Flushing	Waste Management	3,338	16.10
	Grand Blanc	Republic	3,525	13.84
	Linden	Republic	1,467	15.60
	Montrose	Republic	855	16.49
	Mt. Morris	Waste Management	1,271	16.79
	Swartz Creek	GFL	2,491	12.25
Townships				
	Argentine	Emterra Env.	2,484	12.53
	Atlas	Emterra Env.	2,858	8.83
	Clayton	Republic	2,717	14.48
	Davison	Emterra Env.	8,667	11.38
	Fenton	Republic	6,097	15.39
	Flint	Emterra Env.	12,878	11.35
	Flushing	Emterra Env.	3,956	11.24
	Forest	Emterra Env.	1,811	12.04
	Gaines	Waste Management	2,571	13.12
	Genesee	Emterra Env.	8,333	12.07
	Grand Blanc	Emterra Env.	15,733	11.30
	Montrose	Republic	2,267	11.07
	Mt. Morris	Emterra Env.	8,429	10.77
	Mundy	Republic	6,074	10.59
	Richfield	Emterra Env.	3,227	8.96
	Thetford	Emterra Env.	2,719	10.77
	Vienna	Emterra Env.	5,216	10.77
Villages				
	Gaines	Waste Management	200	13.12
	Goodrich	Republic	684	15.34
	Lennon	N/A	158	N/A
	Otisville	Emterra Env.	403	12.61
	Otter Lake	N/A	152	N/A
Average Cost per HH				12.79
Average Cost Per Household				
City		14.42		
Township		11.57		
Village		13.69		

Source: Solid Waste Disposal Collection Companies

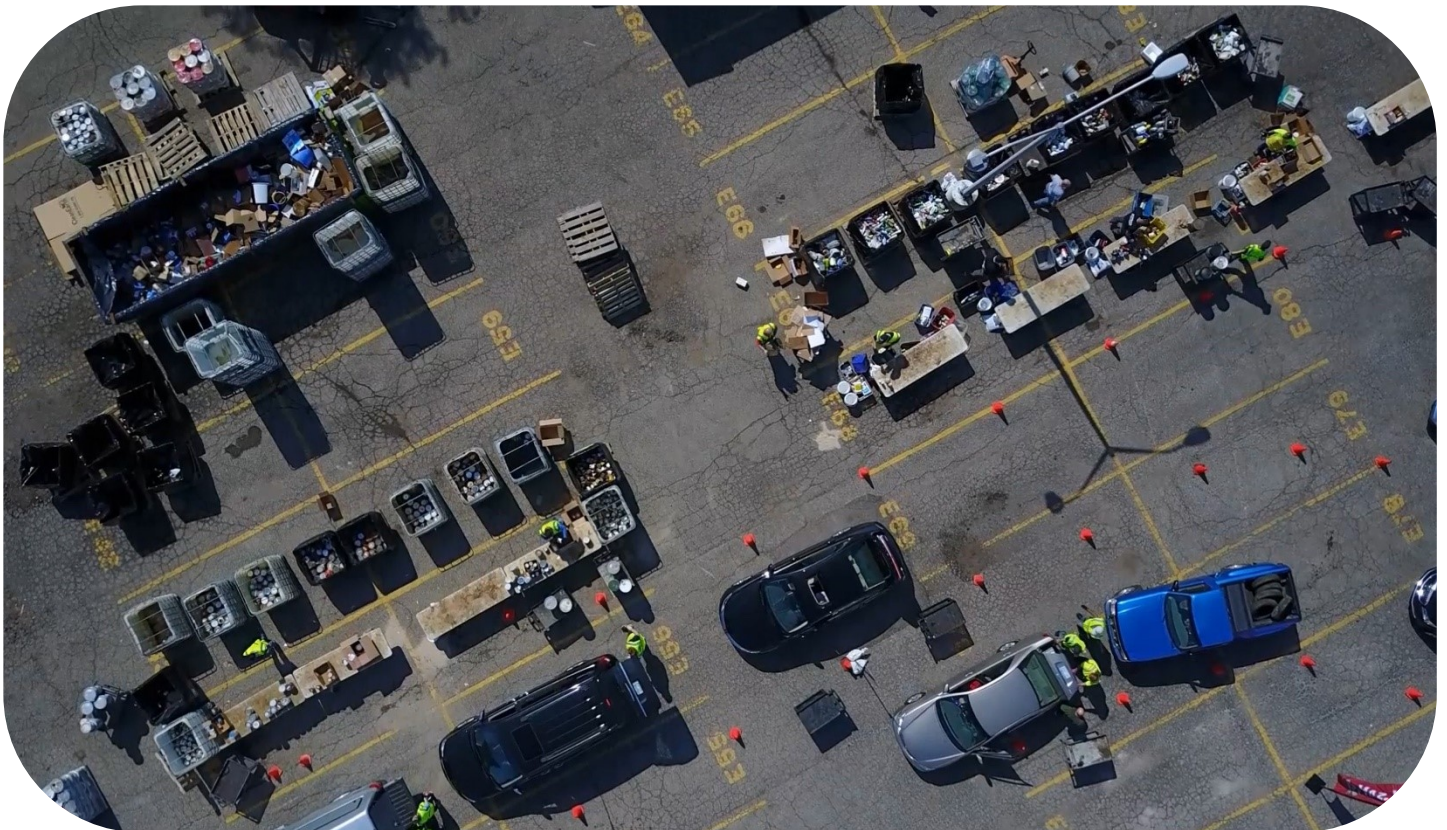
Conclusions

This section has drawn upon data collection from the public about solid waste and recycling services in their community, as well as the prioritization of ideas for a future solid waste system by the Solid Waste Management Planning Committee. The results of the Genesee County Public Input Survey, Genesee County Local Units of Government Survey, and the Genesee: Our County, Our Future surveys provide staff with valuable conclusions about how effective solid waste and recycling programs are in the county, as well as suggested changes that can be made through outreach and education and implementing specific needs in communities (such as providing larger bins for communities with only bi-weekly recycling). A meeting was held with the SWMPC to determine solid waste program deficiencies in the County. This meeting resulted in prioritizing several ideas that will help form the goals for this plan; the lack of options for disposing of hazardous or large materials in the county was probably the greatest concern, but it is also seen as a possible opportunity to implement a permanent drop-off facility.

As part of a requirement of this plan and to identify the future management of Genesee County waste, facility descriptions were collected from landfills,

transfer stations, and waste diversion facilities. Landfills, in particular, are an important step to determining proper management of waste and landfill capacity. However, about 65% of waste that is entering the landfills is being imported from outside of Genesee County. After reviewing the descriptions, it was determined that our landfills can manage not only our waste, but imported waste as well, for the next twenty-six years.

In addition to facility descriptions, solid waste disposal collection companies were tracked to show who provides services to communities throughout the county. The contracts for all local units were reviewed to see how much their waste service cost per household per month. By tracking this data, it was concluded that there were several communities that could partner with an adjacent community to combine contracts and services for cost savings and efficiency purposes.



Genesee County

Solid Waste Management Plan

Technical Report 3

Goals and Objectives

DRAFT



GENESEE COUNTY
METROPOLITAN PLANNING
COMMISSION

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3	Goals and Objectives
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Goals and Objectives

To comply with Part 115 and its requirements, the Genesee County Solid Waste Plan established an Enforceable Program and Process that is directed towards goals and objectives based on the purposes stated in Part 115, Section 11538.(1)(a), 11541.(4) and the State Solid Waste Policy adopted pursuant to this Section and Administrative Rules 711 (b)(i) and (ii). At minimum, the goals must reflect two major purposes of Materials Management Plans:

- 1) To utilize to the maximum extent possible the resources available in Michigan's solid waste stream through source reduction, source separation and other means of resource recovery and;
- 2) To prevent adverse effects on the public health and environment resulting from improper solid waste collection, transportation, processing, or disposal, so as to protect the quality of air, the land, and ground and surface waters.

This Materials Management Plan works toward the following goals through actions designed to meet the respective goals in which they support:

Goal One

Implement and maintain an integrated materials management plan to ensure a healthy environment and financially sound solid waste system.

- a. Monitor solid waste imports and exports to track long term disposal capacity.
- b. Improve data collection of all materials in Genesee County. Communities are encouraged to request monthly or quarterly reports from their waste hauler. Be sure to only collect data that has a practical use in solid waste management.
- c. Use data to show successes as well as shortcomings to implement continuous improvement strategies.



Goal Two

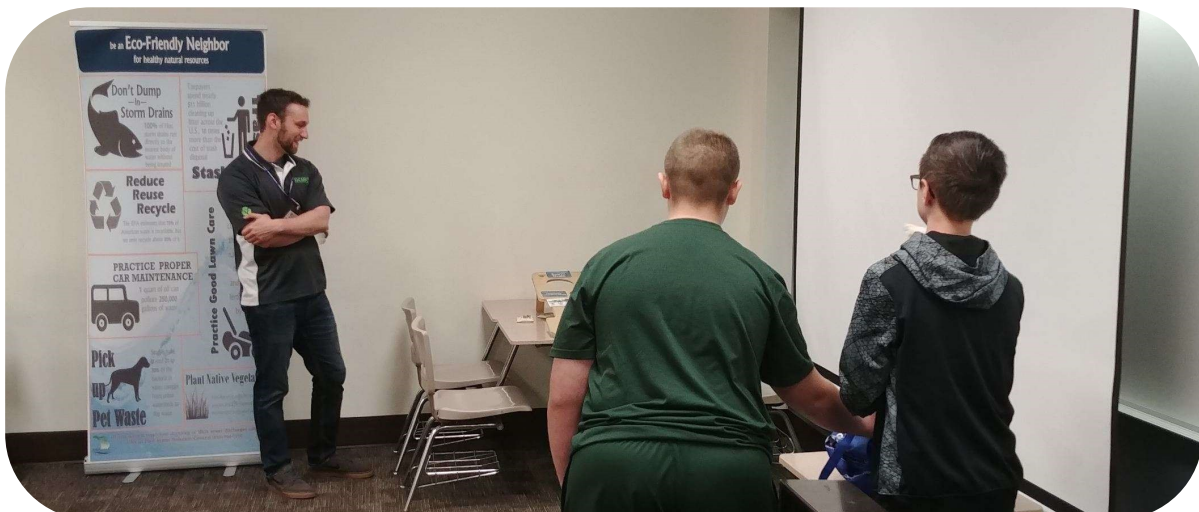
Improve education and awareness of recycling, composting, and reuse of materials to support overall diversion of waste in the county .

- a. Evaluate best practices from other communities for education programs. Pursue and implement grant funding for education.
- b. Expand the recycling education program beyond presentations in the classroom to include a recycling curriculum that is an available resource for county residents. Connect recycling concepts to market sustainability.
- c. Provide increased outreach to the adult population. This would include updating community websites, social media pages, and making presentations with current information about recycling and composting specific to each community. Encourage partnerships and communication with waste collectors.
- d. Educate and advise people of the environmental, social, and cost benefits of reducing waste generation and recommendations for doing so (e.g. Pay-As-You-Throw, etc.)

Goal Three

Implement a sustainable materials management program with the main objective of reducing the overall amount of waste generated in Genesee County. Utilize resource conservation technologies such as recycling and composting.

- a. Recommend a residential curbside recycling program in the county that uses best practices.
- b. Offer to conduct waste assessments to evaluate volumes of waste and recommend methods to increase recycling and composting as well as cost savings.
- c. Evaluate the Genesee County Solid Waste Ordinance annually in terms of enforcement strategies, fee changes, and reporting notices.



Goal Four

Develop a materials management program that helps retain and attract economic development in Genesee County.

- a. Examine the best practices used by other organizations to formulate a plan for tracking revenue and expenditures for materials management programs and potential facility operations.
- b. Collaborate with local communities and businesses to reduce costs and increase management opportunities for recycling and hard to dispose materials.



Genesee County

Solid Waste Management Plan

Technical Report 4

Selected Solid Waste System and

Implementation Strategies

DRAFT



GENESEE COUNTY
METROPOLITAN PLANNING
COMMISSION

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Conclusions

Genesee County's waste stream is currently managed by the private sector, while the County enforces the rules and regulations of the Genesee County Solid Waste Ordinance as well as implementation of the selected solid waste system. Current population and land use trends show that population in the county will slightly decrease and waste generation will stay about the same over the next 25 years.

While the management of the waste stream is acceptable, the Solid Waste Management Planning Committee has concluded that improvements can be made to the overall system to help further reduce waste, consolidate services to reach cost benefits, and to continue education efforts and create new programs and incentives for waste diversion.

Alternative Solid Waste Management Systems

This summary describes all the solid waste management systems considered by Genesee County and how each alternative will help meet the needs and goals established in this plan. The alternatives from the 2015 Solid Waste Management Plan were analyzed for the inclusion of economical and environmental aspects. The current predominant method of disposal in Genesee County is disposing of waste at four major landfill sites, which includes one located in Shiawassee County and one located in Saginaw County. An additional landfill is approved for inclusion in the Plan under certain conditions, but will not accept municipal waste. This landfill will only accept wastewater sludge and biosolids from Genesee County owned wastewater treatment plants. The details of the selected alternatives are in the following section.

Selected Solid Waste Management System

Genesee County has selected a plan for solid waste management that calls for a combination of techniques to reduce the amount of solid waste being generated and diverted in the county. The selected system fits the characteristics and needs of Genesee County. The implementation of the selected system will be managed by Genesee County Metropolitan Planning Commission. The private sector will be involved with the collection, disposal and recycling of solid waste generated in the County.

The current system for waste management in Genesee County is based on a plan that includes land-filling, recycling, composting, and other materials management strategies. Because Genesee County has an established solid waste management system, the following goals will serve as the means to enhance and improve the current system. These goals were created by the SWMPC and focus on materials management, education, and waste reduction. More information on Goals and Objectives can be found in Technical Report 3:

- Implement and maintain an integrated materials management plan to ensure a healthy environment and financially sound solid waste system.
- Improve education and awareness of recycling, composting, and reuse of materials to support overall diversion of waste in the county.
- Implement a sustainable materials management program with the main objective of reducing the overall amount of waste generated in Genesee County. Utilize resource conservation technologies such as recycling and composting.
- Develop a materials management program that helps retain and attract economic development in Genesee County.

Figure 4.1 Total Waste Generated (cubic yards per year)

Sector	2017	2020	2025	2030	2035	2040	2045
Residential*	405,384	404,289	403,642	403,481	403,763	404,409	404,814
Commercial	413,518	417,943	420,032	420,410	421,335	422,136	423,211
MSW Sub-total	1,028,111	1,030,333	1,029,965	1,028,861	1,028,861	1,028,330	1,028,047
Construction / Demolition	203,853	240,000	203,985	203,943	203,928	203,922	203,910
Industrial Special Waste	52,755	52,793	52,789	52,778	52,775	52,773	52,770
Total Annual Cubic Yards	1,284,719	1,287,125	1,286,740	1,285,582	1,285,193	1,285,025	1,284,727
Population	408,868	405,553	402,253	401,362	402,689	405,931	407,870
Pop Growth Rate (%)	N/A	-0.27%	-0.16%	-0.04%	0.07%	0.16%	0.10%

*Does not include multi-family data

Source: Genesee: Our County, Our Future, 2045 Employment Projections/
EGLE Annual Landfill Reports

Total Waste Generated

The Genesee County Metropolitan Planning Commission developed a county-wide planning document that encompasses many areas of community planning. This plan is titled Genesee: Our County, Our Future and is intended to be a vision for the county that incorporates an analysis of necessary components when planning for a community's future needs. Included in this plan are topic related to solid waste. **Figure 4.1** details the total waste generated for 2017 in Genesee County, as well as waste generation projections through 2045 using population projections from the Genesee: Our County, Our Future plan and the annual EGLE landfill reports. This estimated rate of waste generation gives the county an idea of how to plan for fluctuations in waste and look for methods to help reduce waste generation. Overall, population in Genesee County is projected to slightly decrease through 2045. The total annual waste generation (CY) is projected to be about the same at 1,284,719 cubic yards in 2017 and 1,284,727 in 2045. The residential and industrial sectors are also projected to decrease however, the commercial sector is projected to increase by 2.3%.

Materials Management Technologies

It will be the attempt of this plan to develop a flexible and sound strategy for management of the waste system. It is the intent to review our new plan

in five (5) years in order to adjust to current and projected needs within Genesee County.

These are the technologies that are available to manage and sustain the waste management system in Genesee County:

1. **Waste Reduction:** As a county planning agency, although we cannot mandate source reduction of solid waste, education is a key component to achieving overall reductions in waste generation. The industrial and commercial sectors are a large factor in making significant improvements in this area as incentives to reduce solid wastes are economical and feasible. Voluntary waste assessments could be conducted in commercial and industrial sectors to help improve overall reductions.
2. **Composting :** This is a low technology application for reducing yard and leaf waste from the waste stream. Currently the County relies on local municipalities to manage yard waste. Since the statewide ban on landfilling of yard waste was enacted, communities have been required to establish alternatives, such as composting for management of this element. EGLE has since recommended that residents who generate lawn clippings, food scraps, and leaves use home composting methods to dispose of organic materials. Education and implementation of local compost programs would also help to deter compost materials from the landfills.

3. Recycling: Recycling is the separation, collection and processing of materials that would otherwise become solid waste, for conversion into raw materials or new products. The current average county-wide residential recycling rate is approximately 9% and the average participation rate is 52%, with all local units participating in curbside recycling. One goal of the plan addresses increasing the recycling rate to reduce waste being landfilled overall. While recycling is also practiced throughout the commercial and industrial sectors, data for those sectors was not collected due to the difficulty of obtaining data (commercial and industrial sectors all have private contracts with waste haulers).

Education is a key component of increasing recycling rates in all sectors. This includes providing materials management outreach to children and adults and conducting waste assessments. Additionally, research conducted in coordination with Resource Recycling Systems (RRS) showed support for the implementation of a permanent household hazardous waste drop off site in Genesee County that would handle hazardous waste and electronics collection

for communities within and outside of the county, creating jobs in the solid waste industry.

4. Landfilling: The landfilling of solid waste is the final component of the solid waste system in Genesee County and will continue to remain a viable technology for disposal of wastes. Landfills must be properly constructed, licensed and operated.

Summary

The most effective solid waste management techniques for Genesee County will be a combination of all of the aforementioned technologies. In short term, the plan will focus on increasing composting and recycling throughout the communities in the county, while the remaining waste should be handled through the landfill system.



Diversion Potential

Figure 4.2 and **Figure 4.3** show the diversion potential of single stream recyclables, compostable materials, and other divertible materials such as household hazardous waste and bulky items, based on four different recovery levels. At the current recovery level of 9%, Genesee County sits well behind the state of Michigan’s 18% diversion rate. By looking at the current recovery levels, three alternatives with different rates of recovery were reviewed to observe strategies for overall diversion of materials from the waste stream. High, medium, and low recovery levels were considered as solid waste management alternatives.

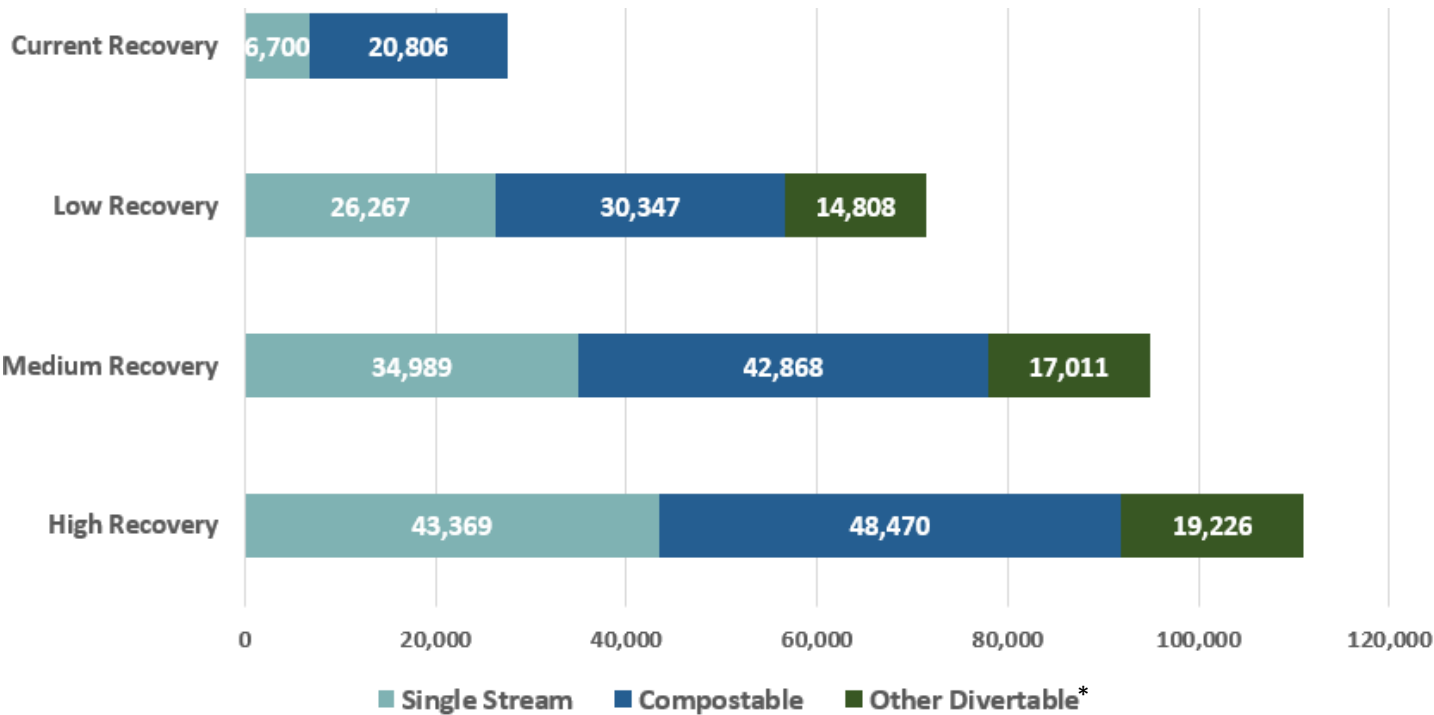
Based on Resource Recycling Systems (RRS) data, the county would need to make great changes to its recycling programs to meet the low recovery rate. RRS estimates that increasing curbside recycling and yard waste program participation, implementing a county-wide cart service, initiating food waste drop off and diversion programs, using best practice education and outreach strategies, and county-wide access to a comprehensive drop off facility could easily raise the county’s diversion rate to 26%; the low recovery level option.

Implementing a medium or high recovery level would require similar infrastructure as a low recovery level partnered with more robust outreach and education efforts and diversion incentives for the residential and commercial sectors. Under these recovery levels, RRS estimates that the County could divert between 33% and 38% of the waste stream.

Figure 4.3 Diversion Potential	
Recovery Level	Percentage Diverted from Waste Stream
Current Recovery	9%
Low Recovery	26%
Medium Recovery	33%
High Recovery	38%

Source: Resource Recycling Systems Solid Waste Evaluation

Figure 4.2 Recovery Potential for Genesee County



Source: Resource Recycling Systems Solid Waste Evaluation

*Household hazardous waste, bulky items, scrap collection recycling, donation centers

Resource Conservation Efforts

Figure 4.4 shows the current estimated tons diverted per year within the county from a variety of different sources such as curbside recycling, composting, and household hazardous waste collection. Since resource conservation efforts change with technologies and public awareness, it is not the Plan's intention to limit the efforts to only what is listed. Instead, citizens, 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.

Figure 4.4 Resource Conservation Efforts

Effort Description	Estimated Diversion Tons/Yr
	Current
Curbside Recycling	6,700
Commercial/Industrial Recycling & Waste Reduction	21,829
Household Hazardous Waste Collection	188
Yard Waste/Composting	20,806

Source: Resource Recycling Systems Solid Waste Evaluation

Waste Reduction, Recycling, and Composting Programs

As discussed in previous sections, the current waste system for Genesee County will rely on incorporating an integrated system of waste reduction, recycling, composting and landfilling. The plan will focus on these goals:

- Implement and maintain an integrated materials management plan to ensure a healthy environment and financially sound solid waste system.
- Improve education and awareness of recycling, composting, and reuse of materials to support overall diversion of waste in the county.

- Implement a sustainable materials management program with the main objective of reducing the overall amount of waste generated in Genesee County. Utilize resource conservation technologies such as recycling and composting.
- Develop a materials management program that helps retain and attract economic development in Genesee County.

Overview of Resource Recovery Programs

This section describes the type and volume of material in the county's waste stream that may be available for recycling or composting programs. Differing conditions in the county may affect the potential benefits associated with recycling and composting programs. Setbacks for these materials management programs are briefly discussed in the following section. Currently, it is estimated that only about 9% of total waste generated in the county is actually being diverted from a landfill, where there is actually opportunity to divert close to 38% of total waste generated by implementing a high recovery rate. These amounts are estimated due to limited public data available in the multi-family and commercial sectors. In order to tap into greater recycling rates, recycling and composting programs should be expanded in all sectors that result in increased participation. The list below indicates the feasibility of materials management programs in the County:

1. Recycling programs within the County are feasible. Details of existing and planned programs are included in the following pages.
2. Composting programs within the County are feasible. Details of existing and planned programs are included in the following pages
3. Programs for source separation of potentially hazardous materials are feasible. Details are included in the following pages.

Recycling and Composting

The upcoming section is a brief analysis of the recycling and composting programs selected for the County. The analysis covers various factors within the county and the impacts of these factors on recycling and composting. It is not this Plan's intent to prohibit additional programs or expansions of current programs to be implemented beyond those listed.

Recycling

Currently, most local units of government, excluding Otter Lake and Lennon, have recycling curbside programs in operation for single-family residential. In order to track the recycling and participation rates of each community, the Genesee County Metropolitan Planning Commission administered a recycling participation study to obtain current recycling data. This study evaluated how well Genesee County residents are recovering curbside recyclables, but did not include other materials like compost and household hazardous waste. Currently we estimate that roughly 52% of households in Genesee County are participating in a residential recycling program.

County staff also manage a number of recycling education and collection programs. Genesee County offers a free latex paint recycling program in partnership with the Genesee County Habitat for Humanity. Additionally, a small battery recycling program for county residents and employees has also been implemented. GCMPC continues to provide outreach in the form of group presentations, although in recent years those opportunities have been limited due to the COVID-19 pandemic. These presentations are offered to school-aged children as well as to other community groups to educate them on the importance of recycling. Staff also actively maintain a website and social media account where residents can find resources about curbside recycling in their community, where to drop off hard to dispose items, and when household hazardous waste collection events will be held. In 2022, staff partnered with the Michigan Department of Environment, Great Lakes, and Energy on their Recycling Raccoons recycling education program. This program focuses on spreading recycling information through billboard, radio, television, and social media advertising.

Continuing and increasing educational opportunities, with a focus on targeting adult populations, will help change behaviors among residents and businesses. Expanding the program will include waste assessments for schools and businesses as well as providing up to date information through each local unit to reach residents about how and what they can recycle. Education and outreach opportunities will continue to be expanded.

Lastly, there are a number of challenges surrounding the waste systems in place in multi-family housing which make up roughly 17% of households. Places like Ann Arbor, Michigan, and Minneapolis, Minnesota have municipal ordinances in place mandating that all property managers are required to offer their residents the opportunity to recycle. One of the plan's goals is to encourage communities to explore the feasibility of extending recycling options to multi-family residences by local ordinance or any other method they choose. Additionally, incentive programs are a tool that could be used in communities which can help communities boost recycling rates and decrease the amount of waste their residents contribute to landfills.

Composting

This low technology application reduces homeowner's grass clippings, leaves, and food scraps from entering the landfills. There are many benefits from composting, such that compost can be used as a soil conditioner and is an economic solution to purchased soil. These benefits should continually be part of the overall education outreach to residents. Currently, very few local units have a compost program in place, despite Michigan Law preventing yard waste from entering landfills. Most waste haulers offer yard waste pickup as a part of their services. All yard waste collected from curbside services is then taken to a compost facility. Composting facilities also offer a drop off location for residents to dispose of organic materials within the county.

Source Separation of Hazardous Wastes

The county-wide Recycle Day events are administered and run by the Genesee County Metropolitan Planning Commission. These free events allow for county residents to drop off their household hazardous waste and electronics for proper disposal. The solid waste program's budget currently allows for the HHW events to occur several times a year during the spring and summer. These events are very well attended when their held and highly anticipated every year.

The household hazardous waste program is rapidly expanding, which is causing a greater demand for a permanent HHW drop-off facility within the county for residents to use throughout the year. A permanent facility will allow for a larger volume of hazardous materials and electronics to be collected for potentially lower costs compared to the events. This is because more disposal companies provide their services to drop-off facilities rather than large scale collection events. A drop-off facility could also be expanded to collect other hard to recycle materials besides hazardous waste.

Conclusion

The selected system calls for the continuation of the private sector managing the County's recyclable materials and compost. The purpose of the resource recovery portion of the selected system is to increase education and participation among private and public sectors to increase the resource recovery rate for Genesee County. **Figures 4.5** and **4.7** on the following pages describe the current recycling and composting programs for each community in Genesee County. Included in these figures are information on what kinds of materials are included in their respective programs, collection points, collection frequencies, whether the designated service is public or private, and all of the necessary management operations. Similarly, **Figures 4.6** and **4.8** identify the proposed recycling and composting programs for each community. These figures suggest more extensive program operations with more collaboration between county entities and a more standardized collection system for each program.



Figure 4.5 Existing Recycling Programs

Program Name	Service Area ¹	Public or Private	Collection Point ³	Collection Frequency ⁴	Program Development ²	Management Operation ²	Responsibilities Evaluation ²
Cities							
Recycling	Burton	Private	c	w	5	5	5
Recycling	Clio	Private	c	b	5	5	5
Recycling	Davison	Private	c	b	5	5	5
Recycling	Fenton	Private	c	w	5	5	5
Recycling	Flint	Private	c	w	5	5	5
Recycling	Flushing	Private	c	b	5	5	5
Recycling	Grand Blanc	Private	c	b	5	5	5
Recycling	Linden	Private	c	b	5	5	5
Recycling	Montrose	Private	c	b	5	5	5
Recycling	Mt. Morris	Private	c	b	5	5	5
Recycling	Swartz Creek	Private	c	w	5	5	5
Townships							
Recycling	Argentine	Private	c	b	5	5	5
Recycling	Atlas	Private	c	w	5	5	5
Recycling	Clayton	Private	c	b	5	5	5
Recycling	Davison	Private	c	b	5	5	5
Recycling	Fenton	Private	c	b	5	5	5
Recycling	Flint	Private	c	w	5	5	5
Recycling	Flushing	Private	c	w	5	5	5
Recycling	Forest	Private	c	b	5	5	5
Recycling	Gaines	Private	c	b	5	5	5
Recycling	Genesee	Private	c	w	5	5	5
Recycling	Grand Blanc	Private	c	w	5	5	5
Recycling	Montrose	Private	c	b	5	5	5
Recycling	Mt Morris	Private	c	b	5	5	5
Recycling	Mundy	Private	c	b	5	5	5
Recycling	Richfield	Private	c	b	5	5	5
Recycling	Thetford	Private	c	b	5	5	5
Recycling	Vienna	Private	c	b	5	5	5
Villages							
Recycling	Gaines	Private	c	b	5	5	5
Recycling	Goodrich	Private	c	b	5	5	5
Recycling	Otisville	Private	c	b	5	5	5

¹ Identified by where the program will be offered. If throughout the planning area, then listed by the planning area; only in specific counties, then listed by county; if only in specific municipalities, then listed by its name and respective county.

² Identified by 1= Designated Planning Agency; 2= County Board of Commissioners; 3= Department of Public Works; 4= Environmental; 5= Private Owner/Operator; 6= Other

³ Identified by c= curbside; d= drop off; o= onsite; and if other explained

⁴ Identified by d= daily; w= weekly; b= biweekly; m= monthly; and if seasonal service also indicated by Sp= spring; Su= summer; Fa= fall; Wi= winter

Figure 4.6 Proposed Recycling Programs

Program Name	Service Area ¹	Public or Private	Collection Point ³	Collection Frequency ⁴	Material Collected ⁵	Program Development ²	Management Operation ²	Responsibilities Evaluation ²
Cities								
Recycling	Burton	Private	c	w	a, b, c, d, e, f	1, 3, 5	5	1, 3, 5
Recycling	Clio	Private	c	w	a, b, c, d, e, f	1, 3, 5	5	1, 3, 5
Recycling	Davison	Private	c	w	a, b, c, d, e, f	1, 3, 5	5	1, 3, 5
Recycling	Fenton	Private	c	w	a, b, c, d, e, f	1, 3, 5	5	1, 3, 5
Recycling	Flint	Private	c	w	a, b, c, d, e, f	1, 3, 5	5	1, 3, 5
Recycling	Flushing	Private	c	w	a, b, c, d, e, f	1, 3, 5	5	1, 3, 5
Recycling	Grand Blanc	Private	c	w	a, b, c, d, e, f	1, 3, 5	5	1, 3, 5
Recycling	Linden	Private	c	w	a, b, c, d, e, f	1, 3, 5	5	1, 3, 5
Recycling	Montrose	Private	c	w	a, b, c, d, e, f	1, 3, 5	5	1, 3, 5
Recycling	Mt. Morris	Private	c	w	a, b, c, d, e, f	1, 3, 5	5	1, 3, 5
Recycling	Swartz Creek	Private	c	w	a, b, c, d, e, f	1, 3, 5	5	1, 3, 5
Townships								
Recycling	Argentine	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Recycling	Atlas	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Recycling	Clayton	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Recycling	Davison	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Recycling	Fenton	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Recycling	Flint	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Recycling	Flushing	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Recycling	Forest	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Recycling	Gaines	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Recycling	Genesee	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Recycling	Grand Blanc	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Recycling	Montrose	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Recycling	Mt Morris	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Recycling	Mundy	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Recycling	Richfield	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Recycling	Thetford	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Recycling	Vienna	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Villages								
Recycling	Gaines	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Recycling	Goodrich	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5
Recycling	Otisville	Private	c	w	a, b, c, d, e, f	1, 5	5	1, 5

¹ Identified by where the program will be offered. If throughout the planning area, then listed by the planning area; only in specific counties, then listed by county; if only in specific municipalities, then listed by its name and respective county.

² Identified by 1= Designated Planning Agency; 2= County Board of Commissioners; 3= Department of Public Works; 4= Environmental; 5= Private Owner/Operator; 6= Other

³ Identified by c= curbside; d= drop off; o= onsite; and if other explained

⁴ Identified by d= daily; w= weekly; b= biweekly; m= monthly; and if seasonal service also indicated by Sp= spring; Su= summer; Fa= fall; Wi= winter

⁵ Identified by the materials collected by listing of the letter located by the material type. A= Plastics; B= Newspaper; C= Corrugated Containers; D= Other Paper; E= Glass; F= Metals; P= Pallets; J= Construction/Demolition; K= Tires; L1, L2, ect

Figure 4.7 Existing Composting Programs

Program Name	Service Area ¹	Public or Private	Collection Point ³	Collection Frequency ⁴	Materials Collected ⁵	Program Development ²	Management Operation ²	Responsibilities Evaluation ²
Cities								
Yard Waste	Burton	Private	c	w	Y	1	5	1
Yard Waste	Clio	Private	c	b	Y	1	5	1
Yard Waste	Davison	Private	c	w, sp, su, fa	Y	1	5	1
Yard Waste	Fenton	Private	c	w, sp, su, fa	Y	1	5	1
Yard Waste	Flint	Private	c	w, sp, su, fa	Y	1	5	1
Yard Waste	Flushing	Private	c	w, sp, su, fa	Y	1	5	1
Yard Waste	Grand Blanc	Private	c	w, sp, su, fa	Y	1	5	1
Yard Waste	Linden	Private	c	w, sp, su, fa	Y	1	5	1
Yard Waste	Montrose	Private	c	w, sp, su, fa	Y	1	5	1
Yard Waste	Mt. Morris	Private	c	b, sp, su, fa ⁶	Y	1	5	1
Yard Waste	Swartz Creek	Private	c	w	Y	1	5	1
Townships								
Yard Waste	Argentine	Private	c	b, sp, su, fa	Y	1	5	1
Yard Waste	Atlas	Private	c	b, sp, su, fa	Y	1	5	1
Yard Waste	Clayton	Private	c	w, sp, su, fa	Y	1	5	1
Yard Waste	Davison	Private	c	b, sp, su, fa	Y	1	5	1
Yard Waste	Fenton	Private	c	w, sp, su, fa	Y	1	5	1
Yard Waste	Flint	Private	c	w	Y	1	5	1
Yard Waste	Flushing	Private	c	w	Y	1	5	1
Yard Waste	Forest	Private	d	m	Y	1	5	1
Yard Waste	Gaines	Private	c	b, sp, su, fa	Y	1	5	1
Yard Waste	Genesee	Private	c	w, sp, su, fa	Y	1	5	1
Yard Waste	Grand Blanc	Private	c	w, sp, su, fa	Y	1	5	1
Yard Waste	Montrose	Private	c	b, sp, su, fa	Y	1	5	1
Yard Waste	Mt Morris	Private	c	b, sp, su, fa	Y	1	5	1
Yard Waste	Mundy	Private	c	w, sp, su, fa	Y	1	5	1
Yard Waste	Richfield	Private	c	w, sp, su, fa	Y	1	5	1
Yard Waste	Thetford	Private	c	b, sp, su, fa	Y	1	5	1
Yard Waste	Vienna	Private	c	b, sp, su, fa	Y	1	5	1
Villages								
Yard Waste	Gaines	Private	c	b, sp, su, fa	Y	1	5	1
Yard Waste	Goodrich	Private	c	w, sp, su, fa	Y	1	5	1
Yard Waste	Otisville	Private	c	b	Y	1	5	1

¹ Identified by where the program will be offered. If throughout the planning area, then listed by planning area; only in specific counties, then listed by county; if only in specific municipalities, then listed by its name and respective county.

² Identified by 1= Designated Planning Agency; 2= County Board of Commissioners; 3= Department of Public Works; 4= Environmental; 5= Private Owner/Operator; 6= Other

³ Identified by c= curbside; d= drop off; o= onsite; and if other explained

⁴ Identified by d= daily; w= weekly; b= biweekly; m= monthly; and if seasonal service also indicated by Sp= Spring; Su= Summer; Fa= Fall; Wi= Winter

⁵ Identified by Y= Yardwaste; H= Household Organics

⁶ Weekly in October and November

Figure 4.8 Proposed Composting Programs

Program Name	Service Area ¹	Public or Private	Collection Point ³	Collection Frequency ⁴	Materials Collected ⁵	Program Development ²	Management Operation ²	Responsibilities Evaluation ²
Cities								
Composting	Burton	Private	c	w	Y, H	1, 3, 5	5	1, 3, 5
Composting	Clio	Private	c	w	Y, H	1, 3, 5	5	1, 3, 5
Composting	Davison	Private	c	w	Y, H	1, 3, 5	5	1, 3, 5
Composting	Fenton	Private	c	w	Y, H	1, 3, 5	5	1, 3, 5
Composting	Flint	Private	c	w	Y, H	1, 3, 5	5	1, 3, 5
Composting	Flushing	Private	c	w	Y, H	1, 3, 5	5	1, 3, 5
Composting	Grand Blanc	Private	c	w	Y, H	1, 3, 5	5	1, 3, 5
Composting	Linden	Private	c	w	Y, H	1, 3, 5	5	1, 3, 5
Composting	Montrose	Private	c	w	Y, H	1, 3, 5	5	1, 3, 5
Composting	Mt. Morris	Private	c	w	Y, H	1, 3, 5	5	1, 3, 5
Composting	Swartz Creek	Private	c	w	Y, H	1, 3, 5	5	1, 3, 5
Townships								
Composting	Argentine	Private	c	w	Y, H	1, 5	5	1, 5
Composting	Atlas	Private	c	w	Y, H	1, 5	5	1, 5
Composting	Clayton	Private	c	w	Y, H	1, 5	5	1, 5
Composting	Davison	Private	c	w	Y, H	1, 5	5	1, 5
Composting	Fenton	Private	c	w	Y, H	1, 5	5	1, 5
Composting	Flint	Private	c	w	Y, H	1, 5	5	1, 5
Composting	Flushing	Private	c	w	Y, H	1, 5	5	1, 5
Composting	Forest	Private	c	w	Y, H	1, 5	5	1, 5
Composting	Gaines	Private	c	w	Y, H	1, 5	5	1, 5
Composting	Genesee	Private	c	w	Y, H	1, 5	5	1, 5
Composting	Grand Blanc	Private	c	w	Y, H	1, 5	5	1, 5
Composting	Montrose	Private	c	w	Y, H	1, 5	5	1, 5
Composting	Mt Morris	Private	c	w	Y, H	1, 5	5	1, 5
Composting	Mundy	Private	c	w	Y, H	1, 5	5	1, 5
Composting	Richfield	Private	c	w	Y, H	1, 5	5	1, 5
Composting	Thetford	Private	c	w	Y, H	1, 5	5	1, 5
Composting	Vienna	Private	c	w	Y, H	1, 5	5	1, 5
Villages								
Composting	Gaines	Private	c	w	Y, H	1, 5	5	1, 5
Composting	Goodrich	Private	c	w	Y, H	1, 5	5	1, 5
Composting	Otisville	Private	c	w	Y, H	1, 5	5	1, 5

¹ Identified by where the program will be offered. If throughout the planning area, then listed by planning area; only in specific counties, then listed by county; if only in specific municipalities, then listed by its name and respective county.

² Identified by 1= Designated Planning Agency; 2= County Board of Commissioners; 3= Department of Public Works; 4= Environmental; 5= Private Owner/Operator; 6= Other

³ Identified by c= curbside; d= drop off; o= onsite; and if other explained

⁴ Identified by d= daily; w= weekly; b= biweekly; m= monthly; and if seasonal service also indicated by Sp= Spring; Su= Summer; Fa= Fall; Wi= Winter

⁵ Identified by Y= Yardwaste; H= Household Organics

Identification of Resource Recovery Management Entities

The following identifies public and private agencies who facilitate materials management programs.

The Genesee County Metropolitan Planning Commission will serve as an umbrella agency for materials management programs. An entity that is willing to administer a materials management program may contact our agency for assistance and direction. This may include, but is not limited to the subsequent entities:

- Environmental Groups
- School System
- Local Units of Government
- Industry
- Commercial
- Waste Industry
- Community Groups
- Universities

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. Below is a list of the programs offered or proposed to be offered in Genesee County.

- Annual County-Wide Newsletter
- Commercial & Residential Waste Assessments
- E-mail Distribution List
- Events throughout the County
- Flyers
- School Presentations
- Social Media
- Stickers for Bins
- Workshops/Presentations

Projected Diversion Rates

Figure 4.9 estimates the annual amount of solid waste which is expected to be diverted from landfills and incinerators in Genesee County as a result of implementing low, medium, and high diversion rates. These rates were determined using Resource Recycling Systems (RRS) data and are based on the estimated potential for each collected material to be diverted from a landfill. There are no incinerators currently in Genesee County so the rates in **Figure 4.9** are based off the diversion of materials from landfills only.

Figure 4.9 Projected Diversion Rates			
Collected Material	Low Diversion	Medium Diversion	High Diversion
Newsprint, Cardboard, & Magazines	30%	45%	55%
Plastic Drinking Bottles & Jugs	25%	35%	45%
Plastic Packaging & Glass Beverage Containers	20%	25%	30%
Milk Cartons, Plastic Tubs, & Rigid Containers	15%	20%	25%
Yard Waste	40%	45%	50%
Wood Waste	30%	35%	40%
Food Waste	15%	35%	40%
Compostable Paper	15%	20%	25%
All Other Plastics & Packaging	20%	25%	30%
Aluminum, Aerosol Cans, & Other Metals	15%	20%	25%
Electronics	5%	8%	10%
White Goods	10%	15%	20%
Textiles, Batteries, Tires, Carpet, & Light Bulbs	3%	4%	5%

Source: Resource Recycling Systems Solid Waste Evaluation

Solid Waste Implementation Strategies

Figure 4.10 below is an implementation guideline for the Solid Waste Management Plan with GCMPC staff acting as the designated planning agency or DPA and input from the Solid Waste Management Planning Committee. Further input will be requested from the Solid Waste Implementation Committee (SWIC) if formed following the completion of this plan amendment. These strategies were created to help prioritize implementation efforts to ensure the most efficient process of delivering a quality and sustainable solid waste system to the citizens of Genesee County. The timetable is meant to be a continuous guideline for the goals and objectives of the plan. Coordination and cooperation among local units, the private sector, and the County will be a key element for implementation of a successful plan.

Staff developed an input survey that was sent to committee members asking for their feedback on the implementation strategies. This input helped to update this component of the plan. After all survey responses were submitted, staff compiled all input information provided and presented it for the committee's approval during the December 13, 2022 meeting. The committee approved these strategies as they were presented with the additional motion that gives staff the ability to make minor changes to the strategies without the need to consult the committee again. This was discussed due to upcoming potential changes to solid waste planning in the Act 451 Part 115 legislation.

Figure 4.10 Selected Solid Waste System Implementation Strategies		
Management Component	Responsible Agency	Timeline
Plan Implementation		
Develop metrics for measuring progress of materials management	DPA	6 months after plan approval
Develop and prioritize planned programs based on each community's needs	DPA, SWIC	6 months after plan approval
Initiate planned programs in order of priority	DPA	1 year after plan approval
Define milestones based on plan goals and objectives, report milestones	DPA	1 year after plan approval, biannual
Update implementation strategies according to tracked progress and make alterations where appropriate, communicate progress to municipalities	DPA	Annual

Source: SWMPC Input

Figure 4.10 Continued Selected Solid Waste System Implementation Strategies

Management Component	Responsible Agency	Timeline
Monitor, Data Collection, & Reporting		
Monitor solid waste imports and exports	DPA	Ongoing
Improve data collection methods and reporting for the solid waste database, include multi family housing and commercial businesses	DPA, Communities, Commercial Sector	Within 3 years of plan approval
Evaluate previous program efforts and provide recommendations for improvements	DPA	Within 1 year of plan approval
Evaluate the Genesee County Solid Waste Ordinance and best practices for improved enforcement strategies	DPA, SWIC	Annual

Source: SWMPC Input



Figure 4.10 Continued Selected Solid Waste System Implementation Strategies

Management Component	Responsible Agency	Timeline
Education & Awareness		
Evaluate best practices for education programs, expand programs through a widely available materials management curriculum	DPA	Ongoing
Update county-wide websites, newsletters, and social media to reflect current materials management information for each community	DPA, Communities	Within 2 years of plan approval, ongoing
Present to communities and businesses on the cost benefits of reducing waste generation and other materials management opportunities	DPA, Communities	Ongoing

Source: SWMPC Input



Figure 4.10 Continued Selected Solid Waste System Implementation Strategies

Management Component	Responsible Agency	Timeline
Waste Reduction Techniques		
Establish goals for evaluation of materials management, determine incentives for communities meeting these goals	DPA, Communities	Annual
Implementation of residential curbside recycling programs in the county that uses best practices	DPA, Communities	Within 5 years of plan approval
Waste and recycling assessments in commercial, public, and private sectors, use results to develop education materials	DPA, Commercial Sector, Public Sector, Private Sector	Ongoing
Establish a permanent household hazardous waste and electronics drop off site	DPA	Within 5 years of plan approval

Source: SWMPC Input

Figure 4.10 Continued Selected Solid Waste System Implementation Strategies

Management Component	Responsible Agency	Timeline
Assets & Resources		
Examine the best practices used by other organizations to track income and spending for materials management programs and potential facility operations	DPA, SWIC	Within 3 years of plan approval
Encourage partnerships between communities to reduce costs and increase materials management opportunities	DPA, Communities, Private Sector	Ongoing

Source: SWMPC Input

Solid Waste Management Components

These components identify the management responsibilities and institutional arrangements necessary for the implementation of the 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 Solid Waste Management Planning Committee will be responsible for overseeing the plan amendment process and providing guidance on the necessary functions for future implementation of the plan. Primary parties involved include the Genesee County Metropolitan Planning Commission, the Genesee County Board of Commissioners and the Michigan Department of Environment, Great Lakes, and Energy. Other participants in the process include environmental groups, landfill operators, recycling groups, local universities and extension offices, County Health Department, and local units of government.

The Genesee County Board of Commissioners appointed GCMPC as the Designated Solid Waste Planning Agency (DPA) to develop and implement the County's Solid Waste Management Plan.

The Solid Waste Implementation Committee

This committee may be formed in an effort to coordinate the implementation of the Genesee County Solid Waste Management Plan. The committee functions as a primary committee for discussing and arranging for the implementation of the plan and functions after a five year plan amendment. Persons who serve on the committee will be from the private and public sector as well as citizens with environmental interests that reside within Genesee County.

Genesee County

The Genesee County Metropolitan Planning Commission is the DPA and is the primary agent for the administration and implementation of the plan. This describes GCMPC's technical, financial, legal and administrative capabilities to manage and implement the plan.

Administrative Capabilities

Although the County is not involved with the actual collection and disposal of solid waste, staff from the GCMPC closely monitor and track reports from landfills and haulers. The administrative capabilities of GCMPC to perform all aspects of solid waste management, including planning and implementation are established. While enforcement is an additional responsibility and is utilized by GCMPC, staff is still working towards more effective enforcement strategies. Enforcement has been listed as a deficiency in the current solid waste system, but has also been noted as an objective to improving monitoring solid waste in the county.

Technical Capabilities

GCMPC employs persons that manage and implement the Solid Waste and Recycling program in Genesee County. This includes researching, analyzing and monitoring data.

Financial Capabilities

The Genesee County Solid Waste Program is funded through the Genesee County Ordinance fee placed on haulers (\$0.45 / cubic yard). The program funds the following areas of planning:

- Recycling
- Education
- Management
- Outreach

Legal Capabilities

The approved Act 451 Solid Waste Management Plan provides its Designated Planning Agency, GCMPC, the authority to implement and enforce any and all portions of the Act 451 Plan.

Genesee County Municipalities

The municipalities in Genesee County play a role in implementing the Solid Waste Management Plan by administering curbside waste collection programs for their residents. Additionally, in order for the Plan to be adopted, sixty-seven percent (67%) of municipalities must approve the Genesee County Solid Waste Management Plan before it can be submitted to the Michigan Department of Environment, Great Lakes, and Energy.

Michigan Department of Environment, Great Lakes, and Energy (EGLE)

EGLE is a major player in the Genesee County Solid Waste Management Plan. EGLE conducts permitting, licensing and monitors construction and operation of the private sector facilities in the County.

Identification of Responsible Parties

The following information documents which entities within the County will have management responsibilities over these areas of the Plan:

Resource Conservation:

Source or Waste Reduction – Private Sector
Product Reuse – Private Sector
Reduced Material Volume – Private Sector
Increased Product Lifetime – Private Sector
Decreased Consumption – Private Sector

Resource Recovery Programs:

Composting – Private Sector
Recycling – Private Sector, Genesee County Metropolitan Planning Commission
Energy Production – Private Sector

Volume Reduction Techniques:

Private Sector

Collection Processes:

Private Sector

Transportation:

Private Sector

Disposal Areas:

Transfer Stations – Private Sector
Sanitary Landfills – Private Sector

Ultimate Disposal Area Uses:

Genesee County
Private Sector
EGLE
Local Government

Local Responsibility for Plan Update Monitoring & Enforcement:

Genesee County
Genesee County Metropolitan Planning Commission

Educational & Informational Programs:

Genesee County Metropolitan Planning Commission
Local Units of Government
Private Sector

Capacity Certifications

Every County with less than ten years capacity identified in their Plan is required to annually prepare and submit to EGLE an analysis and certification of solid waste disposal capacity validly available to the County. This certification is required to be prepared and approved by the County Board of Commissioners. Genesee County has more than ten years capacity identified in this Plan and an annual certification process is not included in this Plan.

Technical Report 4 Appendix

This appendix includes additional information required by EGLE to be in the Genesee County Materials Management Plan to be consistent with Part 115 of the Natural Resources and Environmental Protection Act 451 of 1994.

Evaluation of Recycling

There is no additional information regarding the implementation and evaluations of various recycling and composting components in the selected system. A complete evaluation of these components of the selected system can be found on page 9 of Technical Report 4 titled Recycling and Composting.

Detailed Features of Recycling and Composting Programs

Currently, Genesee 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 an improved database system that will track these amounts.

The following briefly describes the processes used or to be used to select the equipment and locations of the recycling and composting programs included in the Selected System. Difficulties encountered during past selection processes are also summarized along with how those problems were addressed:

Equipment Selection:

Existing Programs:

The local municipalities in Genesee County use private waste haulers to provide recycling services to their residents. The private waste haulers take recyclables to a privately owned recycling facility or transfer station.

Proposed Programs:

There are no proposed programs for equipment selection. Equipment use will remain the choice of the operators of those facilities.

Site Availability and Selection:

Existing Facilities:

Recycling facilities do not need to be licensed by EGLE; however, they must meet local zoning and

building regulations and are subject to local government approval.

Proposed Facilities:

A permanent household hazardous waste drop off facility has been proposed for development within the county. This facility is still in the early stages of planning and construction has not begun.

Coordination Efforts with Related Plans and Programs

Solid Waste Management Plans need to be developed and implemented with 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. This section indicates how coordination efforts will be achieved to minimize potential conflicts and enhance programs currently in place.

Ultimate responsibility for implementing the county's solid waste plan rests with the Genesee County Board of Commissioners. The Board of Commissioners has tasked GCMPC with updating the plan and making sure that the goals of the plan are met. Additionally, GCMPC is responsible for being cognizant of any relevant ordinances or approved planning documents within the county as well as any pertinent restrictions or ongoing commitments contained in air quality, water quality, or waste management plans which may be required to meet state or federal standards. Any county-level decisions affecting current or anticipated programs for solid waste management planning will be made only after a thorough consultation with GCMPC.



Costs and Funding

Figure 4.11 estimates the necessary management as well as capital, operational, and maintenance costs on an annual basis for each applicable component of the solid waste management system. In addition, potential funding sources have been identified to support those components. Many of these estimated costs are currently unknown because most potential funding sources are not handled by the county, but rather individual municipalities and other industries within the private sector.

Figure 4.11 Costs and Funding		
System Component ¹	Estimated Costs	Potential Funding Sources
<u>Resource Conservation Efforts</u>		
Curbside Recycling, Composting	Unknown	DPA, Private, Municipalities
<u>Resource Recovery Programs</u>		
Household Hazardous Waste Collection	\$326,000 annually	DPA
Volume Reduction Techniques	Unknown	DPA, Private
Collection Processes	N/A	Private Sector
Transportation	N/A	Private Sector
Disposal Areas	N/A	Private Sector
Future Disposal Area Uses	None	N/A
Program Management	Unknown	DPA, Private
Educational & Informational Programs	Unknown	DPA, Private Sector
¹ These components and their subcomponents may vary with each system		

Source: Genesee County Metropolitan Planning Commission

Evaluation Summary of 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 as a result 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. Obstacles to implementing the solid waste management system are identified under the Solid Waste System Deficiencies section in Technical Report 2. The proposed activities which will help overcome those problems are also addressed in that section to assure successful programs. Below outlines the findings of this evaluation and the basis for selecting this system:

The Genesee County Solid Waste System is based on a plan that incorporates recycling, landfilling and education in resource recovery. Over the next 5 year planning period, the County will research and determine the best methods for implementation of the priorities set forth through this plan. Because Genesee County has an established solid waste management system, this plan is focused primarily on the following items as means to enhance and improve the current system:



- Improve monitoring and data collection to enhance the quality and accuracy of the solid waste system.
- Evaluate and expand the education and awareness of recycling, composting, and reuse of materials.
- Reduce the overall amount of waste generated in Genesee County by utilizing resource conservation technologies.
- Examine best practices to develop a management program that retains and attracts economic development.

Technical Feasibility

The technical feasibility of materials management techniques, including recycling, composting and landfilling, has been evaluated in the County in its current state. Evolving technologies, equipment, educational strategies, and effective management are crucial aspects of the effectiveness of these components in the selected system.

Economic Feasibility

When evaluating economic feasibility of the selected system components, there are several aspects to consider. When reviewing resource recovery techniques as part of the commercial sector (waste reduction and recycling), it is evident that employing these methods are beneficial for the private sector as reducing the amount of waste that is disposed would decrease overall costs to the business. Many waste products in the commercial sector are also lucrative for recycling, and because recycling is a market driven operation, this is a very cost-effective option for the commercial sector.

Residential recycling and composting was also analyzed as part of the selected system. While demand for residential recyclables fluctuates depending on market demand, there are still many positive impacts from recycling, for example, the creation of jobs to process recyclables. Job creation could substantially increase by collecting recyclable materials from commercial and industrial sources. The plan also calls for implementation of a permanent household hazardous waste drop off facility in Genesee

County, which would process hazardous materials from the residents, creating jobs within the County.

Lastly, landfilling was evaluated for economic feasibility, and while this method has been an inexpensive way to process solid waste in past years, legislation has more recently enforced stricter regulations on construction and operation of landfills. Thus, resource recovery options as discussed previously are increasingly becoming more popular and viable.

Access to Land and Transportation Routes

When referring to the selected system's components and access to land, the availability of land space is specifically important for landfills in the event that more space is needed for waste disposal. Land capacity is adequate for the planning period described in this Plan. The County has two interstate highways, one U.S. highway and four state highways that encompass the transportation network. These routes are adequate to serve the selected system for Genesee County.

Energy Consumption and Production

Waste reduction and composting are methods utilized to reduce energy needed to operate a landfill. While landfills do require energy to operate efficiently, they are also producing energy by converting gas into electricity. Each landfill in the county participates in Landfill Gas Recovery, producing about 120,000 MegaWatts of gas which would be enough to power over 13,000 households in Genesee County.



Environmental Impacts

By expanding the resource recovery programs as stated in the Selected System, more natural resources will be preserved by decreasing disposal into landfills. A permanent household hazardous waste facility is planned for development within the county. The environmental impacts are currently unknown.

Public Acceptability

Our recent public surveys used in this plan amendment demonstrate that there is ample support for increasing and improving efforts for resource recovery programs. These surveys can be found in Technical Report 2.

Advantages and Disadvantages of 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:

1. The selected system will enhance collaboration among the public and private sector on solid waste issues.
2. Education opportunities and programs will be expanded to enhance the knowledge of commercial and residential sectors about resource recovery.

3. An improved database will be used to track and monitor waste and recovery numbers across sectors.
4. The selected system will be economically and environmentally feasible.
5. Expanded resource recovery programs will prolong landfill life and the environment.
6. Existing technology will be capable of handling the waste stream.

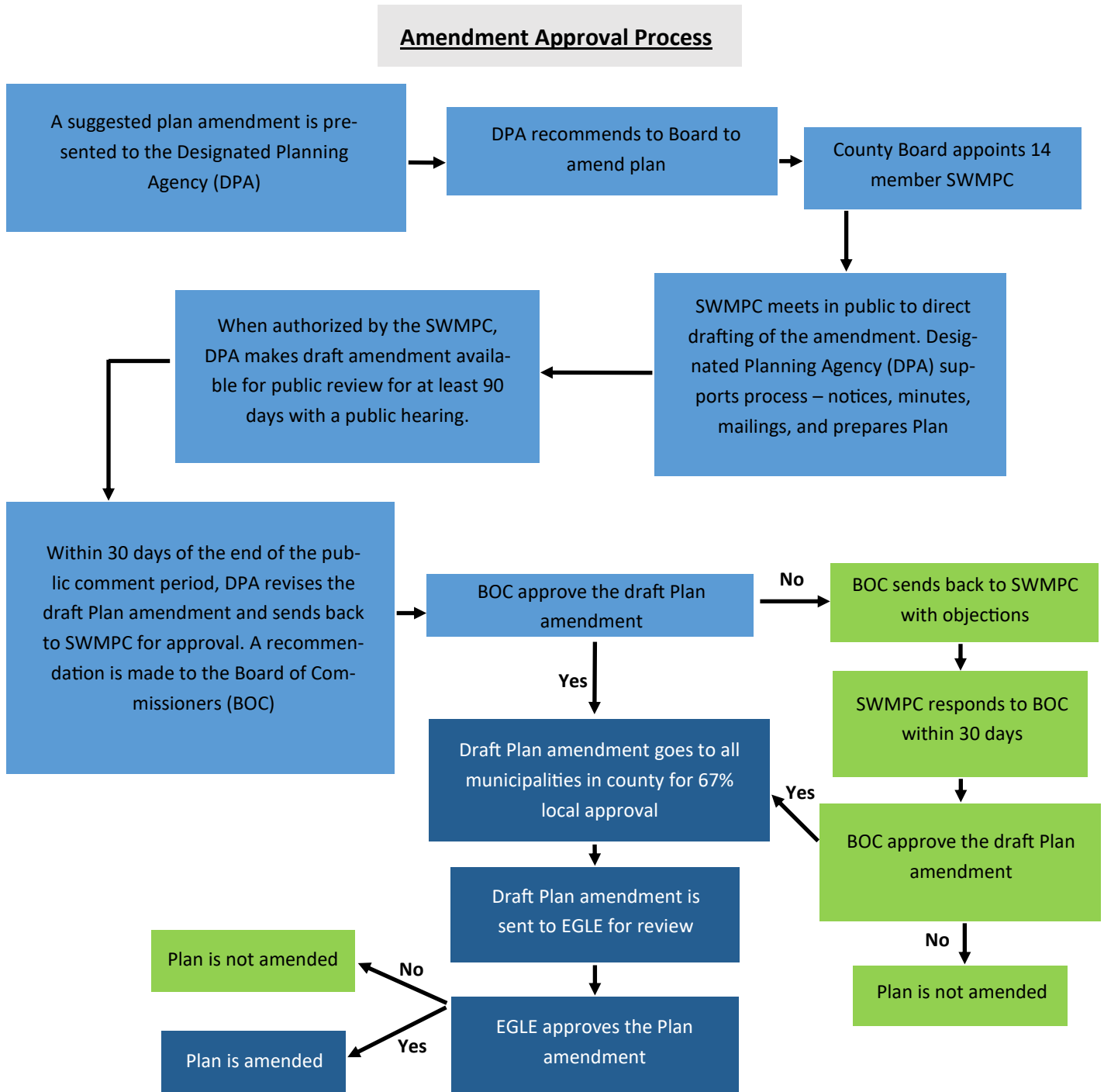
Disadvantages:

1. The selected system still utilizes landfills as a primary means of disposal.
2. Recycling markets can be unstable at times.
3. Data is not collected from the commercial sector.
4. Staff time and monetary resources for education and recovery programs are limited.



The Planning Process

The Designated Planning Agency (DPA) is the GCMPC whose staff is tasked with implementing the Solid Waste Management Plan. The amendment approval process for the Solid Waste Plan is shown below.



Appendix F

GENESEE COUNTY SOLID WASTE ORDINANCE

The Genesee County Board of Commissioners, pursuant to authority granted by MCL 46.11(j) hereby adopts the following ordinance:

ARTICLE I TITLE, PURPOSE, ADMINISTRATION, AUTHORITY AND JURISDICTION

Section 1.01 - Title

This Ordinance shall be known as the Genesee County Solid Waste Ordinance.

Section 1.02 - Purpose

The purpose of this Ordinance is to implement the Genesee County Solid Waste Management Plan, as amended, and as adopted pursuant to Part 115 of 451 P.A. 1994, to protect and promote the public health, safety and welfare of the inhabitants of Genesee County by regulating the collection, transportation, delivery, and disposal of solid waste; to establish conditions for issuing waste hauler permits; to provide residents and businesses an incentive to recycle, thereby reducing the volume of solid waste; to preserve and improve the environment; to provide penalties for violations of the Ordinance; and to establish a county surcharge on solid waste collected in Genesee County, transported through a transfer facility in Genesee County, or disposed of in Genesee County, the funds collected by this Ordinance to be used to support the administration and solid waste planning and implementation programs described in the Genesee County Solid Waste Management Plan, as amended.

Section 1.03 - Authority

This Ordinance is enacted pursuant to Section 11(j) of Michigan Public Act 156 of 1851, being Michigan Compiled Law 46.11(j); Act 451 of 1994, Part 115, being Michigan Compiled Law 324.11501 et seq., and the Genesee County Solid Waste Management Plan, as amended.

Section 1.04 - Jurisdiction

The jurisdiction of this Ordinance shall be countywide, including all cities, villages and townships in Genesee County.

Section 1.05 - Administration

The Genesee County Metropolitan Planning Commission shall be the agency responsible for administering and enforcing this Ordinance.

ARTICLE II DEFINITIONS

Section 2.01 - Definitions

For purposes of this Ordinance, the words and phrases listed below shall have the following meanings.

1. "Part 115" means the Part 115 of the Natural Resources and Environmental Protection Act, Act 451 of the Public Acts of Michigan 1994, as amended, being Michigan Compiled Law 324.11501 et seq.
2. "Administrator" means the Genesee County Metropolitan Planning Commission.
3. "Board" means the Genesee County Board of Commissioners.
4. "County" means the County of Genesee, Michigan, acting by and through the Genesee County Board of Commissioners.
5. "Demolition and Construction Debris" means a type of solid waste consisting of non-hazardous waste building materials and rubble resulting from construction, remodeling, repair, and demolition of houses, commercial buildings, and other structures. Construction and demolition debris includes trees, stumps, and brush removed from property during construction, maintenance, or repair. Construction and demolition waste does not include any of the following, which is defined under this Ordinance as solid waste even if it results from construction, remodeling, repair, and demolition of structures which includes: (a) garbage, (b) furniture, (c) solid waste resulting from a processing technique that render individual waste components unrecognizable, such as pulverizing or shredding. It also does not include any of the following which may require special disposal considerations: (a) asbestos waste, (b) drums and containers, (c) fuel tanks, (d) corrugated container board, and (e) appliances.
6. "Garbage" for all purposes of this Ordinance, shall have the same meaning as Solid Waste.
7. "Landfill" means a disposal area for solid waste which has been issued a permit and is regulated by the Michigan Department of Environmental, Great Lakes, and Energy (EGLE) pursuant to Part 115 of the Natural Resources and Environmental Protection Act, being Michigan Compiled Law 324.11501 et seq. and which is included in the Plan.
8. "Person" means any individual, firm, public or private corporation, partnership, trust, public or private agency, or any other entity, or any group of such persons.
9. "Plan" means the Genesee County Solid Waste Management Plan, as amended.
10. "Premises" means a parcel of land, including any building or structures, within Genesee County used for residential, commercial, industrial, or institutional purposes either separately or in combination to which a separate street address, postal address or box, tax roll description, or other similar identification has been assigned to or is in use by a person having control of the area.
11. "Refuse" for all purposes of the Ordinance, shall have the same meaning as Solid Waste.
12. "Residential and Commercial Recyclable Material" means newspaper, glass bottles or jars, tin or steel cans, cardboard boxes, and high density polyethylene (HDPE) plastic containers.

13. "Solid Waste" means all miscellaneous, non-hazardous waste materials and matter resulting from household or living conditions, business operations and enterprises, general routine property use and maintenance, and physical construction and installations related to general routine property use including garbage, rubbish, waste materials from industrial and/or commercial business operations, and waste materials from the construction or repair of buildings and structures. It also includes animal waste and all rejected food wastes.
14. "Special Refuse" means furniture, household appliances, brush, large tree limbs, and other bulky refuse items, with the exception of construction and demolition debris.
15. "Transfer Station" means a tract of land, a building and any appurtenances, or a container, or any combination of land, buildings, or containers that is used or intended for use in the rehandling or storage of solid waste incidental to the transportation of the solid waste, but is not located at the site of generation or the site of disposal of the solid waste, which has been issued a permit and is regulated by the Michigan Department of Environmental, Great Lakes, and Energy (EGLE), pursuant to Part 115 of the Natural Resources and Environmental Protection Act, being Michigan Compiled Law 324.11501 et seq. and which is included in the Plan.
16. "Waste Hauler" means any person primarily engaged in the business of collection, transportation, delivery, or disposal of solid waste within the County.

ARTICLE III PERMIT REQUIREMENT FOR WASTE HAULERS

Section 3.01 - Waste Hauler Permit

Subject to the penalties in Section 6.03, no waste hauler shall engage in the business of collecting, transporting, delivering, or disposing of solid waste generated by another person in Genesee County, without regard to the origin or disposal site of the waste, without first obtaining a waste hauler's permit.

Section 3.02 - Permit Application

Any person falling under Section 3.01 shall make written application to the Administrator on forms provided by or prescribed by the Administrator. The application shall require such information as will enable the Administrator to determine whether the applicant, if issued a permit, will serve the public in compliance with requirements of the Ordinance.

Section 3.03 - Permit Fee

Annual waste hauler application or renewal licensing fees must be paid by the applicant upon submittal of a permit application to the Administrator.

Waste Hauler Permit Fee: At the time of the application for a waste hauler permit, a non-refundable permit fee of \$20.00 for each vehicle to be used within Genesee County shall be paid to the Administrator.

The fee schedule shall continue in full force and effect until amended by the Board. The Board may, by resolution, decrease or increase any fee.

Provided: A waste hauler, transfer station operator or landfill operator may negotiate a contract with the County to waive or reduce permit fees, or to establish other terms or conditions relating to implementation of the Plan. The terms of such contract will control over the provisions of this section.

Section 3.04 - Approval or Denial of Permit

Upon receipt of a complete application and upon payment of the permit fee, the Administrator shall grant or deny the permit within forty-five (45) days of receipt by the Administrator.

The Administrator may deny the issuance of the permit for any of the following reasons:

1. Failure of the applicant to comply with this Ordinance.
2. Violations of this Ordinance or any other applicable federal, state, county, and local laws, statutes, rules and regulations, including but not limited to those pertaining to the collection, transporting, delivering, or its disposing of solid waste generated within Genesee County.
3. Prior criminal convictions (other than minor traffic offenses), when such bear on the ability of the applicant to serve the public as a waste hauler in a fair, honest, safe, and lawful manner, or any conviction in connection with solid waste collection, processing, and disposal activities in the last three (3) years by the applicant, its subsidiaries, or its parent company; or prior waste hauler permit revocation(s) by the applicant, its subsidiaries, or its parent company.
4. Misrepresentations of any material fact in the application for the permit.

If the waste hauler permit is denied, the Administrator shall not refund the application permit fee. Any waste hauler whose permit or conditional permit is denied has the right to an appeal hearing before the Waste Haulers Permit Board of Review.

Section 3.05 - Permit Expiration and Renewal

A permit issued under Section 3.04 shall be valid until the remaining of the fiscal year in which the permits were issued except in instances where the permits are renewed for the following fiscal year. Permits shall be renewed annually following the same procedures set forth in Section 3.03.

Section 3.06 - Non-Transferability of Permits

No permit shall be transferable unless approval is granted by the Administrator.

Section 3.07 - Exemptions

1. Persons who, upon request, can verify that they are performing one-time services for neighbors, family or friends, or individuals hauling materials from their own home are exempt from the requirements of this section. The Administrator may require appropriate proof that the solid waste was legally disposed of before an exemption is granted.
2. Publicly owned wastewater treatment plants operating within Genesee County that landfill sludge from their facilities are exempt from the requirements of this section.

ARTICLE IV CONDITIONS OF WASTE HAULER PERMIT

Section 4.01 - General Permit Conditions

It shall be a condition of each waste hauler permit that the waste hauler shall comply with all the following:

1. All provisions of this Ordinance, and the Rules adopted under the authority of this Ordinance.

2. All applicable federal, state, county, and local laws, statutes, rules and regulations, including but not limited to those pertaining to the collecting, transporting, delivering, or disposing of solid waste generated within Genesee County
3. All applicable provisions of the Plan, as required under Part 115, and any agreements regarding inter-county transport of solid waste authorized or restricted through the Plan.

Section 4.02 - Specific Permit Conditions

As a condition of a waste hauler permit issued pursuant to this Ordinance, the permit holder shall agree to:

1. File with the Administrator a permit application including each of the following:
 - a) A description of the number and types of equipment the applicant will use the types of collection services to be provided, and the geographic areas served by the permit holder for handling solid waste within the County.
 - b) Provide proof of minimum liability insurance as follows:

Commercial General Liability (including contractual liability, Independent contractors' coverage, and broad form general liability extensions)

Personal/Bodily Injury:	\$1,000,000 each person \$1,000,000 each accident
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Property Damage:	\$1,000,000 each accident \$1,000,000 each aggregate
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Motor Vehicle Liability (including hired cars and auto non-ownership)

Bodily Injury:	\$1,000,000 each person \$1,000,000 each occurrence
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Property Damage:	\$1,000,000 each accident \$1,000,000 each aggregate
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Further, the insurance policy shall include an endorsement stating that it is understood and agreed by the permit holder and its insurance company that thirty (30) days advance written notice of cancellation, non-renewal, reduction, and/or material change shall be sent to the Administrator.

2. **File quarterly reports** with the Administrator by the fifteenth day of January, April, July and October of each year containing the operations information from the previous full three-month period. This information shall include the quantities (in cubic yards loose or compact) of solid waste, including demolition and construction debris, and special refuse collected by the permit holder within the jurisdiction of this Ordinance. It shall also include either the names or addresses, or the number of accounts for all Genesee County commercial and residential accounts. The report shall also indicate where the waste was landfilled. Waste haulers shall retain billing and dumping receipts for a minimum of one year. The report shall also indicate the amounts (cubic yards or tonnage) of recyclables collected by the waste hauler.
3. Notify the Administrator in writing thirty (30) days prior to any substantive change in the information filed under Subsection (a) above.

ARTICLE V COUNTY SURCHARGE

Section 5.01 - County Surcharge

The county surcharge will be \$0.45 per cubic yard of solid waste collected in Genesee County, passed through a transfer station located in Genesee County or landfilled in Genesee County. PROVIDED, that any waste hauler, transfer station operator or landfill operator who has entered an agreement with the County which provides for alternate methods of payment of the surcharge, and which contract is in force, shall be exempt from the requirements of this Article. In instances of quarterly payments owed to the County totaling less than \$1.00, the amount owed will rollover to the following quarter until a \$1.00 threshold is reached. In instances where the total annual amount owed is less than \$1.00 the surcharge will be waived. Payments must be submitted with the quarterly report within 15 days following the end of the quarter.

Section 5.02 - Collection of County Surcharge by Landfill Operator

The county surcharge for waste which is disposed of in a licensed Genesee County landfill shall be collected by the landfill operator. A landfill operator shall pay to the Administrator the county surcharge on a quarterly basis. The payment shall be due within thirty days after each quarter of a calendar year has ended. A landfill operator shall maintain records of the collection of the county surcharge for a period of 5 years. Records pertaining to the volume of waste accepted by a landfill shall be made available for review by the Administrator.

Section 5.03 - Collection of County Surcharge by Transfer Station Operator

The county surcharge for waste which is disposed of outside Genesee County, and which passes through a transfer station shall be collected by a transfer station operator. A transfer station operator shall pay to the Administrator the county surcharge on a quarterly basis. The payment shall be due within thirty days after each quarter of a calendar year has ended. A transfer station operator shall maintain records of the collection of the county surcharge for a period of five (5) years. Records pertaining to the volume of waste passing through a transfer station shall be made available for review by the Administrator.

Section 5.04 - Collection of County Surcharge by Waste Hauler

The county surcharge for waste generated in Genesee County which is disposed of outside Genesee County, and which does not pass through a transfer station shall be collected by the waste hauler. A waste hauler shall pay to the Administrator the county surcharge on a quarterly basis. The payment shall be due within thirty days after each quarter of a calendar year has ended. A waste hauler shall maintain records of the collection of the county surcharge for a period of 5 years. Records pertaining to the volume of waste handled by a waste hauler shall be made available for review by the Administrator.

Section 5.05 - Independent Audit by Administrator

The Administrator shall have the right, at its own cost, from time to time at reasonable times, to hire an independent auditor to cause an audit to be made of landfill, transfer station and waste haulers' records for the purpose of verifying the accuracy of county surcharge payments made by the landfill, transfer station or waste hauler. The Administrator, through the independent audit, shall not record or abstract any information concerning landfill, transfer station or waste haulers' operations not necessary for that determination. Any overpayment or underpayment discovered as the result of such audit shall be refunded to the landfill, transfer station or waste hauler, in the case of overpayment; or paid to the Administrator, in the case of underpayment, within thirty (30) days of completion of the audit.

ARTICLE VI ENFORCEMENT

Section 6.01 - Enforcement

The Administrator shall enforce the provisions of the Ordinance.

Section 6.02 - Penalties

A person violating the provisions of this Ordinance shall be guilty of a misdemeanor punishable by a fine of up to \$500.00, or imprisonment not to exceed ninety days, or both. Each day a violation exists shall be considered a separate violation.

Section 6.03 - Limitation, Suspension or Revocation of Waste Hauler Permit

The Administrator shall have the right to limit or suspend a waste hauler's permit for violations of this Ordinance. Waste hauler permits may be revoked when a serious violation of this Ordinance is identified on a repeated basis. A waste hauler permit may be suspended or revoked as follows:

1. In the case of a first and single violation of this Ordinance, the waste hauler permit holder will be given notification, in writing, of provisions for permit suspension or revocation in the event of additional or further violations; and
2. In the case of two (2) violations within a single year, the permit may be suspended for thirty (30) days; and
3. In the case of three (3) violations within a single year, the permit may be suspended for ninety (90) days; and
4. In the case of four (4) violations within a single year, the permit may be revoked...

Except as otherwise herein provided, notice of a decision to deny, limit, suspend or revoke a waste hauler permit must be personally served on, or sent by first class mail to the last known address of, the permit holder or applicant for a permit.

The notice must state the reasons for the decision to deny, limit, suspend or revoke a permit. The statement of reasons shall include a citation to a specific violation of this Ordinance.

The notice must also advise the permit holder or applicant for permit of the right to seek review by the Waste Haulers' Permit Board of Review of the Administrator's decision and of the procedures for obtaining such review.

Following service of the notice as provided above and, except as otherwise herein provided, an aggrieved permit holder or applicant for permit shall have ten (10) business days in which to file a Petition for Review of the Decision.

Failure by the permit holder or applicant for permit to timely file a petition for review shall cause the decision to become a Final Order of Immediate Effect.

Section 6.04 - Establishment of Waste Haulers' Permit Board of Review

The Board of Commissioners shall appoint not less than three individuals to comprise a Waste Haulers' Permit Board of Review. The procedures which follow apply to persons who seek administrative review of a decision to deny, limit, suspend or revoke a waste hauler permit.

A quorum of the Waste Haulers' Permit Board of Review shall consist of one more than one-half the membership, one of whom is also a member of the Board of Commissioners.

A decision of the Waste Haulers' Permit Board of Review requires a vote of a majority of the quorum.

Section 6.05 - Waste Haulers' Permit Board of Review Procedures

Except as otherwise herein provided, hearings shall be scheduled not more than fourteen (14) days following the day on which a petition for review is filed. Notice of the date, time, and place of the hearing shall be personally served on, or sent by first class mail to, the permit holder or applicant for permit.

An aggrieved permit holder or applicant for permit shall not discuss details of the case with any member of the Waste Haulers' Permit Board of Review prior to the hearing or shall not attempt to influence Board of Review members in any way preparatory to release of a Final Order.

Section 6.06 - Conduct of Waste Haulers' Permit Board of Review Hearing

The conduct of a hearing before the Waste Haulers' Permit Board of Review shall conform as nearly as practicable to the Procedures in Contested Cases, Chapter 4, of the "Administrative Procedures Act," being Act 306, P.A. 1969, as amended [MCL 24.271 et seq].

The presiding officer shall perform the typical duties of a presiding officer in a contested case including, but not limited to, administering oaths and affirmations, and ruling on objections, motions and the admissibility of evidence.

The parties (i.e., the Administrator and the aggrieved applicant or permit holder) to a contested case before the Waste Haulers' Permit Board of Review shall, among other things, have the right to direct and cross-examine witnesses, submit documentary evidence, redirect or recross-examine witnesses and submit rebuttal evidence.

Section 6.07 - Final Order

A Final Order issued following a hearing shall be supported by and made in accordance with competent, material, and substantial evidence in accordance with Act 306, P.A. 1969, as amended [MCL 24.285 et seq]. The order may take the form of a decision to affirm, modify, or rescind the original decision. The Final Order may be issued before the Board of Review adjourns or within fifteen (15) calendar days following the hearing.

ARTICLE VII RULES

Section 7.01 - Adoption of Rules

The County Board of Commissioners may adopt Rules to carry out the provisions of this Ordinance including those pertaining to the establishment, administration, and enforcement of waste hauler licensing requirements and service specifications.

The Rules may be amended from time to time by the County Board of Commissioners.

ARTICLE VIII MISCELLANEOUS

Section 8.01 - Severability

Sections of the Ordinance shall be deemed severable, and should any section, clause, or provision of this Ordinance be declared invalid, it shall not affect the validity of the Ordinance as a whole or any part thereof other than the part so declared to be invalid.

Section 8.02 - Effective Date

This Ordinance shall become effective immediately upon publication in a newspaper of general circulation in Genesee County.

Amended: August 1, 2021 – Resolution #2021-562