

**Emmet County
Solid Waste Management Plan Update**

**As Approved by the
Michigan Department of Environmental Quality**

March 15, 2000

AS REQUIRED BY SECTION 11539a OF
PART 115, SOLID WASTE MANAGEMENT SECTION, OF
THE NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION ACT
1994 PA 451, AS AMENDED

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DATE APPROVED BY THE BOARD OF COMMISSIONERS: January 14, 1999
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This solid waste management plan includes Emmet County. No other counties or municipalities outside Emmet County have been included in this plan.

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Emmet County Solid Waste Management Plan Update
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I-1 EXECUTIVE SUMMARY

The following summarizes the solid waste management system selected to manage the solid waste within the County.

OVERVIEW OF THE COUNTY

At 460 square miles, Emmet County is geographically the third smallest county in the State of Michigan. The county is also relatively small in total population, having an estimated 1998 year round population of some 29,010 persons. Resort populations and tourism are major components of the economy, supplemented by a vast array of services, including retail businesses, medical facilities, public services and education. There is a healthy industrial sector, but it has not attained as high a percentage of the total employment as other counties in the region.

The county's natural resources have been and continue to be the base upon which community development processes depend. With historical roots in hunting, fishing, and timbering, the County's economy moved into agriculture, mining and commerce accompanied by a long history of resort and tourist based economic activity. The attractions of the Great Lakes water resources, the rolling landscape, and moderate climate combined, generate a major resort development pattern, that is not only historic, but accelerated in modern times with the Bay Harbor Development, which occupies some five miles of shoreline on Lake Michigan's Little Traverse Bay.

Emmet County is comprised of over 309,237 acres, the majority of which is forest land, (Upland 49%, Lowland 12%). Agricultural land also accounts for a large percentage of the county at almost 17 percent of the total acreage compared to only 2.66 percent of the county comprised of Residential, Commercial and Industrial use.

Emmet County	Land use by category					
	Agriculture	Forestry	Industry	Commercial	Residential	Other
Percentage of total	16.82%	61.05%	0.14%	0.25%	2.27%	19.47%
Acres	52,014	188,743	433	773	6,989	60,285

Source: Land Use Acreage by Category Emmet County, Table 3-20 in *Emmet County/City of Petoskey Comprehensive Plan*. July 1997.

While the majority of land base in the county is rural (97.34%), farming, fishing and forestry only account for 2.5% of the employment in the county. The remaining 2.66% of urban acreage contains 97.5% of the economic base.

Emmet County Employment by Category

	Farms/Ag/For	Professional	Sales/Services	Industry
Percentage of total	2.5%	20.9%	47.9%	28.7%

Source: Employment by Industry, Emmet County, Table 3-13 in *Emmet County/City of Petoskey Comprehensive Plan*. July 1997.

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THE SOLID WASTE PLANNING PROCESS

The Designated Planning Agency (DPA) and the Solid Waste Planning Committee (SWPC) completed a comprehensive strategic planning process that outlined strengths, weaknesses, opportunities, and threats that are part of the current and potential future solid waste management system that services the County. This analysis was used to create goals and objectives which are provided immediately after this Executive Summary. These goals and the strategic analysis formed the basis for developing the solid waste management strategy and the selected alternative that is described in this Plan as the Plan's Enforceable Program and Process as provided for in Part 115, Section 11533 (1) of the Michigan Natural Resources and Environmental Protection Act (NREPA).

In developing the Plan's Enforceable Program and Process the DPA and SWPC first screened out strategies that were technically or economically unsuitable for the County. The DPA and SWPC then reviewed a set of solid waste management program strategies in the following eight areas that were viewed as technically and economically feasible:

- Clean Community
- Drop-Off Residential Recycling
- Residential Yard Waste Composting
- Material Transfer and Processing
- Recycling Incentives
- Curbside Residential Recycling
- Commercial Recycling
- Disposal

These program strategies were assembled as System Alternatives that varied by level of landfill diversion, capital and operating cost and implementation requirements. At this stage in the strategic planning process, some of the Strategic Alternatives were determined to be unsuitable for the County based on an evaluation of the overall technical and economic feasibility of each approach and its ability to:

- build on the strengths of the local and regional situation,
- address current deficiencies and weaknesses,
- work with organizational approaches that the County is willing to consider,
- be fundable through systems that the County can implement,
- respond to and build community involvement and support,
- be enforceable, and
- set measurable goals that can be tracked to determine progress.

Appendix B of the Plan contains further detail regarding the System Alternatives that were not selected as part of the Plan's Enforceable Program.

The strategic planning process was carried through to final conclusions regarding the program strategies that would make up the Plan's Selected Alternative and become the foundation for the Plan's Enforceable Program as required by statute. The strategic planning process included surveying of the views of key stakeholders in the planning process, and others considered to be critical to implementation of the plan - primarily local government officials. The Selected Alternative is described briefly below and in the balance of the Plan with further detail provided in Appendix A of the Plan.

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THE PLAN'S SELECTED ALTERNATIVE

During Years 1 through 4 of the Planning Period the Plan's Enforceable Program provides for the implementation of System Alternative 1, detailed further in Part III of this Plan with additional supporting material provided in Appendix A:

EMMET COUNTY SYSTEM ALTERNATIVE 1 EXPANDED CLEAN COMMUNITY AND CURBSIDE RECYCLING PROGRAM

Key features include a Clean Community program that operates at highly effective levels making sure that disposal and recycling services are provided in all areas of the County. Incentives to recycle boost program performance, increasing tonnage and lowering unit costs. Expanded recycling drop-off capabilities at the Emmet County Recycling/Transfer Facility increase options for recovering more materials. Further work on development of curbside programs for cities, villages and towns is pursued in order to increase convenience for a large sector of the population. This is made possible by continued upgrading of the capabilities of the Recycling/Transfer facility to allow acceptance of recyclables that are more commingled than current practice allows. Commercial recycling is further developed to increase convenience and diversion. Organics management options are made available throughout the year with the addition of one or more drop-offs for yard waste. Bans on collection/disposal of certain materials as solid waste are evaluated and considered for a target period 5 years away should specific diversion levels not be reached. This is coordinated between the transfer station as well as the landfill used by the transfer station.

Following is a more detailed description of the specific program elements that are part of Phase 1 of the Selected Alternative and the Plan's Enforceable Program. Specific details on who will implement the Plan's Enforceable Program are covered in the next section covering the Plan's Authorized Management Program. The timing of implementation of the Plan's Enforceable Program are then provided in the Plan's Timetable for Implementation that follows. The County's Solid Waste Program, implemented jointly by units of government within the county in cooperation with other public agencies and private firms will include the following features:

Emmet County Selected System Alternative Phase 1: Detailed System Component Descriptions

Clean Community:

Comprehensive solid waste collection services would be made available to all households and businesses in the County. Illegal dumping and litter would be policed with enforcement of violations. Spring/fall cleanup days would be provided in more urban areas with scavenging/trading/reuse encouraged and recycling of as many materials left as possible. Household hazardous waste collection services would be provided and expanded to include collection of small quantities of agricultural pesticides and herbicides. Adopt a "____" programs would be organized with volunteers and business/service group sponsorship for periodic cleaning of roadsides, streambanks, lakeshores, parks and forests.

Recycling Incentives:

Proactive education and promotion strategies would encourage responsible solid waste management and strong reduce/reuse/recycle behavior. Pay As You Throw (PAYT) programs would be evaluated, refined and continued to be emphasized throughout the County in all solid waste collection arrangements. Recycling collection programs as well as drop-offs would add more materials to encourage overall participation in the program by more citizens and businesses. Bans on collection/disposal of certain materials as solid waste would be evaluated and targeted for a period five years away should specified levels of diversion not be reached.

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This will provide a further incentive for increased adoption of and participation in recovery programs.

Drop-Off Residential Recycling:

The existing network of drop-off sites for recycling would continue to be developed with upgrades to continually improve visibility and user convenience. Adjustments would be made to allow material to be collected in a commingled form to make use of the drop-offs easier - coordinated with development of the capability to process this material at the Recycling/Transfer facility. The current Recycling/Transfer facility would be further expanded into a "flagship" drop-off site that is staffed, has an educational component, and collects the largest number of different types of materials.

Curbside Residential Recycling:

Arrangements would be made with haulers through licensing to make sure that curbside recycling with two stream commingled curbside collection would be available on a subscription basis to all residents in a designated curbside service district. Petoskey and Harbor Springs and surrounding densely populated areas would be included.

Residential Yard Waste Composting:

Fall leaf collection would be provided in all villages/towns/cities. Petoskey and Harbor Springs would continue their current collection efforts, with smaller communities including Alanson, Pellston and Levering adding fall leaf collection. Backyard composting would be encouraged through distribution of backyard bins at discount rates. A similar mulching mower program would encourage grass cycling. Permanent drop-off options for yard waste would be provided in the County with one "flagship" site taking all types of yard waste and providing finished compost for distribution to residents. Some wood waste processing would be included with this site. Petoskey may serve as the best location for a "flagship" site that would accept seasonal yard waste throughout the growing season, however, this sort of drop-off could be set up at the transfer station as well.

Commercial Recycling:

The Recycling/Transfer facility would be expanded to serve as a permanent site provided for businesses to drop-off a wide variety of recyclables including commingled containers and commingled paper (as facility modifications are made). A business recycling service district would be established and businesses within the district encouraged to contract for the recycling collection services provided by licensed haulers.

Material Transfer and Processing:

The Recycling/Transfer facility would be expanded to increase its capability to process material that is more commingled than the current system allows. This expanded material recovery facility (MRF) would be available to all recycling collectors in the system and service surrounding counties as well. Commercial recyclables would be able to be tipped at the facility for a reasonable fee that was lower than the tipping fee at area landfills. Some capability would be provided to remove contaminants and small quantities of solid waste from loads of recyclables.

Disposal:

Existing landfills in the region would be used with the transfer station serving as the destination for all compacting collection vehicles serving the county, with the exception of Type II solid waste collected within the jurisdiction of municipalities that have not signed on to participate in

EXECUTIVE SUMMARY

the Emmet County Solid Waste Ordinance # 20. Arrangements would be made to assure that the most cost effective disposal service was being secured. One or more additional drop-off facilities for solid waste would be available with the transfer station serving as a "flagship" site that took other types of waste such as bulky waste and construction and demolition (C&D) waste, recycling these materials to the degree possible.

During Years 5 through 10 of the Planning Period the Plan's Enforceable Program provides for the implementation of System Alternative 2, detailed further in Part III of this Plan with additional supporting material provided in Appendix A:

EMMET COUNTY SYSTEM ALTERNATIVE 2 EXPANDED CLEAN COMMUNITY AND COMPREHENSIVE RECYCLING PROGRAM

Comprehensive Clean Community program is expanded to service all sectors of waste generators. Bans on collection/disposal of certain materials at the Recycling/Transfer facility (as well as landfills used by the Transfer Station) continue to be evaluated on a 1 year implementation timeline in order to continue to boost recycling program tonnage and lower unit costs. Documentation of achievement of specified diversion levels could delay or avoid the bans if desired. Incentives to recycle continue to be strengthened to boost program performance, increasing tons and lowering unit costs. Drop-off recycling system continues to be refined to maximize convenience and to fit with the level of curbside service usage documented in the designated curbside service district. Commercial recycling and C&D recycling begin to broaden business opportunities for diversion. Yard waste diversion from landfill disposal through collection programs or source reduction will reach near 100%. The Material Recovery Facility/Transfer Station is further developed to maximize system flexibility for cost savings and landfill diversion serving both residential and commercial sectors as well as special C&D waste streams and regional needs of nearby counties. Innovative techniques for increasing diversion or reducing system costs are explored, building a strong foundation for significantly lower reliance on landfills as primary means of waste management.

Following is a more detailed description of the specific program elements that are part of Phase 2 of the Selected Alternative and the Plan's Enforceable Program. Specific details on who will implement the Plan's Enforceable Program are covered in the next section covering the Plan's Authorized Management Program. The timing of implementation of the Plan's Enforceable Program are then provided in the Plan's Timetable for Implementation that follows. The County's Solid Waste Program, implemented jointly by units of government within the county in cooperation with other public agencies and private firms will include the following features:

Emmet County Selected System Alternative Phase 2: Detailed System Component Descriptions

Clean Community:

Comprehensive solid waste collection services would continue to be available to all households and businesses in the County. Households in an urban service district would automatically receive the service. Strong illegal dumping and litter policing would continue. Spring/fall cleanup days would be provided in the urban service district with scavenging/trading/reuse encouraged. A permanent hazardous waste collection site would be provided that serviced households as well as agricultural hazardous waste generators and unregulated small quantity hazardous waste generators. Adopt a "____" programs would be further developed with volunteers and business/service group sponsorship for periodic cleaning of roadsides, streambanks, lakeshores, parks and forests.

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Recycling Incentives:

Proactive education and promotion strategies would encourage responsible solid waste management and strong reduce/reuse/recycle behavior. Pay As You Throw (PAYT) programs would be widespread throughout the County. Recycling collection programs would add more materials to encourage participation by more citizens and businesses. Selected materials (e.g. OCC) would be considered for a disposal ban targeted for the end of year 5 should specified levels of diversion not be achieved.

Drop-Off Residential Recycling:

The permanent network of drop-off sites for recycling would be open and available for use all the time with continued development of the "flagship" drop-off site at the Material Recovery Facility/Transfer Station including supporting educational services and collection of additional materials not serviced by the rest of the drop-off system. Collection of construction waste (C&D) would be added at the "flag-ship" site.

Curbside Residential Recycling:

Two stream commingled curbside recycling would be automatically provided to all residents in an expanded curbside service district around Petoskey and Harbor Springs as well as resort areas and subdivisions. Use of subscription service outside this district would be strongly encouraged.

Residential Yard Waste Composting:

Seasonal yard waste collection including fall leaf collection would be automatically provided to an urban service district. Backyard composting would be encouraged through distribution of backyard bins at discount rates. A similar mulching mower program would encourage grass cycling. One or more permanent drop-off options for yard waste would be provided in the County with one "flagship" site taking all types of yard waste and providing finished compost for distribution to residents. Selected processing of food waste would be included as well as clean wood waste processing. A central processing site would need to be located and developed.

Commercial Recycling:

The Material Recovery Facility/Transfer Station would continue to be expanded to service businesses that would drop-off a wide variety of recyclables including commingled containers and commingled paper. A business recycling service district would be developed and businesses within the district assisted in arranging an umbrella contract for services.

Material Transfer and Processing:

The Material Recovery Facility/Transfer Station would continue to be expanded to provide services to all recycling collectors in the system. Consideration would be given to upgrading the transfer station by equipping it with a high density (900 to 1,000 lbs/cy) compaction system to allow longer distance waste transfer. The facility would be able to process commingled containers and commingled fibers as well as presorted recyclables like OCC. Commercial recyclables would be able to be tipped at the facility for a reasonable fee that was lower than the tipping fee at area landfills. Mixed loads of commercial solid waste that have a high percentage of recyclable materials would be sorted.

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Disposal:

Compacting collection vehicles would haul to the transfer station, with the exception of Type II solid waste collected within the jurisdiction of municipalities that have not signed on to participate in the Emmet County Solid Waste Ordinance # 20. The transfer station then would ship waste to landfills in Northern Michigan that offered the most competitive rate. One or more drop-off facilities for solid waste would be available to complement the "flagship" site at the Material Recovery Facility/Transfer Station that would take other types of waste (bulky, C&D, etc.).

AUTHORIZED MANAGEMENT COMPONENT

The Selected Alternative as described above is established by this Plan as the Plan's Enforceable Program defining the Emmet County Solid Waste Management System, implemented jointly by units of government within the county in cooperation with other public agencies and private firms. The Plan's Enforceable Program includes a "Management Component" that defines details of who will take responsibility for implementation and how that will be accomplished. This Authorized Management Component is described briefly below and further detailed in Part III of the Plan under a section with the same name.

The Authorized Management Component builds on the County's current organizational and management structure including the County's solid waste ordinance, system of intergovernmental agreements, contractual arrangements for plan implementation and all related features.

Further development of this organizational and management structure as part of the Plan's Authorized Management Component is provided for as part of the Plan's Enforceable Program. These developments may take a number of forms and will only be initiated after an evaluation of the best steps that can be taken to build on the strengths of the current system already in place. These steps will be detailed in an "implementation action plan" that the Plan's implementation agency will coordinate development of in order to provide for necessary details required to carry out the Plan's Enforceable Program. These action steps are expected to follow some, if not all, of the following description of an enhanced management system that will provide for a method of funding the selected alternative including the continued upgrading of the MRF/Transfer Station and other aspects of the Selected Alternative.

- User fees will continue to be the backbone of the Plan's Management Component funding system, as they are right now.
- A supporting network of service contract arrangements will be used to achieve Plan goals, structured to be compatible with and supportive of the Ordinance #20 driven licensing and facility designation requirements currently in place.
- Other supporting mechanisms will be used to organize and direct resources towards implementing the Selected Alternative and other aspects of the Plan's Enforceable Program.

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TIMETABLE - IMPLEMENTING THE PLAN'S ENFORCEABLE PROGRAM

The Plan's Enforceable Program includes an implementation timeline for the Plan's Authorized Management Component and Selected Alternative. The following table summarizes key milestones for implementing the Plan's Enforceable Program and is further detailed in Part III of the Plan under a section with the same name.

Management Components	Timeline
1) Develop/Adopt Implementation Action Plan	1999
2) Amend Intergovernmental Agreements/Ordinance/Rules/Regs	1999
3) Preliminary Program Specifications for Planned Ph I Programs	1999
4) Establish Budgets for Planned Phase I Programs	1999
5) Finalize Any Upgrades to Funding Structure and Mechanisms	1999/2000
6) Initiate all Phase I outreach/education programs	1999/2000
7) Procure all other Phase I system improvements	1999/2000
8) Renegotiate Arrangements for Long Term Disposal Capacity	2002-2008
9) Engineer & construct transfer station/MRF modification	2002-2003
10) Trigger Ban on Selected Items from Landfill Disposal	2003-2008
11) Preliminary Program Specifications for Planned Ph II Programs	2002-2003
12) Establish Budgets for Planned Phase II Programs	2002-2003
12) Finalize Any Upgrades to Funding Structure and Mechanisms	2002-2003
14) Initiate all Phase II outreach/education programs	2003-2008
15) Procure all other Phase II system improvements	2003-2008
16) Data Tracking to Assess Program Performance	Annual/Ongoing
17) Update Implementation Action Plan	Annual/Ongoing

I-2 INTRODUCTION

To comply with Part 115 and its requirements, the Emmet County Solid Waste Plan establishes an Enforceable Program and Process that is directed toward 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).

GOALS AND OBJECTIVES

Goals and Objectives for the Emmet County Plan's Enforceable Program and Process as adopted by the Solid Waste Planning Committee follow:

This Solid Waste Management Plan works toward the following goals through actions designed to meet the objectives described under the respective goals which they support:

Goal 1: Maintain, support and expand existing recycling and resource recovery programs and facilities.

Objective 1.1: Maintain conveniently located recycling drop-off sites county-wide, endeavoring to retain all existing collection centers, and expand recycling services where and when appropriate.

Objective 1.2: Maintain household hazardous waste collections and research the potential for offering expanded access to Conditionally Exempt Small Quantity Generators.

Objective 1.3: Research the potential for building materials, construction and demolition materials for re-use, recycling, or other recovery options, and encourage potential operators to enter this field of recycling.

Objective 1.4: Improve the opportunity for residents to compost yard waste with educational materials; develop a county compost program that may include a centralized compost facility, yard waste drop-offs, or other organic processing programs, and possibly a back-yard compost bin distribution program.

Objective 1.5: Improve the opportunities for businesses and institutions to recycle waste materials and to fully participate in composting programs.

Goal 2: Eliminate pollution resulting from waste.

Objective 2.1: Expand household hazardous waste collection programs, considering more frequent collection and more storage capacity.

Objective 2.2: Maintain collection of batteries, motor oil and antifreeze.

Objective 2.3: Discourage the burning of waste materials to protect air quality through publicity, recycling and composting.

Objective 2.4: Improve efforts to properly decommission appliances of freon.

Goal 3: Improve efforts to eliminate illegal dumping and enforce litter regulations.

Objective 3.1: Provide public education on the costs of illegal dumping, both financially and ecologically, directing residents to accessible options as well as impose fines and penalties for violations.

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Objective 3.2: Identify illegal dumping sites, determine what materials are most often discarded, work to close and clean up such sites, and name legal disposal methods, particularly recycling, composting, reuse and disposal.

Objective 3.3: Utilize available enforcement mechanisms and resources to preserve and protect our environment, enlisting support of State and/or Federal agencies if necessary.

Objective 3.4: Develop a partnership or cooperate with the Michigan Department of Natural Resources' (MDNR) "Adopt a Forest Program" to minimize the dumping of waste materials on public lands.

Goal 4: Maintain competitive waste management services for County residents and businesses.

Objective 4.1: Research comparable community costs for solid waste collection and disposal.

Objective 4.2: Research alternatives to encourage competitive waste services in the County, such as a publicly owned or multi-county sanitary landfill.

Objective 4.3: Provide public information on available services.

Goal 5: Provide adequate revenues to fund County solid waste and resource recovery programs.

Objective 5.1: Maintain enforcement of the County's solid waste ordinance, which provides for funding through flow control to the transfer station and a surcharge on waste.

Objective 5.2: Maintain volume based fees for solid waste disposal to increase incentives to reduce waste and utilize resource recovery options.

Objective 5.3: Explore alternative funding mechanisms, such as surcharges at landfills, to protect against the potential for losing the ability to enforce flow control of waste.

Goal 6: Increase public awareness and understanding of solid waste management issues and resource recovery goals and objectives.

Objective 6.1: Maintain an office and staff to provide informational materials on solid waste and resource recovery programs, where questions from individuals and businesses can be directed, and educational and promotional programs can be administered.

Objective 6.2: Notify the public about recycling programs, household hazardous waste collections, resource exchanges, solid waste issues, and other related issues and events through the local media.

Objective 6.3: As appropriate, attend local events and shows with a traveling display and exhibit, distribute materials and answer questions regarding solid waste and resource recovery activities in the county.

Objective 6.4: Print a newsletter for distribution to the general public, as often as appropriate, giving information on recycling, composting, hazardous waste collection, other resource recovery initiatives, and general issues concerning solid waste disposal.

Goal 7: Work cooperatively with the State, Regional Agencies, private waste service industries, and other counties in Northern Michigan to improve overall effectiveness of all elements of waste collection, handling, and disposal, including resource recovery.

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Objective 7.1: Exchange copies of county solid waste plans with other counties in the region, as a means to coordinate waste disposal goals and work towards commonly accepted goals.

Objective 7.2: Work out mutually satisfactory reciprocal solid waste disposal agreements in order to optimize the efficiency of such systems as: landfills, transfer stations, recycling centers, composting sites, hauling services and all forms of resource recovery, especially to minimize the volume of waste requiring landfill disposal.

Objective 7.3: Hold periodic meetings with other counties in the region or area, and include private waste industry representatives, in order to have an open discussion of problems and solutions to problems involving any aspect of the disposal of wastes and the recovery of resources found in the waste stream, and thereby, build a basis for mutual understanding of each others problems and opportunities.

II-1 DATA BASE

This section identifies sources of waste generation within the county, total quantity of solid waste generated to be disposed, and sources of the information.

The following database is derived from the listed sources:

- County Business Patterns
- Northwest Michigan Council of Governments Population Study
- Emmet County Planning Department
- Emmet County Department of Public Works
- Interviews with municipal program operators and private sector service providers

RESIDENTIAL WASTE GENERATION

Residential solid waste data was calculated by the consultant, Resource Recycling Systems, Inc. using the rate of 3.0 pounds of solid waste generated per person per day (urban and resort areas) and 2.6 pounds per person per day for rural areas. These numbers were then modified to reflect seasonal population adjustments and overall population growth estimates for the next ten years. Finally, actual reported disposal and waste reduction data were used to adjust generation rates. These generation calculations are then presented as "centers of solid waste generation" in the chart below as required by the Plan Format. A more detailed description of how estimates were calculated may be found in Attachment E.

Table II-1 Residential Waste Generation by Municipality

Municipality	1998 Tons	2003 Tons	2008 Tons
Bear Creek township	2359	2699	2745
Bliss township	312	347	362
Carp Lake township	383	429	447
Center township	323	349	355
Cross Village township	144	145	151
Friendship township	382	425	443
Harbor Springs city	946	986	931
Alanson village	405	428	425
Littlefield township	1019	1174	1224
Little Traverse township	1125	1298	1353
Pellston village	383	366	361
McKinley township	379	414	432
Maple River township	435	477	498
Petoskey city	4283	5025	5237
Pleasantview township	261	270	281
Readmond township	261	269	280
Resort township	1197	1307	1397
Springvale township	827	935	974
Mackinaw City village	310	315	320
Wawatam township	96	69	72
West Traverse township	583	612	607
Emmet County Total	16,411	18,339	18,893

COMMERCIAL/INDUSTRIAL WASTE GENERATION

Commercial waste generation was determined by multiplying estimated pounds per employee per day for specific Standard Industrial Codes (SIC) by the actual employment numbers in Emmet County. Pounds per employee per day figures were generated by Resource Recycling Systems based on previous SIC code-specific surveys and studies of various counties in the United States. Employment numbers were obtained for the year 1995 from U.S. Census data on County Business Patterns. Waste generation numbers were then modified based on actual reported waste generation by a phone survey of major generators within the County. The number of work days per year is assumed to be 260. The resulting waste generation calculations are presented below as "centers of generation" for commercial and industrial SIC groups, as required by the Plan Format.

Table II-2 Commercial/Industrial Waste Generation

SIC	SIC Description	## of employees (1995)*	lbs/ person/ day	Tons/ year (1995)
0700-0999	Agriculture, Forestry, Fishing	125	5	81
1000-1499	Mining	0	4	0
1500-1999	Construction	897	23	2682
2000-3999	Manufacturing	1698	19	4194
4000-4999	Transportation/Public Utilities	342	5	222
5000-5199	Wholesale trade	490	12	764
5200-5999	Retail trade	3251	12	5072
6000-6999	Finance, Insurance, Real Estate	695	16	1446
7000-7999	Services	4664	8	4851
99--	Unclassified establishments	128	6	100
		12,290	12.15	19,412
		<i>Total</i>	<i>Average</i>	<i>Total</i>

**from 1995 County Business Patterns Data*

SPECIAL WASTE STREAMS

Sewage sludge is generated by the Cities of Petoskey and Harbor Springs and the Village of Mackinaw. Sludge generated by the facilities is currently land applied. At present, none of the wastewater treatment plants has any plans to landfill or incinerate sludge.

Table II-3 Special Waste Streams

Source	Material	Tons per year generated	Tons needing disposal
City of Petoskey	Sewage sludge	n/a	0
City of Harbor Springs	Sewage sludge	n/a	0
Village of Mackinaw	Sewage sludge	5	0 (field applied)

MAJOR WASTE GENERATORS

Emmet County continues to experience growth in the business sector, particularly retail and resort (e.g. Bay Harbor). Overall, the county does not anticipate major problems associated with managing the commercial and industrial solid waste generated within its borders. Table II-4 provides a list of major business and industrial waste generators in the County.

Table II-4 Major Waste Generators in Emmet County

Generator	Location	Type	## empl
Boyne U.S.A.	Petoskey	Golf & Ski resort	600
Burns Clinic	Petoskey	Medical facility	300
Northern Michigan Hospitals	Petoskey	Hospital	1000
Control Engineering Co.	H. Springs & Pellston	Engineering design	368
Northern Die Cast	Harbor Springs	Magnesium diecasting	130
Glass Alternatives, Inc.	Petoskey	plastic coating	132
Manthei Veneer Mill, Inc.	Petoskey	Wood products-veneer	140
Michigan Maple Block, Co.	Petoskey	Wood products-laminated	90
Redco Corporation	Pellston	Mold aluminum castings	42
McLaughlin Co.	Petoskey	Specialty auto fasteners	148
Continental Structural Plastic	Petoskey	Fiberglass molding	150
Mitchell Graphics	Petoskey	Commercial printer	60
Petoskey Plastics	Petoskey	plastic bags/sheathing	120
Town & Country Cedar Homes	Petoskey	Natural wood homes	70
Bay Harbor	Petoskey	Resort/golf course/housing	n.a.

TOTAL WASTE GENERATION

Waste generation is shown in Tables II-5 and II-6 below. Waste generation data was calculated using waste projection models (pounds per person per day for residential, and pounds per employee per day for commercial/industrial). Adjustments were made for seasonal population fluctuations and differences between rural and urban areas. Waste generation was projected into the future based on projected population growth patterns. Table II-5 shows projections in tons per year; while Table II-6 shows projections in cubic yards per year.

Table II-5: Total Waste Generated (Tons per year)

Sector	1998 Tons Generated	2003 Tons Generated	2008 Tons Generated
Residential	16,411	18,339	18,793
Commercial/Industrial	20,052	21,033	21,957
Special	0	0	0
Total Annual Tons	36,463	39,372	40,750

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Table II-6: Total Waste Generated (Cubic yards per year)

Sector	1998 CY Generated	2003 CY Generated	2008 CY Generated
Residential	46,888	52,397	53,694
Commercial/Industrial	57,291	60,094	62,734
Special	0	0	0
Total Annual Cubic Yards	104,180	112,491	116,428

* cubic yards were converted from tons using a conversion factor of 700 pounds per cubic yard

TOTAL WASTE DISPOSAL

Total waste generation for 1998 was projected and compared to actual 1997 landfill disposal data for Emmet County waste plus reported recovery (recycling and composting) totals. Recovery (recycling and composting) was projected for the future and subtracted from total generation projections for the 2003 and 2008 planning years in order to obtain disposal estimates. Future recovery was based on expected growth for existing programs and achievement of stated County recovery goals, resulting in total disposed projections contained in tables II-7 and II-8 below. Actual recovery for 1997 was reported to be 1,897 tons of residential recyclables (primarily through drop-off recycling programs); 2,000 tons of commercial/industrial recovery, and 2,300 tons of yard waste composted (estimated).

Table II-7: Total Disposal (tons per year)

Sector	1998 Tons Disposed	2003 Tons Disposed	2008 Tons Disposed
Residential	12,214	13,049	12,215
Commercial/Industrial	18,052	16,826	15,370
Special	0	0	0
Total Annual Tons	30,266	29,875	27,585

Table II-8: Total Disposal (cubic yards per year)

Sector	1998 CY Disposed	2003 CY Disposed	2008 CY Disposed
Residential	34,897	37,283	34,900
Commercial/Industrial	51,577	48,074	43,914
Special	0	0	0
Total Annual Cubic Yards	86,474	85,357	78,814

* cubic yards were converted from tons using a conversion factor of 700 pounds per cubic yard

II-2 SOLID WASTE DISPOSAL AREAS

The following includes an inventory and descriptions of all solid waste disposal areas within the County or to be utilized by the County to meet its disposal needs for the planning period.

- Emmet County Transfer Station
- Carp Lake Transfer Station
- Top Rank Transfer Station
- Cedar Ridge Landfill
- Glen's Landfill
- CES Waters Landfill
- Elk Run Landfill
- Montmorency Landfill
- Cheboygan Transfer Station

Descriptions of these facilities follow.

II-3 SOLID WASTE FACILITY DESCRIPTIONS

FACILITY DESCRIPTIONS

Facility Type: Type A Transfer Station

Facility Name: Emmet County Transfer Station

County: Emmet Location: Town T35N Range R5W Section(s) 10

Map identifying location included 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: Cedar Ridge Landfill

Public Private Owner: Emmet County (on state land)

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 type="checkbox"/> construction permit	<input type="checkbox"/> contaminated soils
<input type="checkbox"/> open, but closure pending	<input type="checkbox"/> special wastes *
	<input type="checkbox"/> other: _

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

Site Size:

Total area of facility property: 40 acres

Total area sited for use: 10 acres

Total area permitted: 10 acres

Operating: _____ acres

Not excavated: _____ acres

Current capacity:

Estimated lifetime: _____ years

Estimated days open per year: 300 days

Estimated yearly disposal volume: 67,000 compacted cubic yards

(if applicable)

Annual energy production:

Landfill gas recovery projects: NA megawatts

Waste-to-energy incinerators: NA megawatts

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FACILITY DESCRIPTIONS

Facility Type: Type B Transfer Station

Facility Name: Carp Lake Transfer Station

County: Emmet Location: Town T38N Range R4W Section(s) 2

Map identifying location included 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: Cedar Ridge Landfill or CES Waters Landfill

Public Private Owner: Carp Lake Twp

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 type="checkbox"/> licensed	<input type="checkbox"/> industrial
<u>NA</u> unlicensed	<input type="checkbox"/> construction & demolition
<input type="checkbox"/> construction permit	<input type="checkbox"/> contaminated soils
<input type="checkbox"/> open, but closure pending	<input type="checkbox"/> special wastes *
	other: <u> </u>

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

Site Size:

Total area of facility property:	<u>not avail.</u>	acres
Total area sited for use:	<u>not avail.</u>	acres
Total area permitted:	<u> </u>	acres
Operating:	<u> </u>	acres
Not excavated:	<u> </u>	acres

Current capacity:	<u> </u>	
Estimated lifetime:	<u> </u>	years
Estimated days open per year:	<u>not avail.</u>	days
Estimated yearly disposal volume:	<u>not avail.</u>	

(if applicable)

Annual energy production:		
Landfill gas recovery projects:	<u>NA</u>	megawatts
Waste-to-energy incinerators:	<u>NA</u>	megawatts

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FACILITY DESCRIPTIONS

Facility Type: Type B Transfer Station operated as Type A

Facility Name: Top Rank Transfer Station

County: Charlevoix Location: Town T33N Range R8W Section(s) 4

Map identifying location included 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: Glen's Landfill

Public Private Owner: Top Rank Disposal, Inc.

Operating Status (check)

open
 closed
 licensed
 unlicensed
 construction permit
 open, but closure pending

Waste Types Received (check all that apply)

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: not avail. acres
Total area sited for use: not avail. acres
Total area permitted: not avail. acres
 Operating: _____ acres
 Not excavated: _____ acres

Current capacity: _____
Estimated lifetime: _____ years
Estimated days open per year: not avail. days
Estimated yearly disposal volume: not avail.

(if applicable)

Annual energy production:
 Landfill gas recovery projects: NA megawatts
 Waste-to-energy incinerators: NA megawatts

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FACILITY DESCRIPTIONS

Facility Type: Type II Landfill

Facility Name: Cedar Ridge Landfill

County: Charlevoix Location: Town T33N Range R7W Section(s) 19

Map identifying location included 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, 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 type="checkbox"/>	construction permit	<input checked="" type="checkbox"/>	contaminated soils
<input type="checkbox"/>	open, but closure pending	<input checked="" type="checkbox"/>	special wastes *
			other: _____

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

Foundry sand and flyash from East Jordan Iron Works.

Site Size:

Total area of facility property:	<u>120</u>	acres
Total area sited for use:	<u>40</u>	acres
Total area permitted:	<u>40</u>	acres
Operating:	<u>21</u>	acres
Not excavated:	<u>0</u>	acres

Current capacity:	<u>approx. 370,000</u>	bank cubic yards
Estimated lifetime:	<u>2.5</u>	years
Estimated days open per year:	<u>260</u>	days
Estimated yearly disposal volume:	<u>311,000</u>	gate cubic yards

(if applicable)

Annual energy production:

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

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FACILITY DESCRIPTIONS

Facility Type: Type II Landfill

Facility Name: Glen's Sanitary Landfill

County: Leelanau Location: Town T28N Range 13W Section(s) 35

Map identifying location included 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, Inc.

Operating Status (check)

open
_____ closed
 licensed
_____ unlicensed
 construction permit
_____ open, but closure pending

Waste Types Received (check all that apply)

residential
 commercial
 industrial
 construction & demolition
 contaminated soils
 special wastes *
_____ other: _____

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

Asbestos (non-friable)

Site Size:

Total area of facility property: 460 acres
Total area sited for use: 133 acres
Total area permitted: 133 acres
 Operating: 14.8 acres
 Not excavated: 89.3 acres

Current capacity: 22,000,000 cubic yards
Estimated lifetime: 60 years
Estimated days open per year: 264 days
Estimated yearly disposal volume: 300,000 gate cubic yards

(if applicable)

Annual energy production:
 Landfill gas recovery projects: NA megawatts
 Waste-to-energy incinerators: NA megawatts

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FACILITY DESCRIPTIONS

Facility Type: Type II Landfill

Facility Name: City Environmental Svcs., Inc. of Waters (Crawford-Otsego Landfill)

County: Crawford Location: Town T28N Range R8E Section(s) 4

Map identifying location included 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, Inc.

Operating Status (check)

open
_____ closed
 licensed
_____ unlicensed
 construction permit
_____ open, but closure pending

Waste Types Received (check all that apply)

residential
 commercial
 industrial
 construction & demolition
 contaminated soils
 special wastes *
other: _____

* Explanation of special wastes, including a specific list and/or conditions:
not avail.

Site Size:

Total area of facility property: 252.20 acres
Total area sited for use: 252.20 acres
Total area permitted: 79.07 acres
 Operating: 9.7 acres
 Not excavated: 64.87 acres

Current capacity: 8.2 million cubic yards
Estimated lifetime: >20 years
Estimated days open per year: 313 days
Estimated yearly disposal volume: 320,000 gate cubic yards

(if applicable)

Annual energy production:
 Landfill gas recovery projects: NA megawatts
 Waste-to-energy incinerators: NA megawatts

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FACILITY DESCRIPTIONS

Facility Type: Type II Landfill

Facility Name: Elk Run Sanitary Landfill

County: Presque Isle Location: Town T33N Range R2E Section(s) NE1/4 of 5

Map identifying location included 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, Inc.

Operating Status (check)

open
 closed
 licensed
 unlicensed
 construction permit
 open, but closure pending

Waste Types Received (check all that apply)

residential
 commercial
 industrial
 construction & demolition
 contaminated soils
 special wastes *
 other: _____

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

Asbestos

Site Size:

Total area of facility property: 120 acres
Total area sited for use: 42 acres
Total area permitted: 42 acres
 Operating: approx. 3 acres
 Not excavated: approx. 39 acres

Current capacity:

Estimated lifetime: >20 years
Estimated days open per year: 286 days
Estimated yearly disposal volume: 48,000-140,000 gate cubic yards

(if applicable)

Annual energy production:

Landfill gas recovery projects: NA megawatts
Waste-to-energy incinerators: NA megawatts

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FACILITY DESCRIPTIONS

Facility Type: Type II Landfill

Facility Name: Montmorency-Oscoda Joint Sanitary Landfill

County: Montmorency Location: Town R29N Range R3E Section(s) 6

Map identifying location included 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: Montmorency /Oscoda /Alpena Counties

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 type="checkbox"/> contaminated soils
<input type="checkbox"/> open, but closure pending	<input type="checkbox"/> special wastes *
	<input type="checkbox"/> other: _

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

Site Size:

Total area of facility property:	<u>80</u>	acres
Total area sited for use:	<u>80</u>	acres
Total area permitted:	<u>80</u>	acres
Operating:	<u>3-4</u>	acres
Not excavated:	<u>37</u>	acres

Current capacity:	<u>3,500,000</u>	bank cubic yards
Estimated lifetime:	<u>30</u>	years
Estimated days open per year:	<u>310</u>	days
Estimated yearly disposal volume:	<u>145,000</u>	gate cubic yards

(if applicable)

Annual energy production:

Landfill gas recovery projects:	<u>future</u>	megawatts
Waste-to-energy incinerators:	<u>NA</u>	megawatts

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FACILITY DESCRIPTIONS

Facility Type: Type A Transfer Station

Facility Name: Cheboygan Transfer Station

County: Cheboygan Location: Town 38N Range 2W Section(s) 25

Map identifying location included 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: CES Waters Landfill

Public Private Owner: Waste Management, 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 type="checkbox"/> commercial
<input type="checkbox"/> licensed	<input type="checkbox"/> industrial
<u>NA</u> <input type="checkbox"/> unlicensed	<input type="checkbox"/> construction & demolition
<input type="checkbox"/> construction permit	<input type="checkbox"/> contaminated soils
<input type="checkbox"/> open, but closure pending	<input type="checkbox"/> special wastes *
	<input type="checkbox"/> other: _____

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

Site Size:

Total area of facility property: not avail. acres

Total area sited for use: not avail. acres

Total area permitted: _____ acres

Operating: _____ acres

Not excavated: _____ acres

Current capacity: _____

Estimated lifetime: _____ years

Estimated days open per year: not avail. days

Estimated yearly disposal volume: not avail.

(if applicable)

Annual energy production:

Landfill gas recovery projects: NA megawatts

Waste-to-energy incinerators: NA megawatts

II-4 SOLID WASTE COLLECTION SERVICES AND TRANSPORTATION INFRASTRUCTURE

The following describes the solid waste collection services and transportation infrastructure that is utilized within the County to collect and transport solid waste.

Solid Waste Collection Services

Solid waste collection in Emmet County is handled entirely by the private sector, with the exception of some yard waste collection in Petoskey, Harbor Springs and Mackinaw, which is handled by each municipality respectively. Waste collection is subscription based, with several approaches to volume-based pricing currently being used.

Emmet County requires all solid waste haulers operating in the county to meet the terms of a hauler licensing ordinance, with the exception of the townships of Maple River, McKinley, Wawatam, Carp Lake, and the villages of Pellston and Mackinaw City, which have not authorized enforcement of the ordinance in their municipalities. It is estimated that only 12% of the solid waste in Emmet County is not covered by the Solid Waste Ordinance provisions. Requirements of the ordinance include quarterly reporting, disposal of all solid waste at the Emmet County Transfer Station, provision of subscription recycling services in Petoskey and Harbor Springs, establishment of volume based fees, establishment of recycling collection fees at a rate lower than solid waste collection, and availability of corrugated cardboard collection services at a rate lower than solid waste collection.

Service Provider	Service Type	Service Area	Disposal Facility
Walloon Lake Refuse Service (WLRS)	Residential, Commercial; Construction & Demo (C&D)	Southern half of county	Emmet Transfer Station
Top Rank Disposal	Residential, Commercial, Industrial, Construction & Demo	Petoskey, Harbor Springs	Emmet Transfer Station; Top Rank Transfer Station/Glen's Landfill
Waste Management, Inc.	Residential, Commercial, Institutional, Industrial, Construction & Demo	Entire county	Emmet Transfer Station/ Onaway LF

Recycling Collection Services

Service Provider	Service Type	Service Area	Processing Facility
Waste Management, Inc.	Subscription curbside	available to most customers	Emmet Co. Recycling Facility
Emmet County	Drop-off stations; some commercial corrugated	County-wide	Emmet Co. Recycling Facility

Emmet County provides a system of nine recycling drop-off stations located throughout the County and at the transfer station. These unstaffed sites are open 24 hours per day to receive primarily source-separated materials, including three colors of glass, newspaper, phone books,

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hard cover books, #2 HDPE plastics, metal cans, magazines, boxboard, office paper and corrugated cardboard. Prominent, bright green roll-off containers are serviced regularly by a county hook-lift truck and brought to the transfer station processing facility.

Although the County ordinance requires that recycling services be offered by waste haulers, very few households have actually contracted for curbside collection (generally offered at about \$5 per month). Most residents prefer to use the network of 10 drop-off stations. The County services the drop-offs and materials are brought to the recycling processing facility located at the Emmet County Transfer Facility.

Emmet County also provides a household hazardous waste drop-off program, with a household hazardous waste storage building located at the Transfer Station site. Several monthly drop-off collection dates are scheduled each year. Household batteries are also collected at 10 locations throughout the county, primarily at hardware and small appliance stores.

Emmet County is also the home to a largest end-user of plastics. Petoskey Plastics annually recycles some 1,500 tons of post-consumer plastic bags, primarily low density polyethylene, for manufacture into new bags and automotive components such as car seat covers.

Yard Waste Collection Services

The Cities of Harbor Springs and Petoskey and the Village of Mackinaw City provide fall leaf collection, and Petoskey also contracts out for brush chipping for its residents.

Service Provider	Service Type	Service Area	Disposal Facility
City of Petoskey	Spring/Fall leaf collection; seasonal brush chipping (contracted out)	City of Petoskey	Small leaf compost site in Petoskey
City of Harbor Springs	Fall leaf collection	Harbor Springs	Small leaf compost site in Harbor Springs
Village of Mackinaw City	Fall leaf collection Yard waste collection	Village of Mackinaw City	Burn permit from State for site near sewage treatment plant

II-5 EVALUATION OF DEFICIENCIES AND PROBLEMS

The following is a description of problems or deficiencies in the existing solid waste system.

Solid waste collection services are strong overall, but are deficient in some parts of the northern and eastern portions of the County (Cross Village, Larks Lake and Springvale Township) where waste haulers report difficulty in servicing sparsely populated areas where residents may not be putting trash out every week and residents report difficulty in securing consistent services. This situation may be contributing to illegal dumping.

Rapid reduction in the total number of competitive waste collection providers will become a major system deficiency and problems will increase as options for service are expected to decrease, and rates are expected to rise.

In the past two years, the number of licensed haulers in Emmet County under separate ownership has decreased from eight to three.

With the recent closure of the operations of the hauler Three Rs, recycling service opportunities for commercial users were reduced. All haulers operating in the County must be licensed and must offer corrugated pick-up service to all commercial clients, as a condition of that license. Participation by local businesses appears to be limited, perhaps due to how these services are being offered by the haulers, the cost of service that is being quoted and, in many cases, lack of knowledge or information about service options. The County drop-off recycling system, including the County's MRF have helped maintain and increase participation in commercial recycling opportunities.

The closure of Three R's also reduced service opportunities for residential curbside recycling. The County drop-off recycling system has worked very well, but curbside recycling is almost non-existent, even though technically haulers must offer the service as part of their licensing agreement.

Another possible developing problem in the system is the consideration being given by some communities to move to regular bulk item pick-up instead of annual spring clean-up programs. The latter have allowed the County, scrap dealers and scavengers to glean recyclable and possibly hazardous items from the waste stream.

Lack of a regional yard waste facility is emerging as a system deficiency. While Petoskey, Harbor Springs, and the Village of Mackinaw City are collecting leaves in the fall, these communities do not have the ability to handle grass clippings. Petoskey has received numerous citizen complaints regarding their processing site. Failure to address the yard waste processing issue will prevent further diversion of this material and could hinder existing operations.

II-6 DEMOGRAPHICS

The following section presents the current and projected population densities and centers for five and ten year periods, identification of current and projected centers of solid waste generation including industrial solid waste for five and ten year periods as related to the Selected Solid Waste Management System for the next five and ten year periods. Solid waste generation data is expressed in tons or cubic yards, and if it was extrapolated from yearly data, then it was calculated by using 365 days per year, or another number of days as indicated.

Population

The following presents the current and projected population densities and centers for five and ten year periods.

Municipality	1998 population	2003 population	2008 population
Bear Creek township	3,868	4,028	4,172
Bliss township	560	598	635
Carp Lake township	693	739	785
Center township	576	600	622
Cross Village township	233	249	264
Friendship township	686	732	777
Harbor Springs city	1,523	1,472	1,415
Alanson village	726	737	745
Littlefield township	1,894	2,022	2,147
Little Traverse township	2,094	2,235	2,373
Pellston village	621	630	633
McKinley township	668	713	757
Maple River township	770	822	873
Petoskey city	7,025	7,499	7,961
Pleasantview township	435	464	493
Readmond township	434	463	492
Resort township	2,216	2,251	2,275
Springvale township	1,508	1,610	1,709
Mackinaw City village (pt.)	521	542	562
Wawatam township	111	119	126
West Traverse township	1,037	1,054	1,065
EMMET COUNTY TOTAL	28,200	29,580	30,880

II-7 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.

Emmet County is a county with a vision for its long term future development, and the selected solid waste management system relates to that vision.

At 460 square miles, Emmet County is geographically the third smallest county in the State of Michigan. The county is also relatively small in total population, having an estimated 1998 year round population of some 28,200 persons. Resort populations and tourism are major components of the economy, supplemented by a vast array of services, including retail businesses, medical facilities, public services and education. There is a healthy industrial sector, but it has not attained as high a percentage of the total employment as other counties in the region.

Emmet County is comprised of over 309,237 acres, the majority of which is forest land, (Upland 49%, Lowland 12%). Agricultural land also accounts for a large percentage of the county at almost 17 percent of the total acreage compared to only 2.66 percent of the county comprised of Residential, Commercial and Industrial use.

Emmet County	Land use by category					
	Agriculture	Forestry	Industry	Commercial	Residential	Other
Percentage of total	16.82%	61.05%	0.14%	0.25%	2.27%	19.47%
Acres	52,014	188,743	433	773	6,989	60,285

Source: Land Use Acreage by Category Emmet County, Table 3-20 in *Emmet County/City of Petoskey Comprehensive Plan*. July 1997.

While the majority of land base in the county is rural (97.34%), farming, fishing and forestry only account for 2.5% of the employment in the county. The remaining 2.66% of urban acreage contains 97.5% of the economic base.

The county's natural resources have been and continue to be the base from which local community development has built on. With historical roots in hunting, fishing, and timbering, the County's economy gradually evolved into agriculture, mining and commerce with a long tradition of resort and tourist based economic activity. The attractions of the Great Lakes water resources, the rolling landscape, and moderate climate combined, generate a major resort development pattern that is not only historic but accelerated in modern times with the Bay Harbor Development, which occupies some five miles of shoreline on Lake Michigan's Little Traverse Bay.

The vision that Emmet County has for its future is closely tied to the desire of its population to protect and enhance its natural resources. Air and water quality are pivotal to this vision, and it manifests itself in the county's recently adopted Comprehensive Land Use Plan.

The County vision seeks to protect resources as well as to guide land development toward a compact land use pattern, as opposed to low density sprawl on the landscape. Existing community centers have been selected as development resources, around which growth concentrations are being encouraged. The Selected Solid Waste Management System recognizes the goals to protect and enhance water quality and air quality. Adding in county-wide planning processes for land use, it becomes evident that solid waste disposal facilities must compliment the community environment by respecting those resources that are critical to the County's future development.

II-8 SOLID WASTE MANAGEMENT ALTERNATIVES

The Designated Planning Agency (DPA) and the Solid Waste Planning Committee (SWPC) completed a comprehensive strategic planning process that outlined strengths, weaknesses, opportunities, and threats that are part of the current and potential future solid waste management system that services the County. This analysis was used to create goals and objectives which are provided immediately after the Executive Summary. These goals and the strategic analysis formed the basis for developing the solid waste management strategy and the selected alternative that is described in this Plan as the Plan's Enforceable Program and Process as provided for in Part 115, Section 11533 (1) of the Michigan Natural Resources and Environmental Protection Act (NREPA).

In developing the Plan's Enforceable Program and Process the DPA and SWPC first screened out strategies that were technically or economically unsuitable for the County. Certain waste management technologies, incineration, for example, were determined based on historical data for the region to not be economically and technically appropriate for further analysis.

The DPA and SWPC then reviewed a set of remaining solid waste management program strategies in the following eight areas that were viewed as technically and economically feasible:

- Clean Community
- Drop-Off Residential Recycling
- Residential Yard Waste Composting
- Material Transfer and Processing
- Recycling Incentives
- Curbside Residential Recycling
- Commercial Recycling
- Disposal

These program strategies were assembled as six potential System Alternatives that varied by level of landfill diversion, capital and operating cost and implementation requirements:

- A: Basic Waste Collection and Disposal Program
- B: Level 1 Basic Clean Community and Drop-Off Recycling Program
- C: Level 2 Expanded Clean Community and Drop-Off Recycling Program
- D: Level 3 Expanded Clean Community and Curbside Recycling Program
- E: Level 4 Expanded Clean Community and Comprehensive Recycling Program
- F: Level 5 Advanced Recovery System

Each of the six options was then examined based on their key features, advantages, disadvantages, overall performance and cost impact and applicability for the county. These features were evaluated and ranked as they applied to Emmet County.

At this stage in the strategic planning process, some of the Strategic Alternatives were determined to be unsuitable for the County based on the evaluation and ranking of the overall technical and economic feasibility of each approach and its ability to:

- build on the strengths of the local and regional situation,
- address current deficiencies and weaknesses,
- work with organizational approaches that the County is willing to consider,
- be fundable through systems that the County can implement,
- respond to and build community involvement and support,
- be enforceable, and
- set measurable goals that can be tracked to determine progress.

DATA BASE

System Alternatives "A", "B" & "C" were determined to be economically feasible yet inadequate to reach the adopted Plan's Goals and Objectives which incorporate the hierarchy of "reduce, reuse, recycle" consistent with the state solid waste plan and which targeted significant diversion of solid waste from landfill disposal during the planning period. System Alternative "F" was determined to be unachievable during the 10 year planning time frame given the technical and economic constraints of the existing solid waste management system and the current level of organization of system participants. Two of the strategic alternatives ("D" and "E") were further developed as Emmet County System Alternative 1 and Emmet County System Alternative 2, as described below, for further consideration in the strategic planning process.

EMMET COUNTY SYSTEM ALTERNATIVE 1:

Expanded Clean Community and Curbside Recycling Program is adapted from System Option D. Key features include a Clean Community program that operates at highly effective levels. Incentives to recycle boost program performance, increasing tons and lowering unit costs. Expanded recycling drop-off capabilities at a "flagship" site (the Emmet County Recycling/Transfer Facility) increase options for recovering more materials. Further development of curbside programs for cities, villages and towns increase convenience for a larger sector of the population. Commingled recycling processing capabilities as well as commercial recycling services are further developed and increase diversion. C&D recovery services are more closely coordinated with area service providers. Organics management options exist throughout the year with addition of drop-offs for yard waste. A ban on certain materials being landfilled is targeted for 5 years away and is coordinated between the transfer station and other regional disposal options.

EMMET COUNTY SYSTEM ALTERNATIVE 2

Expanded Clean Community and Comprehensive Recycling Program is adapted from System Option E-1. A comprehensive Clean Community program is operating at high level of effectiveness in all sectors. Bans of certain materials at area landfills (and transfer station) kick recycling programs into high gear for increased tonnage and lower unit costs. Incentives to recycle boost program performance, increasing tons and lowering unit costs. The drop-off recycling system is optimized for some cost savings as more convenient recycling opportunities become readily available. Commercial recycling and C&D recycling begin to broaden business opportunities for diversion. 100% of yard waste is diverted from landfill disposal through collection programs or source reduction techniques. Material Recovery Facility/Transfer Station is further developed to maximize system flexibility for cost savings and landfill diversion serving both residential and commercial sectors as well as special C&D waste streams and regional needs of nearby counties. Innovative techniques for increasing diversion or reducing system costs are explored, building a strong foundation for significantly lower reliance on landfills as the primary means of waste management.

THE PLAN'S SELECTED ALTERNATIVE

The strategic planning process was carried through to final conclusions regarding the program strategies that would make up the Plan's Selected Alternative and become the foundation for the Plan's Enforceable Program as required by statute. The strategic planning process included final evaluation and ranking against the criteria as well as surveying of the views of key stakeholders in the planning process, and others considered to be critical to implementation of the plan - primarily local government officials.

DATA BASE

The DPA and SWPC concluded that implementing "Emmet County System Alternative 1" in a year 1 through 4 Phase 1 leading to a year 5 through 10 Phase 2 development of "Emmet County System Alternative 2" was the optimum choice as the Selected Alternative for the Plan's Enforceable Program. This Selected Alternative is described in the balance of the Plan with further detail provided in Appendix A of the Plan. Appendix B of the Plan contains further detail regarding the System Alternatives that were not selected as part of the Plan's Enforceable Program.

III-1 THE SELECTED SOLID WASTE MANAGEMENT SYSTEM

The Selected Solid Waste Management System (Selected System) is a comprehensive approach to managing Emmet County's solid waste and recoverable materials. The Selected System addresses the generation, transfer and disposal of the 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 to area residents and businesses. Proposed disposal area locations 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.

Through the Strategic Planning Process described in the previous section the County has selected a system alternative that is a combination of Alternative 1 and Alternative 2, modified to tailor the program specifics to the County's needs and phased in to allow system development to take place for the complete 10 year planning period. These are now major components of the Plan's Enforceable Program as further described below.

Following is a more detailed description of the specific program elements that are part of the Selected Alternative and the Plan's Enforceable Program and Process provided for in Part 115, Section 11533 (1) of NREPA. Specific details on who will implement the Plan's Enforceable Program are covered in the next section covering the Plan's Authorized Management Program. The timing of implementation of the Plan's Enforceable Program are then provided in the Plan's Timetable for Implementation that follows. The Plan's Enforceable Program, also to be known as the Emmet County Solid Waste Management Program, implemented jointly by units of government within the county in cooperation with other public agencies and private firms will include features as follows:

Phase 1: During Years 1 through 4 of the Planning Period, the County will implement System Alternative 1 as follows:

EMMET COUNTY SELECTED SYSTEM ALTERNATIVE 1 EXPANDED CLEAN COMMUNITY AND CURBSIDE RECYCLING PROGRAM

Expanded Clean Community and Curbside Recycling Program: Key features include a Clean Community program that operates at highly effective levels making sure that disposal and recycling services are provided in all areas of the County. Incentives to recycle boost program performance, increasing tonnage and lowering unit costs. Expanded recycling drop-off capabilities at the Emmet County Recycling/Transfer Facility increase options for recovering more materials. Further work on development of curbside programs for cities, villages and towns is pursued in order to increase convenience for a large sector of the population. This is made possible by continued upgrading of the capabilities of the Recycling/Transfer facility to allow acceptance of recyclables that are more commingled than current practice allows. Commercial recycling is further developed to increase convenience and diversion. Organics management options are made available throughout the year with addition of one or more drop-offs for yard waste. A ban on the collection and disposal of certain materials as solid waste is evaluated and considered for a target period 5 years away, should specific diversion levels not be reached. This is coordinated between the transfer station as well as the landfill used by the transfer station.

Following is a more detailed description of the program elements that are part of this first phase of the Selected Alternative.

EMMET COUNTY SELECTED SYSTEM ALTERNATIVE 1
DETAILED PHASE 1 SYSTEM COMPONENT DESCRIPTIONS

Clean Community:

Comprehensive solid waste collection services would be made available to all households and businesses in the County. Illegal dumping and litter would be policed with enforcement of violations. Spring/fall cleanup days would be provided in more urban areas with scavenging/trading/reuse encouraged and recycling of as many materials left as possible. Household hazardous waste collection services would be provided and expanded to include collection of small quantities of agricultural pesticides and herbicides. Adopt a "____" programs would be organized with volunteers and business/service group sponsorship for periodic cleaning of roadsides, streambanks, lakeshores, parks and forests.

Recycling Incentives:

Proactive education and promotion strategies would encourage responsible solid waste management and strong reduce/reuse/recycle behavior. Pay As You Throw (PAYT) programs would be evaluated, refined and continued to be emphasized throughout the County in all solid waste collection arrangements. Recycling collection programs, as well as drop-offs, would add more materials to encourage overall participation in the programs by more citizens and businesses. A ban on collection and disposal of certain items as solid waste would be evaluated and targeted for a period five years away should specified levels of diversion not be reached. This will provide a further incentive for increased adoption and participation in recovery programs.

Drop-Off Residential Recycling:

The existing network of drop-off sites for recycling would continue to be developed with upgrades to continually improve visibility and user convenience. Adjustments would be made to allow material to be collected in a commingled form to make use of the drop-offs easier - coordinated with development of the capability to process this material at the Recycling/Transfer facility. The current Recycling/Transfer facility would be further expanded into a "flagship" drop-off site that is staffed, has an educational component, and collects the largest number of different types of materials.

Curbside Residential Recycling:

Arrangements would be made with haulers through licensing to make sure that curbside recycling with two stream commingled curbside collection would be available on a subscription basis to all residents in a designated curbside service district. Petoskey and Harbor Springs and surrounding densely populated areas would be included.

Residential Yard Waste Composting:

Fall leaf collection would be provided in all villages/towns/cities. Petoskey, Harbor Springs and the Village of Mackinaw City would continue their current fall collection efforts, with smaller communities including Alanson, Pellston and Levering adding fall leaf collection. Backyard composting would be encouraged through distribution of backyard bins at discount rates. A similar mulching mower program would encourage grass cycling. Permanent drop-off options for yard waste would be provided in the County with one "flagship" site taking all types of yard waste and providing finished compost for distribution to residents. Some wood waste processing would be included with this site. Petoskey may serve as the best location for a "flagship" site that would accept seasonal yard waste throughout the growing season, however, this sort of drop-off could be set up at the transfer station as well.

SELECTED SYSTEM

Commercial Recycling:

The Recycling/Transfer facility would be expanded to serve as a permanent site provided for businesses to drop-off a wide variety of recyclables including commingled containers and commingled paper (as facility modifications are made). A business recycling service district would be established and businesses within the district encouraged to contract for the recycling collection services provided by licensed haulers.

Material Transfer and Processing:

The Recycling/Transfer facility would be expanded to increase its capability to process material that is more commingled than the current system allows. This expanded material recovery facility (MRF) would be available to all recycling collectors in the system and service surrounding counties as well. Commercial recyclables would be able to be tipped at the facility for a reasonable fee that was lower than the tipping fee at area landfills. Some capability would be provided to remove contaminants and small quantities of solid waste from loads of recyclables. Some handling capabilities for construction and demolition material would be added.

Disposal:

Existing landfills in the region would be used with the transfer station serving as the destination for all compacting collection vehicles serving the county, with the exception of Type II solid waste collected within the jurisdiction of municipalities that have not signed on to participate in the Emmet County Solid Waste Ordinance # 20. Arrangements would be made to assure that the most cost effective disposal service was being secured. One or more additional drop-off facilities for solid waste would be available with the transfer station serving as a "flagship" site that took other types of waste (bulky, C&D) as well, recycling these materials to the degree possible.

Phase 2: During Years 5 through 10 of the Planning Period the County will phase in System Alternative 2 as follows:

EMMET COUNTY SELECTED SYSTEM ALTERNATIVE 2 EXPANDED CLEAN COMMUNITY AND COMPREHENSIVE RECYCLING PROGRAM

Key features include a comprehensive Clean Community program expanded to service all sectors of waste generators. Bans on disposal of certain materials at the Recycling/Transfer facility (as well as area landfills) continue to be evaluated on a 1 year implementation timeline in order to continue to boost recycling program tonnage and lower unit costs. Documentation of achievement of specified diversion levels could delay or avoid the bans if desired. Incentives to recycle continue to be strengthened to boost program performance, increasing tons and lowering unit costs. Drop-off recycling system continues to be refined to maximize convenience and to fit with the level of curbside service usage documented in the designated curbside service district. Commercial recycling and C&D recycling begin to broaden business opportunities for diversion. Yard waste diversion from landfill disposal through collection programs or source reduction will reach near 100%. The Material Recovery Facility/Transfer Station is further developed to maximize system flexibility for cost savings and landfill diversion serving both residential and commercial sectors as well as special C&D waste streams and regional needs of nearby counties. Innovative techniques for increasing diversion or reducing system costs are explored, building a strong foundation for significantly lower reliance on landfills as the primary means of waste management.

SELECTED SYSTEM

Following is a more detailed description of the program elements that are part of this second phase of the Selected Alternative.

EMMET COUNTY SELECTED SYSTEM ALTERNATIVE 2 DETAILED PHASE 2 SYSTEM COMPONENT DESCRIPTIONS

Clean Community:

Comprehensive solid waste collection services would continue to be available to all households and businesses in the County. Households in an urban service district would automatically receive the service. Strong illegal dumping and litter policing would continue. Spring/fall cleanup days would be provided in the urban service district with scavenging/trading/reuse encouraged. A permanent hazardous waste collection site would be provided that serviced households as well as agricultural hazardous waste generators and unregulated small quantity hazardous waste generators. Adopt a "____" programs would be further developed with volunteers and business/service group sponsorship for periodic cleaning of roadsides, streambanks, lakeshores, parks and forests.

Recycling Incentives:

Proactive education and promotion strategies would encourage responsible solid waste management and strong reduce/reuse/recycle behavior. Pay As You Throw (PAYT) programs would be widespread throughout the County. Recycling collection programs would add more materials to encourage participation by more citizens and businesses. Selected materials (e.g. OCC) would be considered for a solid waste collection and disposal ban targeted for the end of year 5 should specified levels of diversion not be achieved.

Drop-Off Residential Recycling:

The permanent network of drop-off sites for recycling would be open and available for use all the time with continued development of the "flagship" drop-off site at the Material Recovery Facility/Transfer Station, including supporting educational services and collection of additional materials not serviced by the rest of the drop-off system. Collection of construction waste (C&D) would be added at the "flagship" site.

Curbside Residential Recycling:

Two stream commingled curbside recycling would be automatically provided to all residents in an expanded curbside service district around Petoskey and Harbor Springs as well as resort areas and subdivisions. Use of subscription service outside this district would be strongly encouraged.

Residential Yard Waste Composting:

Seasonal yard waste collection including fall leaf collection would be automatically provided to an urban service district. Backyard composting would be encouraged through distribution of backyard bins at discount rates. A similar mulching mower program would encourage grass cycling. One or more permanent drop-off options for yard waste would be provided in the County with one "flagship" site taking all types of yard waste and providing finished compost for distribution to residents. Selected processing of food waste would be included as well as clean wood waste processing. A central processing site would need to be located and developed.

SELECTED SYSTEM

Commercial Recycling:

The Material Recovery Facility/Transfer Station would continue to be expanded to service businesses that would drop-off a wide variety of recyclables including commingled containers and commingled paper. A business recycling service district would be developed and businesses within the district assisted in arranging an umbrella contract for services.

Material Transfer and Processing:

The Material Recovery Facility/Transfer Station would continue to be expanded to provide services to all recycling collectors in the system. Consideration would be given to upgrading the transfer station by equipping it with a high density (900 to 1,000 lbs/cy) compaction system to allow longer distance waste transfer. The facility would be able to process commingled containers and commingled fibers as well as presorted recyclables like OCC. Commercial recyclables would be able to be tipped at the facility for a reasonable fee that was lower than the tipping fee at area landfills. Mixed loads of commercial solid waste that have a high percentage of recyclable materials would be sorted. Handling capabilities for construction and demolition materials would be expanded.

Disposal:

Compacting collection vehicles would haul to the transfer station, with the exception of Type II solid waste collected within the jurisdiction of municipalities that have not signed on to participate in the Emmet County Solid Waste Ordinance # 20. The Transfer Station then would ship waste to landfills in Northern Michigan that offered the most competitive rates. One or more drop-off facilities for solid waste would be available to complement the "flagship" site at the Material Recovery Facility/Transfer Station that would take other types of waste (bulky, C&D, etc.).

The remainder of the descriptions that follow cover, as required by the Plan Format, the details regarding specific components of the Plan's Enforceable Program and Process, that answer the "who, what, when, where, and how" aspects of the Selected Alternative, including:

- Solid Waste Efforts including:
 - Current and Future Import/Export Authorization and Related Conditions
 - Disposal Areas to be Used in the Plan's Enforceable Program
 - Solid Waste Collection Services and Transportation
- Resource Conservation Efforts, including:
 - Projections of Diversion in Table III-1
 - Waste Reduction, Recycling and Composting Programs
 - Volume Reduction Techniques
- Resource Recovery and Recycling Efforts, including:
 - Overview of Resource Recovery and Recycling Programs
 - Recycling and Composting
 - Details of Current and Future Programs in Tables III-3 through III-8
 - Identification of Resource Recovery Management Entities
 - Projections of Diversion in Table III-9
 - Market Availability in Table III-10
 - Educational and Informational Programs

SELECTED SYSTEM

These aspects of the Plan's Enforceable Program provide sufficient export capacity and specific disposal areas identified to document the necessary 10 years disposal capacity for the Planning Period. Further details on the "who, what, when, where, and how" of the Plan's Enforceable Program then continue with the following sections:

- Timetable for Selected System Implementation
- Siting Review Procedures
- Solid Waste Management Components
- Identification of Responsible Parties
- Local Ordinances and Regulations Affecting Solid Waste Disposal
- Capacity Certifications

II-2 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 QUANTITY according to the CONDITIONS AUTHORIZED in Table 1-A.

Table 1-A: CURRENT IMPORT VOLUME AUTHORIZATION OF SOLID WASTE

IMPORTING COUNTY	EXPORTING COUNTY	FACILITY NAME ¹	AUTHORIZED QUANTITY/DAILY	AUTHORIZED QUANTITY/ANNUAL	AUTHORIZED CONDITIONS ²
Emmet	Charlevoix	NA	NA	NA	NA
Emmet	Montmorency	NA	NA	NA	NA
Emmet	Oscoda	NA	NA	NA	NA
Emmet	Crawford	NA	NA	NA	NA
Emmet	Presque Isle	NA	NA	NA	NA
Emmet	Cheboygan	NA	NA	NA	NA
Emmet	Leelanau	NA	NA	NA	HHW collection, recycling and education as defined in Reciprocal Agreement

_____ Additional authorizations and the above information for those authorizations are listed on an attached page.

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

² Authorization indicated by P = Primary Disposal; C = Contingency Disposal; * = Other conditions exist and detailed explanation is included in the Attachment Section.

SELECTED SYSTEM

If a new solid waste disposal area 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 in Table 1-B.

Table 1-B: FUTURE IMPORT VOLUME AUTHORIZATION OF SOLID WASTE CONTINGENT ON NEW FACILITIES BEING SITED

IMPORTING COUNTY	EXPORTING COUNTY	FACILITY NAME ¹	AUTHORIZED QUANTITY/DAILY	AUTHORIZED QUANTITY/ANNUAL	AUTHORIZED CONDITIONS ²
Emmet	Charlevoix	NA	NA	NA	P*
Emmet	Montmorency	NA	NA	NA	P*
Emmet	Oscoda	NA	NA	NA	P*
Emmet	Crawford	NA	NA	NA	P*
Emmet	Presque Isle	NA	NA	NA	P*
Emmet	Cheboygan	NA	NA	NA	P*

_____Additional authorizations and the above information for those authorizations are listed on an attached page.

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

² Authorization indicated by P = Primary Disposal; C =Contingency Disposal; * = Other conditions exist and detailed explanation is included in the Attachment Section.

SELECTED SYSTEM

Table 1-B Attachments Section

**FUTURE IMPORT VOLUME AUTHORIZATION OF SOLID WASTE
CONTINGENT ON NEW FACILITIES BEING SITED**

* Condition for Future Imports to the County Selected Site:

Up to 100% of Type II and Type III solid waste will be able to be imported from a listed county to a future landfill to be located at the County Selected Site (see Siting Review Procedures Section) and then only if the exporting county and Emmet County sign an intergovernmental contract that includes two key provisions; 1) exporting county must have arranged to provide comprehensive waste management services to their residential households and businesses including recycling services, composting services, household hazardous waste collection services and business waste assessment services; and 2) a specific authorized daily and annual quantity of waste to be imported is negotiated, potentially up to 100% of the Type II and Type III solid waste generated in the exporting county.

SELECTED SYSTEM

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 Table 2-A if authorized for import in the approved Solid Waste Management Plan of the receiving County.

Table 2-A: CURRENT EXPORT VOLUME AUTHORIZATION OF SOLID WASTE

IMPORTING COUNTY	EXPORTING COUNTY	FACILITY NAME ¹	AUTHORIZED QUANTITY/DAILY	AUTHORIZED QUANTITY/ANNUAL	AUTHORIZED CONDITIONS ²
Charlevoix	Emmet	NA	NA	NA	P*
Crawford	Emmet	NA	NA	NA	P*
Montmorency	Emmet	NA	NA	NA	P*
Presque Isle	Emmet	NA	NA	NA	P*
Leelanau	Emmet	NA	NA	NA	P*
Chippewa	Emmet	NA	NA	NA	P*
Manistee	Emmet	NA	NA	NA	P*
Wexford	Emmet	NA	NA	NA	P*
Bay	Emmet	NA	NA	NA	P*
Clare	Emmet	NA	NA	NA	P*
Osceola	Emmet	NA	NA	NA	P*
Muskegon	Emmet	NA	NA	NA	P*
Ottawa	Emmet	NA	NA	NA	P*
Kent	Emmet	NA	NA	NA	P*
Montcalm	Emmet	NA	NA	NA	P*

X Additional authorizations and the above information for those authorizations are listed on an attached page.

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

² Authorization indicated by P = Primary Disposal; C = Contingency Disposal; * = Other conditions exist and detailed explanation is included in the Attachment Section on the following page.

SELECTED SYSTEM

Table 2-A Attachments Section

CURRENT EXPORT VOLUME AUTHORIZATION OF SOLID WASTE

* Condition for Current Exports:

Export of Type II and Type III waste will be allowed to the identified counties only if such waste collected for export is collected in compliance with all applicable laws, ordinances, rules and regulations of the Emmet County Solid Waste Management System, Ordinance and Intergovernmental Agreement consistent with the Plan's Enforceable Program. Construction and demolition waste as well as special industrial waste shall be exempt from these conditions. All other wastes will be exempt from these conditions only on a temporary basis in the event of a temporary shutdown of the solid waste transfer facilities provided for in the selected alternative of the Plan's Enforceable Program and then only until such time that those facilities again begin to operate. The export of solid waste out of the State of Michigan shall be allowed as provided by federal or state law.

SELECTED SYSTEM

If a new solid waste disposal area is constructed and operates in the future in another County, then disposal of solid waste generated by the EXPORTING COUNTY is authorized up to the AUTHORIZED QUANTITY according to the AUTHORIZED CONDITIONS in Table 2-B if authorized for import in the approved Solid Waste Management Plan of the receiving County.

Table 2-B: FUTURE EXPORT VOLUME AUTHORIZATION OF SOLID WASTE CONTINGENT ON NEW FACILITIES BEING SITED

IMPORTING COUNTY	EXPORTING COUNTY	FACILITY NAME ¹	AUTHORIZED QUANTITY/DAILY	AUTHORIZED QUANTITY/ANNUAL	AUTHORIZED CONDITIONS ²
All Michigan Counties	Emmet	NA	NA	NA	P *

 X Additional authorizations and the above information for those authorizations are listed on an attached page.

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

² Authorization indicated by P = Primary Disposal; C =Contingency Disposal; * = Other conditions exist and detailed explanation is included in the Attachment Section on the following page.

SELECTED SYSTEM

Table 2-B Attachments Section

**FUTURE EXPORT VOLUME AUTHORIZATION OF SOLID WASTE
CONTINGENT ON NEW FACILITIES BEING SITED**

* Condition for Future Exports:

Export of Type II and Type III waste will be allowed to the identified counties only if such waste collected for export is collected in compliance with all applicable laws, ordinances, rules and regulations of the Emmet County Solid Waste Management System, Ordinance and Intergovernmental Agreement consistent with the Plan's Enforceable Program. Construction and demolition waste as well as special industrial waste shall be exempt from these conditions. All other wastes will be exempt from these conditions only on a temporary basis in the event of a temporary shutdown of the solid waste transfer facilities provided for in the selected alternative of the Plan's Enforceable Program and then only until such time that those facilities again begin to operate. The export of solid waste out of the State of Michigan shall be allowed as provided by federal or state law.

III- 4 SOLID WASTE DISPOSAL AREAS

The following identifies the names of existing disposal areas which will be utilized to provide the required capacity and management needs for the solid waste generated within Emmet County for the next five years and, if possible, the next ten years. The following pages contain descriptions of the solid waste disposal facilities which are located within the County and the disposal facilities located outside of the 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 as they are sited by this Plan, or amended into this Plan, and become available for disposal. If this Plan update is amended to identify additional facilities in other counties outside the 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.

Export of Type II and Type III waste to any of the facilities identified below that are located outside of Emmet County will be allowed only if such waste collected for export is collected in compliance with all applicable laws, ordinances, rules and regulations of the Emmet County solid waste management system.

Type II Landfill:

Cedar Ridge Landfill

Dafter Sanitary Landfill

Northern Oaks Recycling/Disposal Facility

CES Waters Landfill

Glen's Sanitary Landfill

Montmorency-Oscoda Sanitary Landfill

Elk Run Sanitary Landfill

Wexford County Landfill

Westside Landfill

Harland's Landfill

Venice Park Landfill

Saginaw Valley Landfill

Sexton/White Feather Landfill

Kent County DPW

White Lake Landfill

Autumn Hills Landfill

Ottawa County Farms Landfill

Central Landfill

Type A Transfer Facility:

Emmet County Transfer Station

Cheboygan Transfer Station

Type B Transfer Facility:

Carp Lake Transfer Station

SELECTED SYSTEM

<u>Type III Landfill:</u>	<u>Processing Plant:</u>
	Emmet County Recycling Facility
<u>Incinerator:</u>	<u>Waste Piles:</u>
<u>Waste-to-Energy Incinerator:</u>	<u>Other:</u>

Additional facilities are listed on an attached page. Letters from or agreements with the listed disposal areas owners/operators stating their facility capacity and willingness to accept Emmet County's solid waste are in the Attachments Section.

SELECTED SYSTEM

FACILITY DESCRIPTIONS

Facility Type: Type A Transfer Station

Facility Name: Emmet County Transfer Station

County: Emmet Location: Town T35N Range R5W Section(s) 10

Map identifying location included 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: Cedar Ridge Landfill

Public Private Owner: Emmet County (on state land)

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 type="checkbox"/> construction permit	<input type="checkbox"/> contaminated soils
<input type="checkbox"/> open, but closure pending	<input type="checkbox"/> special wastes *
	<input type="checkbox"/> other: _

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

Site Size:

Total area of facility property:	<u>40</u>	acres
Total area sited for use:	<u>10</u>	acres
Total area permitted:	<u>10</u>	acres
Operating:	<u> </u>	acres
Not excavated:	<u> </u>	acres

Current capacity:	<u> </u>	
Estimated lifetime:	<u> </u>	years
Estimated days open per year:	<u>300</u>	days
Estimated yearly disposal volume:	<u>67,000</u>	compacted cubic yards

(if applicable)

Annual energy production:		
Landfill gas recovery projects:	<u>NA</u>	megawatts
Waste-to-energy incinerators:	<u>NA</u>	megawatts

SELECTED SYSTEM

FACILITY DESCRIPTIONS

Facility Type: Type B Transfer Station

Facility Name: Carp Lake Transfer Station

County: Emmet Location: Town T38N Range R4W Section(s) 2

Map identifying location included 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: Cedar Ridge Landfill or CES Waters Landfill

Public Private Owner: Carp Lake Twp

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 type="checkbox"/> licensed	<input type="checkbox"/> industrial
<u>NA</u> unlicensed	<input type="checkbox"/> construction & demolition
<input type="checkbox"/> construction permit	<input type="checkbox"/> contaminated soils
<input type="checkbox"/> open, but closure pending	<input type="checkbox"/> special wastes *
	<input type="checkbox"/> other: _

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

Site Size:

Total area of facility property: not avail. acres

Total area sited for use: not avail. acres

Total area permitted: _____ acres

Operating: _____ acres

Not excavated: _____ acres

Current capacity: _____

Estimated lifetime: _____ years

Estimated days open per year: not avail. days

Estimated yearly disposal volume: not avail.

(if applicable)

Annual energy production:

Landfill gas recovery projects: NA megawatts

Waste-to-energy incinerators: NA megawatts

SELECTED SYSTEM

FACILITY DESCRIPTIONS

Facility Type: Type A Transfer Station

Facility Name: Cheboygan Transfer Station

County: Cheboygan Location: Town 38N Range 2W Section(s) 25

Map identifying location included 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: CES Waters Landfill

Public Private Owner: Waste Management, 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 type="checkbox"/> commercial
<input type="checkbox"/> licensed	<input type="checkbox"/> industrial
<u>NA</u> <input type="checkbox"/> unlicensed	<input type="checkbox"/> construction & demolition
<input type="checkbox"/> construction permit	<input type="checkbox"/> contaminated soils
<input type="checkbox"/> open, but closure pending	<input type="checkbox"/> special wastes *
	other: <u> </u>

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

Site Size:

Total area of facility property: not avail. acres

Total area sited for use: not avail. acres

Total area permitted: _____ acres

 Operating: _____ acres

 Not excavated: _____ acres

Current capacity: _____

Estimated lifetime: _____ years

Estimated days open per year: not avail. days

Estimated yearly disposal volume: not avail.

(if applicable)

Annual energy production:

 Landfill gas recovery projects: NA megawatts

 Waste-to-energy incinerators: NA megawatts

SELECTED SYSTEM

FACILITY DESCRIPTIONS

Facility Type: Type II Landfill

Facility Name: Cedar Ridge Landfill

County: Charlevoix Location: Town T33N Range R7W Section(s) 19

Map identifying location included 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, 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 type="checkbox"/> construction permit	<input checked="" type="checkbox"/> contaminated soils
<input type="checkbox"/> open, but closure pending	<input checked="" type="checkbox"/> special wastes *
	other: _____

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

Foundry sand and flyash from East Jordan Iron Works.

Site Size:

Total area of facility property:	<u>120</u>	acres
Total area sited for use:	<u>40</u>	acres
Total area permitted:	<u>40</u>	acres
Operating:	<u>21</u>	acres
Not excavated:	<u>0</u>	acres

Current capacity:	<u>approx. 370,000</u>	bank cubic yards
Estimated lifetime:	<u>2.5</u>	years
Estimated days open per year:	<u>260</u>	days
Estimated yearly disposal volume:	<u>311,000</u>	gate cubic yards

(if applicable)

Annual energy production:

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

SELECTED SYSTEM

FACILITY DESCRIPTIONS

Facility Type: Type II Landfill

Facility Name: Dafter Sanitary Landfill

County: Chippewa Location: Town T46N Range R1W Section(s) 33

Map identifying location included 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, 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 type="checkbox"/> contaminated soils
<input type="checkbox"/> open, but closure pending	<input checked="" type="checkbox"/> special wastes *
	other: _____

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

Site Size:

Total area of facility property:	<u>87</u>	acres
Total area sited for use:	<u>43</u>	acres
Total area permitted:	<u>43</u>	acres
Operating:	<u>13</u>	acres
Not excavated:	<u>10</u>	acres

Current capacity:	<u>not avail.</u>	
Estimated lifetime:	<u>8-10</u>	years
Estimated days open per year:	<u>260</u>	days
Estimated yearly disposal volume:	<u>123,000</u>	gate cubic yards

(if applicable)

Annual energy production:		
Landfill gas recovery projects:	<u>NA</u>	megawatts
Waste-to-energy incinerators:	<u>NA</u>	megawatts

SELECTED SYSTEM

FACILITY DESCRIPTIONS

Facility Type: Type II Landfill

Facility Name: Northern Oaks Recycling and Disposal Facility

County: Clare Location: Town T19N Range R4W Section(s) 32

Map identifying location included 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, 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 type="checkbox"/> construction permit	<input checked="" type="checkbox"/> contaminated soils
<input type="checkbox"/> open, but closure pending	<input type="checkbox"/> special wastes *
	<input checked="" type="checkbox"/> other: <u>water treatment filter cake</u>

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

Site Size:

Total area of facility property: 160 acres

Total area sited for use: 76 acres

Total area permitted: 76 acres

Operating: 19 acres

Not excavated: 57 acres

Current capacity: 8,755,100 cubic yards

Estimated lifetime: 43 years

Estimated days open per year: 260 days

Estimated yearly disposal volume: 409,000 gate cubic yards

(if applicable)

Annual energy production:

Landfill gas recovery projects: NA megawatts

Waste-to-energy incinerators: NA megawatts

SELECTED SYSTEM

FACILITY DESCRIPTIONS

Facility Type: Type II Landfill

Facility Name: City Environmental Svcs., Inc. of Waters (Crawford-Otsego Landfill)

County: Crawford Location: Town T28N Range R8E Section(s) 4

Map identifying location included 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, 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 pending	<input checked="" type="checkbox"/> special wastes *
	other: _____

* Explanation of special wastes, including a specific list and/or conditions:
not avail.

Site Size:

Total area of facility property:	<u>252.20</u> acres
Total area sited for use:	<u>252.20</u> acres
Total area permitted:	<u>79.07</u> acres
Operating:	<u>9.7</u> acres
Not excavated:	<u>64.87</u> acres

Current capacity:	<u>8.2 million</u> cubic yards
Estimated lifetime:	<u>>20</u> years
Estimated days open per year:	<u>313</u> days
Estimated yearly disposal volume:	<u>320,000</u> gate cubic yards

(if applicable)

Annual energy production:

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

SELECTED SYSTEM

FACILITY DESCRIPTIONS

Facility Type: Type II Landfill

Facility Name: Glen's Sanitary Landfill

County: Leelanau Location: Town T28N Range 13W Section(s) 35

Map identifying location included 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, 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 pending	<input checked="" type="checkbox"/> special wastes *
	other: _

* Explanation of special wastes, including a specific list and/or conditions:
Asbestos (non-friable)

Site Size:

Total area of facility property:	<u>460</u>	acres
Total area sited for use:	<u>133</u>	acres
Total area permitted:	<u>133</u>	acres
Operating:	<u>14.8</u>	acres
Not excavated:	<u>89.3</u>	acres

Current capacity:	<u>22,000,000</u>	bank cubic yards
Estimated lifetime:	<u>60</u>	years
Estimated days open per year:	<u>264</u>	days
Estimated yearly disposal volume:	<u>300,000</u>	gate cubic yards

(if applicable)

Annual energy production:

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

SELECTED SYSTEM

FACILITY DESCRIPTIONS

Facility Type: Type II Landfill

Facility Name: Montmorency-Oscoda Joint Sanitary Landfill

County: Montmorency Location: Town R29N Range R3E Section(s) 6

Map identifying location included 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: Montmorency /Oscoda /Alpena Counties

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 type="checkbox"/> contaminated soils
<input type="checkbox"/> open, but closure pending	<input type="checkbox"/> special wastes *
	<input type="checkbox"/> other: _____

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

Site Size:

Total area of facility property: 80 acres

Total area sited for use: 80 acres

Total area permitted: 80 acres

Operating: 3-4 acres

Not excavated: 37 acres

Current capacity: 3,500,000 cubic yards

Estimated lifetime: 30 years

Estimated days open per year: 310 days

Estimated yearly disposal volume: 145,000 gate cubic yards

(if applicable)

Annual energy production:

Landfill gas recovery projects: future megawatts

Waste-to-energy incinerators: NA megawatts

SELECTED SYSTEM

FACILITY DESCRIPTIONS

Facility Type: Type II Landfill

Facility Name: Elk Run Sanitary Landfill

County: Presque Isle Location: Town T33N Range R2E Section(s) NE1/4 of 5

Map identifying location included 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: Republic

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 pending	<input checked="" type="checkbox"/>	special wastes *
		<input type="checkbox"/>	other: <u> </u>

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

Site Size:

Total area of facility property:	<u>120</u>	acres
Total area sited for use:	<u>42</u>	acres
Total area permitted:	<u>42</u>	acres
Operating:	<u>approx. 3</u>	acres
Not excavated:	<u>approx. 39</u>	acres

Current capacity:	<u> </u>	
Estimated lifetime:	<u>>20</u>	years
Estimated days open per year:	<u>286</u>	days
Estimated yearly disposal volume:	<u>8,000-140,000</u>	gate cubic yards

(if applicable)

Annual energy production:		
Landfill gas recovery projects:	<u>NA</u>	megawatts
Waste-to-energy incinerators:	<u>NA</u>	megawatts

SELECTED SYSTEM

FACILITY DESCRIPTIONS

Facility Type: Type II Landfill

Facility Name: Manistee County Landfill (Harland's)

County: Manistee Location: Town T21N Range R16W Section(s) 32

Map identifying location included 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: Allied

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 pending	<input checked="" type="checkbox"/> special wastes *
	other: _

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

Site Size:

Total area of facility property:	<u>336</u>	acres
Total area sited for use:	<u>40</u>	acres
Total area permitted:	<u>40</u>	acres
Operating:	<u>40</u>	acres
Not excavated:	<u>13</u>	acres

Current capacity:	<u>1,700,000</u>	bank cubic yards
Estimated lifetime:	<u>14</u>	years
Estimated days open per year:	<u>250</u>	days
Estimated yearly disposal volume:	<u>200,000</u>	gate cubic yards

(if applicable)

Annual energy production:		
Landfill gas recovery projects:	<u>NA</u>	megawatts
Waste-to-energy incinerators:	<u>NA</u>	megawatts

SELECTED SYSTEM

FACILITY DESCRIPTIONS

Facility Type: Type II Landfill

Facility Name: Wexford County Landfill

County: Wexford Location: Town T23N Range R9W Section(s) 33/34

Map identifying location included 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: Wexford County Department of Public Works

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 type="checkbox"/> construction permit	<input checked="" type="checkbox"/> contaminated soils
<input type="checkbox"/> open, but closure pending	<input type="checkbox"/> special wastes *
	<input type="checkbox"/> other: _____

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

Site Size:

Total area of facility property:	<u>146</u>	acres
Total area sited for use:	<u>51</u>	acres
Total area permitted:	<u>51</u>	acres
Operating:	<u>4</u>	acres
Not excavated:	<u>0</u>	acres

Current capacity:	<u>2,000,000</u>	
Estimated lifetime:	<u>12-14</u>	years with proposed vertical expansion
Estimated days open per year:	<u>260</u>	days
Estimated yearly disposal volume:	<u>220,000</u>	gate cubic yards

(if applicable)

Annual energy production:		
Landfill gas recovery projects:	<u>NA</u>	megawatts
Waste-to-energy incinerators:	<u>NA</u>	megawatts

III-5 SOLID WASTE COLLECTION SERVICES & 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.

In Phase 1 of the Plan's Enforceable Program (1998-2003) comprehensive solid waste collection services will be made available to all households and businesses in the County. Proactive steps will be taken to reduce the incidence of illegal dumping and litter and target areas will be policed with enforcement of violations. Spring/fall cleanup days will be provided in more urban areas with scavenging/trading/reuse encouraged and recycling of as many materials left as possible. Household hazardous waste collection services will be provided and expanded to include collection of small quantities of agricultural pesticides and herbicides. Adopt a "____" programs will be organized with volunteers and business/service group sponsorship for periodic cleaning of roadsides, streambanks, lakeshores, parks and forests. A ban on the collection and disposal of certain items as solid waste will be evaluated and targeted for a period five years away, should specified levels of diversion not be reached -- providing incentive for increased adoption of and participation in recovery programs.

All Type II solid waste collected in the County will be transported to the Recycling/Transfer facility. Existing landfills in the region will be used with the transfer station serving as the destination for all compacting collection vehicles serving the county. An exception to this requirement may be made for the Type II solid waste collected within the jurisdiction of municipalities that have not signed an Intergovernmental Agreement with the County authorizing their participation in the Emmet County Solid Waste Ordinance # 20. Competitive bidding will be used to assure that the most cost effective disposal service is being secured by the Recycling/Transfer facility. Waste export by other sources within the County will be authorized as a primary disposal option only if the material is exempt under the terms of this Plan (construction/demolition material and special industrial waste) or if the material is first tipped at the MRF/TS. The County may arrange for one or more additional drop-off facilities for solid waste that will be available with the transfer station serving as a "flagship" site that takes other types of waste (bulky, C&D) as well, recycling these materials to the degree possible.

In Phase II of the Plan's Enforceable Program (2004-2008), the comprehensive solid waste collection services including recycling and yard waste collection will continue to be available to all households and businesses in the County. Households in an urban service district will automatically receive these services. Strong illegal dumping and litter policing will continue. Spring/fall cleanup days will be provided in the urban service district with scavenging/trading/reuse encouraged. A permanent hazardous waste collection site will be provided that services households as well as agricultural hazardous waste generators and unregulated small quantity hazardous waste generators. Adopt a "____" programs will be further developed with volunteers and business/service group sponsorship for periodic cleaning of roadsides, streambanks, lakeshores, parks and forests. Selected materials (e.g. OCC) will be considered for a solid waste collection and disposal ban targeted for the end of year 5 of Phase I, if target levels of diversion aren't achieved.

The Emmet County Transfer Facility will be upgraded by equipping it with a high density (900 to 1,000 lbs/cy) compaction system to allow longer distance waste transfer. Mixed loads of commercial solid waste that have a high percentage of recyclable materials will be sorted with the contaminants removed from the recyclables and transferred with the rest of the solid waste.

During Phase II, all Type II solid waste collected in the County will continue to be transported to the Recycling/Transfer facility. An exception may be made for the Type II solid waste collected within the jurisdiction of municipalities that have not signed on to participate in the Emmet County Solid Waste Ordinance # 20. The transfer station will ship waste to landfills in Northern Michigan that offer the most competitive rates. The County will arrange for one or more drop-off facilities for solid waste that will be available to complement the "flagship" site at the Material Recovery Facility/Transfer Station.

SELECTED SYSTEM

Nothing in this section is intended to prohibit the transport of solid waste generated in Emmet County out of the State of Michigan as provided by federal or state law.

III-6 RESOURCE CONSERVATION EFFORTS:

The following describes the selected system's proposed conservation efforts to reduce the amount of solid waste generated throughout the County. The annual amount of solid waste currently or proposed to be diverted from landfills and incinerators is estimated for each effort to be used, if possible. Since conservation efforts are provided voluntarily and change with technologies and public awareness, it is not this Plan update'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.

The Resource Conservation Efforts will use education and incentives to encourage source reduction, reuse and recycling with the following projected impact in measurable programs and additional impact in source reduction that cannot be measured.

Table III-1: Resource Conservation Effort

Table III-1: Resource Conservation Effort Description	Est. Diversion Tons/Yr		
	Current	5th yr	10th yr
Recycling Drop-off	1,877	1,950	2,000
Curbside recycling	20	140	1,350
Commercial recycling	2,000	4,207	6,587
Yard waste collection	2,300	3,200	3,200
Household hazardous waste collection	5	6	7
Emmet County Totals	6,202	9,503	13,144
% of waste stream diverted	17.2%	24.%	32%

III-7 WASTE REDUCTION, RECYCLING, & COMPOSTING:

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. Since volume reduction is practiced voluntarily and because technologies change and equipment may need replacing, it is not this Plan update'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.

The Plan's Enforceable Program provides for high compaction waste transfer in order to increase the density of loads that are transported to landfills, thus lowering tip fees at those landfills and/or reducing transportation costs. This will reduce the gate yards taken in at these landfills but will not impact bank yards (i.e.: estimated air space conserved in cubic yards) since the final compaction density at landfills is not expected to change. Landfills will use less energy, fuel, etc. to reach those densities, however, which does provide some economic benefit to the landfill owner.

Table III-2 Volume Reduction Techniques Not Applicable

OVERVIEW OF RESOURCE RECOVERY AND RECYCLING PROGRAMS

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

Total waste generation for Emmet County was calculated using pounds per person per day (residential) and pounds per employee per day (commercial and industrial) models. These numbers were compared and reconciled with actual disposal and recovery data to determine a final generation number. Using population projected out over the planning period (adjusted for seasonal population variation) waste generation was then estimated. The County then evaluated various material recovery and waste reduction strategies, and compared actual recovery rates for the current system against what may be possible given new program implementation. With target recovery goals in mind (25+ percent for 2003 and 30+ percent for 2008), the County was able to determine target material tonnage for recovery and then matched actual programs and recovery benchmarks from other communities, needed to meet those goals.

RECYCLING AND COMPOSTING

The following is a brief analysis of the recycling and composting programs selected for the County in this Plan. Additional information on operation of recycling and composting programs is included in Appendix A. The analysis covers various factors within the County and the impacts of these factors on recycling and composting. The tables on pages III-35, 36, & 37 list the existing recycling, composting, and source separation of hazardous materials programs that are currently active in the County and which will be continued as part of this Plan. The second group of three tables on pages III-38, 39, & 40 list the recycling, composting, and source separation of hazardous materials programs that are proposed in the future for the County. It is not the intent of this Plan's update to prohibit additional programs or expansions of current programs to be implemented beyond those listed.

Recycling

XX Recycling programs within the County are feasible. Details of existing and planned programs are included on the following pages.

— Recycling programs for the County have been evaluated and it has been determined that it is not feasible to conduct any programs because of the following:

The following recycling systems would be developed:

Drop-Off Residential Recycling:

The existing network of drop-off sites for recycling will continue to be developed with upgrades to continually improve visibility and user convenience. Adjustments will be made to allow material to be collected in a commingled form to make use of the drop-offs easier - coordinated with development of the capability to process this material at the Recycling/Transfer facility. The current Recycling/Transfer facility will be further expanded into a "flagship" drop-off site that is staffed, has an educational component, and collects the largest number of different types of materials.

SELECTED SYSTEM

Curbside Residential Recycling:

Arrangements will be made with haulers through licensing to make sure that curbside recycling with two stream commingled curbside collection will be available on a subscription basis to all residents in a designated curbside service district. Petoskey and Harbor Springs and surrounding densely populated areas will be included. In the second five years of the program, an effort will be made to shift from these subscription services to contract curbside recycling services for all households in an urban service district that would include Petoskey and Harbor Springs.

Commercial Recycling:

The Recycling/Transfer facility will be expanded to serve as a permanent site provided for businesses to drop-off a wide variety of recyclables including commingled containers and commingled paper (as facility modifications are made). A business recycling service district will be established and businesses within the district encouraged to contract for the recycling collection services provided by licensed haulers.

Material Transfer and Processing:

The Recycling/Transfer facility will be expanded to increase its capability to process material that is more commingled than the current system allows. This expanded material recovery facility (MRF) will be available to all recycling collectors in the system and service surrounding counties as well. Commercial recyclables will be able to be tipped at the facility under fee or payment arrangements that are lower than the tipping fee at area landfills. Some capability will be provided to remove contaminants and small quantities of solid waste from loads of recyclables.

SELECTED SYSTEM

Composting

- Composting programs within the County are feasible. Details of existing and planned programs are included on the following pages.
- Composting programs for the County have been evaluated and it has been determined that it is not feasible to conduct any programs because of the following:

Residential Yard Waste Composting:

Seasonal yard waste collection including fall leaf collection will be automatically provided to an urban service district. Backyard composting will be encouraged through distribution of backyard bins at discount rates. A similar mulching mower program will encourage grass cycling. Permanent drop-off options for yard waste will be provided throughout the County with one "flagship" site taking all types of yard waste and providing finished compost for distribution to residents. Selected processing of food waste may be included as well as clean wood waste processing. A central processing site will be located and developed.

SELECTED SYSTEM

Clean Community

XX Programs for source separation of potentially hazardous materials are feasible and details are included on the following pages:

— Separation of potentially hazardous materials from the County's waste stream has been evaluated and it has been determined that it is not feasible to conduct any separation programs because of the following:

Clean Community Programs:

A permanent hazardous waste collection site will be provided that services households, agricultural hazardous waste generators and unregulated small quantity hazardous waste generators.

TABLE III-1

RECYCLING: Based on Current Programs

<u>Program Name</u>	<u>Service Area</u>	<u>Public or Private</u>	<u>Collection Point²</u>	<u>Collection Frequency³</u>	<u>Materials⁴</u>	<u>Program Management Development</u>	<u>Operation</u>	<u>Responsibilities¹</u>	<u>Evaluation</u>
10-station drop-off	County-wide	Public	d	d	A, B, C, D, E, L, Fl	3	3	3	3
Subscription curbside	Limited	Private	e	b	A, B, C, D, E, L, Fl	5	5	5	5

Additional programs and the above information for those programs are listed on an attached page.

¹ Program Management Responsibilities: 1=Designated Planning Agency; 2= County Board of Commissioners; 3=City/County Departments of Public Works; 4= Environmental Group; 5=Private Owner/Operator; 6=Other

² Collection Point: c=curbside; d=drop-off; o=onsite

³ Collection Frequency: d=daily; b=bi-weekly; m=monthly; Sp=Spring; Su=Summer; Fa=Fall; Wi=Winter

⁴ Material Types: A=Plastics; B=Newspaper; C= Corrugated Containers; D=Other paper; E=Total Glass; Fl=Other materials; G=Grass and Leaves; H=Wood Waste; I=Construction & Demolition; J=Food & Food Processing; K=Tires; L=Total Metals

TABLE III-2

COMPOSTING:

<u>Program Name</u>	<u>Service Area</u>	<u>Public or Private</u>	<u>Collection Point²</u>	<u>Collection Frequency³</u>	<u>Materials⁴</u>	<u>Program Management Responsibilities¹</u>	<u>Evaluation</u>
						<u>Development</u>	<u>Operation</u>
<u>City of Harbor Springs</u>	<u>City of Harbor Springs</u>	<u>Public</u>	<u>c</u>	<u>Fa</u>	<u>L</u>	<u>3</u>	<u>3</u>
<u>City of Petoskey</u>	<u>City of Petoskey</u>	<u>Public</u>	<u>c</u>	<u>Sp/Fa</u>	<u>L, Br.</u>	<u>3</u>	<u>3</u>
<u>Village of Mackinaw City</u>	<u>Village of Mackinaw City</u>	<u>Public</u>	<u>c</u>	<u>Fa</u>	<u>L, Br.</u>	<u>3</u>	<u>3</u>

Additional programs and the above information for those programs are listed on an attached page.

¹ Program Management Responsibilities: 1=Designated Planning Agency; 2= County Board of Commissioners; 3=City/County Departments of Public Works; 4= Environmental Group; 5=Private Owner/Operator; 6=Other

² Collection Point: c=curbside; d=drop-off; o=onsite

³ Collection Frequency: d=daily; w=weekly; b=bi-weekly; m=monthly; Sp=Spring; Su=Summer; Fa=Fall; Wi=Winter

⁴ Material Types: G=Grass; L=Leaves F=Food; Br=Brush; W=Wood; P=Paper; S=Municipal Sewage Sludge; A=Animal Waste/Bedding; M=Municipal Solid Waste

TABLE III-3

SOURCE SEPARATION OF POTENTIALLY HAZARDOUS MATERIALS:

Since improper disposal of nonregulated hazardous materials has the potential to create risks to the environment and human health, the following programs have been implemented to remove these materials from the County's solid waste stream.

Program Name	Service Area	Public or Private	Collection Point ²	Collection Frequency ³	Materials ⁴	Program Management Responsibilities ¹		
						Development	Operation	Evaluation
Emmet County Household Hazardous Waste Collection Program	County-wide	Public	d	4 times per year, by appl. Sp, Su	AR, B1, B2, C, AN, A, P, PS, PH, OT, H, U	3	3	3
Battery collection	County-wide	Public	d	d	B2	3	3	3

¹ Program Management Responsibilities: 1=Designated Planning Agency; 2= County Board of Commissioners; 3=City/County Departments of Public Works; 4= Environmental Group; 5=Private Owner/Operator; 6=Other

² Collection Point: c=curbside; d=drop-off; o=onsite

³ Collection Frequency: d=daily; w=weekly; b=bi-weekly; m=monthly; Sp=Spring; Su=Summer; Fa=Fall; Wi=Winter

⁴ Materials: 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 Products; U=Used Oil; OT=Other Materials

TABLE III-4

PROPOSED RECYCLING:

<u>Program Name</u>	<u>Service Area</u>	<u>Public or Private</u>	<u>Collection Point</u> ²	<u>Collection Frequency</u> ³	<u>Materials</u> ⁴	<u>Program Management Development</u>	<u>Operation</u>	<u>Responsibilities</u> ¹	<u>Evaluation</u>
<u>10-station drop-off</u>	<u>County-wide</u>	<u>Public</u>	<u>d</u>	<u>d</u>	<u>A, B, C, D, E, L</u>	<u>3</u>	<u>3</u>		<u>3</u>
<u>Subscription curbside (years 1-5)</u>	<u>Limited</u>	<u>Private</u>	<u>c</u>	<u>w</u>	<u>A, B, C, D, E, L</u>	<u>3.5</u>	<u>3.5</u>		<u>3.5</u>
<u>Contract curbside (years 1-5)</u>	<u>Urban areas</u>	<u>Private</u>	<u>c</u>	<u>w</u>	<u>A, B, C, D, E, L</u>	<u>3.5</u>	<u>3.5</u>		<u>3.5</u>
<u>Expanded commercial collection</u>	<u>Business districts</u>	<u>Public/Private</u>	<u>o</u>	<u>w, bi, m</u>	<u>B, C, D, FI, H, L</u>	<u>3.4 or 5</u>	<u>3.4 or 5</u>		<u>3.5</u>
<u>Construction/ Demolition drop-off</u>	<u>County-wide</u>	<u>Public/Private</u>	<u>d</u>	<u>d</u>	<u>L, H</u>	<u>3 or 5</u>	<u>3 or 5</u>		<u>3.5</u>

Additional programs and the above information for those programs are listed on an attached page.

¹ Program Management Responsibilities: 1=Designated Planning Agency; 2= County Board of Commissioners; 3=City/County Departments of Public Works; 4= Environmental Group; 5=Private Owner/Operator; 6=Other

² Collection Point: c=curbside; d=drop-off; o=onsite

³ Collection Frequency: d=daily; w= weekly; b=bi-weekly; m=monthly; Sp=Spring; Su=Summer; Fa=Fall; Wi=Winter

⁴ Material Types: A=Plastics; B=Newspaper; C= Corrugated Containers; D=Other Paper; E=Total Glass; FI=Other Materials; G=Grass and Leaves; H=Wood Waste; I=Construction & Demolition; J=Food & Food Processing; K=Tires; L=Total Metals

TABLE III-5

PROPOSED COMPOSTING:

<u>Program Name</u>	<u>Service Area</u>	<u>Public or Private</u>	<u>Collection Point²</u>	<u>Collection Frequency³</u>	<u>Materials⁴</u>	<u>Program Management Responsibilities¹</u>	<u>Development</u>	<u>Operation</u>	<u>Evaluation</u>
<u>City of Harbor Springs</u>	<u>City of Harbor Springs</u>	<u>Public</u>	<u>c</u>	<u>Fa</u>	<u>L</u>		<u>3</u>	<u>3</u>	<u>3</u>
<u>City of Petoskey</u>	<u>City of Petoskey</u>	<u>Public</u>	<u>c</u>	<u>Sp/Fa</u>	<u>L, Br.</u>		<u>3</u>	<u>3</u>	<u>3</u>
<u>Village of Mackinaw City</u>	<u>Village of Mackinaw City</u>	<u>Public</u>	<u>c</u>	<u>Fa</u>	<u>L, Br.</u>		<u>3</u>	<u>3</u>	<u>3</u>
<u>Fall leaf pickup</u>	<u>Urban areas</u>	<u>Public/Private</u>	<u>c</u>	<u>Fa</u>	<u>L, Br.</u>		<u>3</u>	<u>3</u>	<u>3</u>
<u>Yard waste drop-off</u>	<u>County-wide</u>	<u>Public</u>	<u>d</u>	<u>Sp, Su</u>	<u>L, Br, W</u>		<u>3</u>	<u>3</u>	<u>3</u>

Additional programs and the above information for those programs are listed on an attached page.

¹ Program Management Responsibilities: 1=Designated Planning Agency; 2= County Board of Commissioners; 3=City/County Departments of Public Works; 4= Environmental Group; 5=Private Owner/Operator; 6=Other

² Collection Point: c=curbside; d=drop-off; o=onsite

³ Collection Frequency: d=daily; b=bi-weekly; m=monthly; Sp=Spring; Su=Summer; Fa=Fall; Wi=Winter

⁴ Material Types: G=Grass; L=Leaves F=Food; Br=Brush; W=Wood; P=Paper; S=Municipal Sewage Sludge; A=Animal Waste/Bedding; M=Municipal Solid Waste

TABLE III-6

PROPOSED SOURCE SEPARATION OF POTENTIALLY HAZARDOUS MATERIALS:

<u>Program Name</u>	<u>Service Area</u>	<u>Public or Private</u>	<u>Collection Point²</u>	<u>Collection Frequency³</u>	<u>Materials⁴</u>	<u>Program Management Responsibilities¹</u>	<u>Evaluation</u>	
						<u>Development</u>	<u>Operation</u>	
<u>Emmet County Household Hazardous Waste Collection Program</u>	<u>County-wide</u>	<u>Public</u>	<u>d</u>	<u>6 times per year by appt.</u>	<u>AR, BI, B2, C, AN, A, P, PS, PH, H, OT, U</u>	<u>3</u>	<u>3</u>	<u>3</u>
<u>Battery collection</u>	<u>County-wide</u>	<u>Public</u>	<u>d</u>	<u>d</u>	<u>B2</u>	<u>3</u>	<u>3</u>	<u>3</u>

Additional programs and the above information for those programs are listed on an attached page.

1 Program Management Responsibilities: 1=Designated Planning Agency; 2= County Board of Commissioners; 3=City/County Departments of Public Works; 4= Environmental Group; 5=Private Owner/Operator; 6=Other

2 Collection Point: c=curbside; d=drop-off; o=onsite

3 Collection Frequency: d=daily; w=weekly; b=bi-weekly; m=monthly; Sp=Spring; Su=Summer; Fa=Fall; Wi=Winter

4 Materials: 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 Products; U=Used Oil; OT=Other Materials as identified

SELECTED SYSTEM

IDENTIFICATION OF RESOURCE RECOVERY MANAGEMENT ENTITIES:

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

County Department of Public Works (DPW), Public Works Director:

This Department has management responsibilities for promotion and education for all resource recovery programs; operation of the household hazardous waste collection program; oversight and operation of the Solid Waste Transfer Facility; oversight and maintenance for all recycling collection/processing and marketing operations using contracts, franchises or other mechanisms as necessary; administration of the Solid Waste Ordinance requiring licensing and regulation of haulers; contracting and/or franchising for disposal and transportation service for solid waste and household hazardous waste; and provision of general information to the public about solid waste. The DPW also is the responsible agency for administering the solid waste plan.

Public Works Board:

This board has overall fiscal responsibility for management of all solid waste and recycling programs; the Building Committee within the Public Works Board is an oversight committee for new construction or expansion.

Various Service Providers including Waste Management, Inc (USA Waste, United Waste) and Renewable Waste, Inc.:

These private sector and non-profit sector service providers will deliver solid waste and recycling services under the terms of the Plan's Enforceable Program as contained in the Emmet County Solid Waste Management System and organized under the County Ordinance, Rules/Regulations and related contracts. Resource recovery management services from these entities are expected to include corrugated and office paper collection routes for businesses throughout the County; collection of residential, commercial, industrial solid waste; collect and transport solid waste to Solid Waste Transfer Station; and transfer of solid waste from the County Transfer Facility to the landfill.

Various Service Providers for Construction and Demolition Material Collection:

These private sector and non-profit sector service providers may deliver on-site collection of construction and demolition material throughout the county.

Various Landscaping/Nursery Companies:

These private sector and non-profit sector service providers may deliver yard waste collection services and serve as hosts for yard waste drop-off sites.

Cities of Harbor Springs and Petoskey and the Village of Mackinaw City:

These municipalities will operate leaf collection and composting programs and operate wastewater treatment plants.

Environmental Groups:

Tip of the Mitt Watershed Council will help with education and staffing for collection at household hazardous waste collection days.

MSU Cooperative Extension Service will provide education on composting, disposal and recycling of home and agricultural toxics.

SELECTED SYSTEM

PROJECTED DIVERSION RATES:

The following estimates the annual amount of solid waste which is expected to be diverted from landfills and incinerators as a result of the current resource recovery programs and in five and ten years.

<u>Collected Material:</u>	<u>Projected Annual Tons Diverted:*</u>			<u>Collected Material:</u>	<u>Projected Annual Tons Diverted:*</u>		
	<u>Year 0</u>	<u>Year 5</u>	<u>Year 10</u>		<u>Year 0</u>	<u>Year 5</u>	<u>Year 10</u>
A. TOTAL PLASTICS	80	126	199	G. GRASS AND LEAVES	2300	3200	3200
B. NEWSPAPER	795	1259	1993	H. WOOD WASTE			
C. CARDBOARD	1710	2708	4285	I. CONSTR. & DEMO.	0	800	1500
D. OTHER PAPER	758	1197	1900	J. FOOD PROCESSING			
E. GLASS	318	504	797	K. TIRES			
F. OTHER MATERIALS	199	992	1,410	L. TOTAL METALS	119	189	299

*numbers are for residential/commercial recycling only

MARKET AVAILABILITY FOR COLLECTED MATERIALS:

The following 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.

Note that recyclable materials are commodity products and that the actual movement of these materials to end-markets will fluctuate during the course of the plan. In some cases these commodities will only be used in-state due to the weight of the material, high transportation costs and relatively low value per ton. This is frequently the case for yard waste, wood waste and other similar materials. Other materials that have higher levels of demand worldwide will, from time to time, be shipped out-of-state and in some cases out of the country and overseas, as market conditions dictate.

<u>Collected Material:</u>	<u>In-State Markets</u>	<u>Out-of-State Markets</u>	<u>Collected Material</u>	<u>In-State Markets</u>	<u>Out-of-State Markets</u>
A. TOTAL PLASTICS	100 %		G. GRASS AND LEAVES	100 %	
B. NEWSPAPER	100 %		H. WOOD WASTE	100 %	
C. CARDBOARD	100 %		I. CONSTR. & DEMO.	100 %	
D. OTHER PAPER	100 %		J. FOOD PROCESSING	100 %	
E. GLASS	100 %		K. TIRES	100 %	
F. OTHER MATERIALS	100 %		L. TOTAL METALS	100 %	

SELECTED SYSTEM

EDUCATIONAL AND INFORMATIONAL PROGRAMS:

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

<u>Program Topic</u>	<u>Delivery Medium</u>	<u>Targeted Audience</u>	<u>Program Provider</u>
Recycling	Mascot: Emmet the Recycle Robot	General public	<u>Designated Planning Agency (DPA)</u>
Recycling/general solid waste education	Displays at community event	General public	<u>DPA</u>
Recycling, household hazardous waste	Radio public service announcements	General public	<u>DPA</u>
Household Hazardous Waste	Newspaper ads for collection schedules	General public	<u>DPA</u>
Resource exchange for Household Hazardous Waste	Classified ads in newspaper	General public	<u>DPA</u>
General solid waste education	School presentations	School-age children	<u>DPA</u>
General solid waste education, recycling	Tours at Transfer Facility/Recycling Processing Facility	General public; students	<u>DPA</u>
Resource conservation, recycling	Presentations to community groups	General public; businesses	<u>DPA</u>
All programs	Newsletter (several times per year)	General public	<u>DPA</u>
All programs	Internet Web Based Information	General public	<u>DPA</u>
All programs	Brochures, flyers	General public; businesses	<u>DPA, Cooperative Extension</u>
Household hazardous waste	Volunteer program to assist with collection program	Volunteers	<u>DPA</u>

III-8 TIMETABLE FOR SELECTED SYSTEM IMPLEMENTATION

This timetable is a guideline to implement components of the Plan's Enforceable Program. The Timeline gives a range of time in which the component will be implemented such as "1999-2000" or "On-going." Timelines may be adjusted later, if necessary.

Management Components	Timeline
1) Develop/Adopt Implementation Action Plan	1999
2) Amend Intergovernmental Agreements/Ordinance/Rules/Regs	1999
3) Preliminary Program Specifications for Planned Ph I Programs	1999
4) Establish Budgets for Planned Phase I Programs	1999
5) Finalize Any Upgrades to Funding Structure and Mechanisms	1999-2000
6) Initiate all Phase I outreach/education programs	1999-2000
7) Procure all other Phase I system improvements	1999-2000
8) Renegotiate Arrangements for Long Term Disposal Capacity	2002-2008
9) Engineer & construct transfer station/MRF modification	2002-2003
10) Preliminary Program Specifications for Planned Ph II Programs	2002-2003
11) Establish Budgets for Planned Phase II Programs	2002-2003
12) Finalize Any Upgrades to Funding Structure and Mechanisms	2002-2003
13) Trigger Ban on Selected Items from Landfill Disposal	2003-2008
14) Initiate all Phase II outreach/education programs	2003-2008
15) Procure all other Phase II system improvements	2003-2008
16) Data Tracking to Assess Program Performance	Annual/Ongoing
17) Update Implementation Action Plan	Annual/Ongoing

III-9 SITING REVIEW PROCEDURES

The Siting Review Procedures contained in this Plan begins with a description of *Authorized Disposal Area Types* followed by a description of the *Siting Criteria and Process*.

AUTHORIZED DISPOSAL AREA TYPES

Per the requirements of Part 115 Section 11533 of NREPA, this Plan includes an Enforceable Program and process that assures that the nonhazardous waste to be generated in the planning area over the next 10 years will be collected and recovered, processed, and disposed of at disposal areas that comply with state law and rules promulgated by the Michigan DEQ governing the location, design and operation of the disposal areas.

As provided for in Part 115 Section 11537 (a) of NREPA, this Plan demonstrates that the planning area has in excess of 66 months of available disposal capacity and will have in excess of 66 months of available disposal capacity for the duration of the 5 year planning period for which this Plan is provided. As a result, the County may refuse to utilize the siting mechanism contained herein until the County is no longer able to demonstrate 66 months of disposal capacity or until the County amends this Plan to provide for the annual certification process described in Part 115 Section 11538 (4) of NREPA.

This Plan does not include an annual certification process, as provided for in Part 115 Section 11538 (2) of NREPA, since specific disposal areas are identified in this Plan for the five year period after approval of the Plan and, as such, is not required to provide the annual certification process described in Part 115 Section 11538 (4) of NREPA, or the interim siting mechanism described in Part 115 Section 11538 (3) of NREPA.

A: Facilities Included in this Plan:

This Plan's Enforceable Program and process, per the requirements of Part 115 Section 11533 of NREPA, includes new disposal areas within the County as described below. Disposal areas at specific sites identified in this Plan are automatically included in the Plan. Disposal areas without specific sites identified will be sited following the Plan's siting mechanism as provided for in this Chapter as will any changes in type or expansions of any existing disposal area unless provided for elsewhere in this Plan.

A.1: Type II Landfill Disposal Area: A Type II Landfill disposal area, sponsored by the County Department of Public Works is included in the Plan should the Department be unable to identify and secure cost effective long term disposal capacity under contract as provided for under the selected alternative. Sponsorship by the County is defined to mean, at a minimum, ownership or long term lease from state or local government (>20 years) of the land on which the disposal area is located with solid waste directed to the disposal area by ordinance, contract or other similar mechanism as provided for in the Plan's Enforceable Program. Such a Type II Landfill disposal area will be sited following the Plan's siting mechanisms as provided for in this chapter since no specific sites have been identified in the Plan for a Type II Landfill disposal area. No other Type II or Type III Landfill disposal areas may be sited by this Plan.

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A.2: Solid Waste Transfer Station Disposal Area: Any expansion of throughput or processing capabilities of the County's Solid Waste Transfer Station and Recycling Facility at or adjacent to the existing site is automatically considered to be consistent with the Plan and does not need to go through the Plan's siting mechanisms as provided for in this chapter. Relocation of the County's Solid Waste Transfer Station and Recycling Facility to a new disposal area or areas, as described in the Plan's Enforceable Program, constructed with recycling/material recovery capabilities and sponsored by the County, is included in the Plan. Sponsorship by the County is defined to mean, at a minimum, ownership or long term lease from state or local government (>20 years) of the land on which the disposal area is located with solid waste directed to the disposal area by ordinance, contract or other similar mechanism as provided for in the Plan's Enforceable Program. Such a relocation of the Solid Waste Transfer Station disposal area or areas will be sited following the Plan's siting mechanisms as provided for in this chapter since no specific sites have been identified in the Plan for a Solid Waste Transfer Station disposal area. No other Solid Waste Transfer Station disposal areas may be sited by this Plan.

B: Exempt Facilities:

The following types of facilities do not require a construction permit and operating license from DEQ under Part 115 of NREPA.

B.1: Solid Waste Transfer Facility Disposal Area: Part 115 of NREPA specifies that the following types of solid waste transfer facility disposal areas do not require a construction permit and operating license from DEQ if either of the following circumstances exist:

- i: The solid waste transfer facility disposal area is not designed to accept wastes from vehicles with mechanical compaction devices.
- ii: The solid waste transfer facility disposal area accepts less than 200 uncompacted cubic yards per day.

These types of solid waste transfer facility disposal areas are still subject to the Plan's siting mechanism as provided for in this chapter and are still exempt from local zoning.

B.2: Recycling and Compost Processing Facility: A processing facility that processes only source separated materials of any type does not require a construction permit and operating license from DEQ. These types of facilities do not have to be sited by the Plan in order to be constructed and are subject to local zoning. These types of facilities can be sited with the approval of the local unit of government that has jurisdiction over a proposed site with the enforcement of local ordinances, including zoning applicable to that siting being authorized elsewhere in this Plan.

C: Facilities Not Included in this Plan:

A proposal for any other disposal area as defined in Part 115 of NREPA, whether a solid waste transfer facility, incinerator, sanitary landfill, processing plant or other solid waste handling or disposal area utilized in the disposal of solid waste is not included in this Plan and, thus, will not be allowed to trigger the Plan's siting mechanism.

D: Plan Amendment to Include a Facility Not Included in this Plan:

If a proposed facility is not consistent with, or in compliance with this Plan, the facility proposer can request that the County amend the Plan. The procedure to amend this Plan is the same as the process for adopting this Plan, as provided for in Section 115 of NREPA. A request to amend the Plan should be made to the appropriate County Agency identified below. Upon receipt of such a request to amend the Plan, the County shall prepare a budget showing the costs anticipated to amend the Plan. Upon adoption of that Budget by the County Board

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of Commissioners the total amount of that budget shall become the fee charged to consider a proposed amendment to the Plan.

SITING CRITERIA AND PROCESS

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

If a disposal area being considered for development is included in the Plan's Authorized Disposal Area Types, as described above, then the Plan's Siting Review Process can be triggered as follows:

A: Initiating the Plan's Siting Review Process: To initiate the Plan's Siting Review Process, the Applicant shall submit 17 copies of an administratively complete application and the Application Fee to:

Solid Waste Coordinator's Office
Emmet County Department of Public Works
200 Division Street
Petoskey, MI 49770
616 348-0640

The above office will act as the administrator and staffing for the County in this Siting Review Process and will be referred to below as the "Agency".

B: Application Fee: Application Fee Structure: An administratively complete application shall include the Application Fee in the form of a certified check or money order in the amount identified for the type of facility being proposed:

Type of Facility Requiring Permit	Application Fee
Landfill	\$15,000
Incinerator	\$15,000
Processing Facility	\$15,000
Transfer Station	\$4,000

The Application Fees will be used, at the discretion of the County, in evaluating the Application, including but not limited to, 1) staff time spent on the Siting Review Procedures and related tasks, 2) costs of required public meetings and related services, 3) costs for publication and mailing of notices and printing of documents, and 4) costs for consulting fees and other technical assistance as required, related to the Siting Review Process. The above fee schedule may be modified by the County Board of Commissioners at their sole discretion. It is the responsibility of the Applicant to contact the County to determine the current fee amount that must be included with the application.

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

- 1: Type of Facility (landfill, incinerator, processing facility, transfer station)

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- 2: Legal description of all parcels included in the proposed disposal area.
- 3: Name, address and telephone number for:
 - a) The applicant and its parent company, if any;
 - b) Property owner of the site (if different);
 - c) Operator of the proposed disposal area (if different);
 - d) Designer/Engineer of the proposed disposal area; and
 - e) Designated contact for the Siting Review Process.
- 4: A statement that the applicant is the owner of all the parcels involved in the application or, if the owner of any of the parcels is different than the applicant, documentation in the form of land contracts, purchase agreements, or other binding legal instruments which substantiate the applicant's ability to proceed with development and operation of all parcels involved in the application.
- 5: General site location map(s). The general site location map(s) shall include more than one drawing where required for clarity. One set of the general site location map(s) shall be drawn at a scale and of such accuracy that one can readily interpret the general site location map(s). Another set of the general site location map(s) shall be reduced so each sheet shall fit on 8 1/2 by 11 inch, or 8 1/2 by 14 inch, paper. Such general site location map(s) shall be designed and prepared by a registered professional architect, landscape architect, engineer, land surveyor, or community planner. The general site location map(s) shall include the following information:
 - a) The parcel(s) within the general site location map, identified by parcel lines and location including dimensions, angles and size, correlated with the legal description of said parcel(s).
 - b) The scale, north point, boundary dimensions, topography, and natural features such as woodlots, streams, rivers, lakes, drainage and similar features.
 - c) Existing man-made features such as roads, buildings, structures, high tension towers, pipelines, existing utilities such as water and sewer lines, excavations, bridges, culverts, drains and easements, and shall identify adjacent properties and their existing uses including:
 - i) Access roads to the site;
 - ii) Proposed access point(s) to the site;
 - iii) Location of any public use airports licensed by the Bureau of Aeronautics, of the Michigan Department of Transportation, that are within ten thousand (10,000) feet of the proposed active disposal area;
 - iv) Location of public and private water wells within one mile of the proposed active disposal area and showing established/approved wellhead protection areas; and
 - v) Residences, commercial establishments, industries, institutions including schools, churches, hospitals and historic or archaeological sites within one mile of the proposed active disposal area.
 - d) Current zoning at the site and for adjacent land uses.
- 6: A detailed site plan or plans describing, 1) the site as it exists, and 2) the site in use as a solid waste disposal area. The site plan shall include more than one drawing where required for clarity. One set of the site plans shall be drawn at a scale not to be greater than one (1) inch equals twenty (20) feet nor less than one (1) inch equals two hundred (200) feet, and of such accuracy one can readily interpret the site plan. Another set of the site plan shall be reduced so each sheet shall fit on 8 1/2 by 11 inch, or 8 1/2 by 14 inch, paper. Such site plan shall be designed and prepared by a registered professional

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architect, landscape architect, engineer, land surveyor, or community planner. The site plan shall include the following information:

- a) The parcel(s), identified by parcel lines and location including dimensions, angles and size, correlated with the legal description of said parcel(s).
- b) The scale, north point, boundary dimensions, existing topography (at least two (2) feet contour intervals), and existing natural features including woodlots, streams, rivers, ponds, lakes, wetlands, high risk erosion areas, slopes over 25%, beach, sand dunes, drainage and similar features, including:
 - i) One hundred year flood plains (as identified by DNR flood plain maps and as defined in Part 115, Administrative Rules) within the boundaries of the site;
 - ii) Lands regulated under the Farmland and Open Space Preservation Act, 1974, Part 361 of NREPA, as amended, that are within the boundaries of the site;
 - iii) Location of surface water within the boundaries of the site;
 - iv) All wetlands (regulated and non-regulated) within the boundaries of the site;
 - v) Location of drains within the boundaries of the site;
 - vi) Topography information based on USGS datum, or selected on-site elevations; and
 - vii) Soil analysis based on a Modern Progressive Soil Survey of the County. If such survey is not completed for the site, then generalized soil analysis data regarding the soils and their adaptability to the use must be submitted.
- c) Location and boundary dimensions of existing man-made features within the boundaries of the site including buildings, structures, high tension towers, pipelines, water wells, existing utilities including water and sewer lines, excavations, bridges, culverts, drains, easements and any known existing contamination.
- d) The location and boundary dimensions of proposed changes within the boundaries of the site including:
 - i) Solid waste processing and disposal areas;
 - ii) Individual landfill cells (if applicable) with an estimate of volumetric air space capacities and when individual cells would be developed during the life of the facility;
 - iii) On site roads, driveways, sidewalks and other vehicular and pedestrian circulation features within and adjacent to the site, including staging area for trucks waiting to use the facility, parking spaces in the off-street parking areas and the identification of service lanes and service parking;
 - iv) Main and accessory buildings, their relation to one another and to any existing structures on the site, the height of all buildings and square footage of floor space, finished floor and grade line elevations;
 - v) Open spaces, landscaping and buffering and security features, greenbelts, fences and walls;
 - vi) Connections to existing utilities and proposed extensions thereof;
 - vii) Soil erosion and sediment control measures including preventative soil erosion devices or measures, both during and after any site work related to the development, when required;
 - viii) Interior and exterior areas and structures to be used for storage, use, loading/unloading, recycling, or disposal of hazardous substances;

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- ix) Underground and above ground storage tanks for such uses as fuel storage, waste oil holding tanks, chemical storage, hazardous waste storage, collection of contaminated stormwater or wash water, and all similar uses;
 - x) Exterior and interior drains, on-site sewage systems, dry wells, catch basins, retention/detention areas, sumps and other facilities designed to collect, store or transport stormwater or wastewater including point of discharge for all drains; and
 - xi) Any other man-made features not specifically described above.
- e) Conceptual engineering plans for construction of the facility.
- 7: A written narrative that shall include the following information:
- a) Name and type of solid waste facility.
 - b) General description of the facility and how it functions (for informational purposes in the Permit Review Process) including the types and quantities of waste to be delivered to the facility, the targeted service area (e.g. communities, major commercial and industrial establishments, institutions, and waste haulers) for the facility, useful life and capacities of the facility, description of how each type of material will be handled at the facility, the eventual disposition of the materials to be handled by the facility, the proposed operating schedules (days and hours), a description of any resource recovery, recycling and composting activity planned for the site, the expected employment of the facility, a discussion of the economic and engineering feasibility of the final use plan for the site, and the applicant's rationale for developing the facility.
 - c) Summary of the results of the DEQ advisory analysis (if completed), with responses to any points raised in the advisory analysis and a copy of the advisory analysis attached as an exhibit.
 - d) Summary of the results of an Environmental Permits Checklist (with a copy attached as an exhibit), with discussion regarding any required permits along with current permit status documentation including either copies of received permits attached as exhibits, letters of intent to approve and issue a permit, letters of understanding for concurrent approval (issuing a permit) from those agencies or summary of discussions held with authorities responsible for issuing those permits. The site plans should be drawn to show design/placement as required for compliance with each of the applicable permits. Permits to be covered where applicable include:
 - i) Well permit;
 - ii) Type II water supply permit;
 - iii) Type III water supply permit;
 - iv) On site sewage disposal permit;
 - v) Soil erosion permit;
 - vi) Land division or subdivision approval;
 - vii) Waste disposal, storage or monitor wells permit(s);
 - viii) Sand dune mining permit;
 - ix) Permit to cut forest products;
 - x) Forestry use or special use permit;
 - xi) Easements for utilities and public agencies (on state or federal lands);
 - xii) Dam construction permit;
 - xiii) Certificate of Public Convenience and necessity for pipelines;
 - xiv) Air quality installation and operating permits;
 - xv) National Pollutant discharge elimination system permit;
 - xvi) Groundwater discharge permit;
 - xvii) Wastewater collection and treatment facilities construction permit;
 - xviii) Great Lakes Shorelands permit;

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- xix) Inland Lakes and Streams permit; and
 - xx) Wetlands permit.
- e) An inventory of public services (fire protection, sewer, water, sanitation, emergency services/response, quasi-public utility companies (gas, electric, telephone) showing:
 - i) Public services which are required by the solid waste facility; and
 - ii) Public services which exist to service the site of the solid waste facility.
 - f) Statements relative to the impact of the proposed development on soil erosion, shoreline protection, wildlife habitat, air pollution, water pollution (ground and surface), noise, and the scale of development in terms of the surrounding environment.
 - g) Other narrative statements necessary which specifically address the siting standards listed in part two of this chapter.
 - h) Other narrative statements necessary regarding design and operation of the proposed facility in response to applicable requirements of County and local ordinances and rules/regulations.

D: Step One: Application Review - Administratively Complete Finding: Upon receipt of an application the Agency shall review the application and determine if the application is complete. The Agency shall complete a checklist documenting the satisfactory submittal of each item required in an administratively complete application or noting the specific area that is not satisfactory. The checklist shall then be provided to the Applicant should additional information be required. This shall be completed within 60 days of submission of the Application. If the Agency does not make a finding on whether the Application is either complete or not complete within the 60 days then the application automatically proceeds to the next step below.

E: Step Two: Application Review - Engagement of Review Committee: Upon receipt of an Application, the Agency shall notify the County Board of Commissioners (Board) who shall appoint the Solid Waste Facility Siting Committee (SWFSC) as described below. In the absence of an appointed SWFSC the County Board shall serve in its place.

The SWFSC will consist of membership as defined in Attachment A to this Plan Siting Mechanism. The County Board or designee shall call for the first meeting of the SWFSC and, upon election of the Chairperson, the Chair shall officially convene each meeting of the SWFSC. The SWFSC will be dissolved when either the Application is deemed inconsistent with the Plan, or the Michigan DEQ has issued the facility an operating permit (or, in the case of a Type B Transfer Station Disposal Area, the facility receives its building permits and all required inspections from the local government with jurisdiction over the site). The County Board shall make provisions for appropriate staff and technical resources through the Application Fee, or other funding mechanisms as may be identified.

The SWFSC will then review the Application as guided by this Permit Review Process and the Minimum Standard Siting Criteria contained in Attachment B to this Siting Review Process.

F: Step Three: Application Review - Public Notice of First SWFSC Meeting: Within 10 days of the determination of an administratively complete application, or the creation of the SWFSC, whichever is later, the Agency shall set a date for the first SWFSC meeting and mail agendas.

- a) The agenda shall be mailed to the routine list of recipients of County agendas as well as:
 - i) The applicant;
 - ii) The owners of the property for which approval is being considered;

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- iii) The owners of any property within 300 feet of the boundary of the property for which approval is being considered, as shown by the latest equalization roll;
 - iv) All occupants of structures within 300 feet of the property in question. If the name of an occupant is not known, the term "occupant" may be used in the notice. Notification need not be given to more than one (1) occupant of a structure, except that, if a structure contains more than one (1) dwelling unit or spatial area owned or leased by different individuals, partnerships, businesses or organizations, one (1) occupant of each unit or spatial area shall receive notice. In the case of a single structure containing more than four (4) dwelling units or other distinct spatial areas owned or leased by different individuals, partnerships, businesses, or organizations, notice may be given to the manager or owner of the structure who shall be requested to post the notice at the primary entrance to the structure;
 - v) The chief elected official of the municipality the site is proposed to be located in;
 - vi) Members of the SWFSC;
 - vi) Any other notification required by the Michigan Open Meeting Act; P.A. 267 of 1976, as amended; and
 - vii) Any other notification required by Part 115 of NREPA.
- b) The agenda shall indicate:
- i) The applicant;
 - ii) The property which is the subject of the application;
 - iii) The date, time and location of the first SWFSC meeting;
 - iv) The order of business for the meeting with action items identified; and
 - v) A short overview of the Site Review Process.
- c) The agenda shall be sent out at least 10 days prior to the date of the meeting.

G: Step Four: Application Review - First SWFSC Meeting: Within 30 days of the determination of an administratively complete application, the SWFSC shall hold its first meeting.

- a) The SWFSC shall elect a chair and vice chair as the first order of business at the first meeting.
- b) At, or prior to the meeting, the Agency shall distribute the Application to the SWFSC along with documentation of it being administratively complete.
- c) The SWFSC shall make an initial discussion of the Application.
- d) The Agency shall then communicate its work plan for background review of the Application and preliminary scoring against the Minimum Standard Siting Criteria.
- e) The SWFSC shall then establish a date for their formal review and consideration of the Application.
- f) Public comment will then be received and the meeting adjourned.

H: Step Five: Application Review - Agency Evaluation of Application: Within 80 days of the first SWFSC meeting, the Agency shall complete its review of the Application and prepare a written review of the Application, including preliminary findings and scoring of the Application against the Minimum Standard Siting Criteria provided in Attachment B to this Siting Mechanism.

I: Step Six: Application Review - Meeting to Consider Application: Within 90 days of the first SWFSC meeting, the SWFSC shall meet to formally consider the Application.

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- a) The agenda shall be mailed to the routine list of recipients of County agendas as well as the list specified in E (a) above.
- b) The agenda shall indicate:
 - i) The applicant;
 - ii) The property which is the subject of the application;
 - iii) The date, time and location of the SWFSC meeting for formal consideration of the Application;
 - iv) The order of business for the meeting with action items identified;
 - v) A short overview of the Site Review Process; and
 - vi) When and where written and verbal public comments can be delivered.
- c) A meeting packet, containing a copy of the Agency's written review of the Application, including preliminary findings and scoring of the Application against the Minimum Standard Siting Criteria, shall accompany the agenda for the following recipients of the agenda:
 - i) The applicant;
 - ii) The owners of the property for which approval is being considered;
 - iii) The owners of all property within 300 feet of the boundary of the property for which approval is being considered, as shown by the latest equalization roll;
 - iv) All occupants of structures within 300 feet of the property in question. If the name of an occupant is not known, the term "occupant" may be used in the notice. Notification need not be given to more than one (1) occupant of a structure, except that, if a structure contains more than one (1) dwelling unit or spatial area owned or leased by different individuals, partnerships, businesses or organizations, one (1) occupant of each unit or spatial area shall receive notice. In the case of a single structure containing more than four (4) dwelling units or other distinct spatial areas owned or leased by different individuals, partnerships, businesses, or organizations, notice may be given to the manager or owner of the structure who shall be requested to post the notice at the primary entrance to the structure;
 - v) The chief elected official of the municipality the site is proposed to be located in;
 - vi) Members of the SWFSC; and
 - vii) Any individuals that have made a request in writing to the Agency to receive the meeting packet.
- d) The agenda and meeting packet shall be sent out at least 10 days prior to the date of the meeting.
- e) Notice of the meeting shall be published in a newspaper which circulates in the municipality the site is proposed to be located in and shall be mailed or personally delivered to the newspaper fifteen (15) days prior to the date the application will be considered. The Notice shall include information on where the meeting packet can be viewed.
- f) At the meeting, the Agency shall present its findings resulting from completing the work plan for background review of the Application and preliminary scoring against the Minimum Standard Siting Criteria.
- g) The SWFSC shall then complete a discussion of the findings of the Agency in their review of the Application and preliminary scoring against the Minimum Standard Siting Criteria. The result of these discussions will be a vote by the SWFSC on the final scoring of the Application against the Minimum Standard Siting Criteria.
- h) Applications that do not meet the Minimum Standard Siting Criteria will be determined inconsistent with and not in compliance with the Plan and will not undergo further evaluation. Applications that do meet the Minimum Standard Siting

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Criteria will be determined to be consistent with and in compliance with the Plan. The written findings shall be communicated to the Michigan DEQ and the Applicant.

J: Step Seven: Application Review - Notification of Finding: Within 15 days of the conclusion of the formal SWFSC meeting to consider the Application, the Agency shall provide its recommendations to the County Department of Public Works Board (DPW Board) for the final consistency determination. If an Application is found to be consistent with the Plan, formal notice will be forwarded to the Michigan DEQ with a copy to the Applicant. If an Application is found to be not consistent with the Plan formal notice will be forwarded to the Applicant. If formal notice is not provided to the Applicant within 160 days from the initial determination of an administratively complete application, then the Application shall automatically be considered by the County to be consistent with the Plan whether or not such notice is provided to the Michigan DEQ by the County, unless both parties mutually agree in writing to extend this 160 day requirement for action. The Michigan DEQ will then make the final determination, to the extent provided for in Part 115 of NREPA, as part of its review of the Construction Permit application.

K: Step Eight: Application Review - Followup: The SWFSC shall receive formal written notice from the County Agency at the time that the Applicant receives its Construction Permit from the Michigan DEQ or is rejected for that Construction Permit and at the time that the Applicant receives its Operating License. At the discretion of the chair or a simple majority of the members of the SWFSC it will reconvene as needed during this period (before its final dissolution 10 days after the Operating License is issued or after rejection of the Application by Michigan DEQ).

Attachment A to Plan Siting Mechanism Definition of the Facility Siting Committee

The SWFSC will consist of membership as defined below:

- 1 Person representing environmental concerns
- 1 Person representing the County Soil Conservation Service
- 1 Person representing the County Board of Public Works
- 1 Person representing the County Planning Commission
- 1 Person representing the County Road Commission
- 1 Person representing the Regional Solid Waste Planning Agency
- 2 Persons representing the municipality in which the facility site is proposed including the chief elected official or designee
- 2 Persons from any municipality located within three (3) miles of the active work area of the proposed site including the chief elected official or designee, and another representative from that municipality. Only one (1) of these persons will be a voting member, the other will be an ex-officio member. In the event that more than one municipality is located within three (3) miles of the active work area of the proposed site, then these municipalities will together choose only one person to be a voting member to represent these municipalities, and each municipality will designate one (1) ex-officio member.

The representatives from the County Road Commission and from the local municipality(s) will be selected by that agency and government(s), respectively. The names of the selected individuals will be submitted to the County Board for confirmation of appointment. All other members of the SWFSC will be appointed by the County Board.

The County Board or designee shall call for the first meeting of the SWFSC and, upon election of the Chairperson, the Chair shall officially convene each meeting of the SWFSC.

The SWFSC will be dissolved when either the Application is deemed inconsistent with the Plan, or 10 days after the Michigan DEQ issues an Operating License to the Applicant (or, in the case of a Type B Transfer Station Disposal Area, the facility receives its building permits and all required inspections from the local government with jurisdiction over the site).

Attachment B to Plan Siting Mechanism Minimum Standard Siting Criteria

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

MINIMUM STANDARD SITING CRITERIA EVALUATION CHECKLIST

	YES	NO	CRITERION (See detailed descriptions following checklist)
A			Site Ownership
B			Frontage on Appropriate Roads
C			Distance from Wetlands
D			Distance from Farmland and Open Space Part 361 NREPA Lands
E			Distance from Designated Historic Sites
F			Distance from 100 Year Flood Plains
G			Distance from Designated Wellhead Protection Zones
H			Distance from Water, Beaches, Utility Easements, Public Right of Way
I			Distance from Water Well Serving a Dwelling
J			Distance from Specified Building Types
K			Distance from Land Conservancy Parcels
L			Distance from Schools and Educational Establishments
M			Distance from Certain Recreational Facilities
N			Distance from MDEQ Natural Features Inventory Lands
O			Distance from Specified Types of Natural Resource Lands
P			Distance from Certain Additional Recreational Lands
Q			Distance from a Licensed Public Use Runway
R			Design Incorporates Certain Setback Requirements w/Signed Statement
S			Analysis Submitted Documenting Availability of Required Public Services
T			Signed Statement to Abide by Certain Regulatory Requirements
U			Written Agreement to Abide by Certain Non-locational Zoning Requirements

PRIMARY SITING CRITERIA DETAILED DESCRIPTIONS

- A. The site and respective parcel must be owned by the applicant or under long term lease (20 years or greater) from a state agency.
- B. The proposed site has frontage on or direct access to a paved county primary road or state trunk line which is designed to handle the type and volume of additional traffic associated with the facility.
- C. No part of the site and respective parcel(s) is located within or less than 100 feet from a regulated wetland as defined by Part 303 of P.A. 451 of 1994, as amended (being the Wetlands part of the Michigan NREPA, M.C.L. 324.30301 *et. seq.*).

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- D. No part of the site and respective parcel(s) is located within or less than 100 feet from land enrolled under the Farmland and Open Space Preservation Act, 1974, Part 361 of NREPA.
- E. No part of the site and respective parcel(s) is located within or less than 100 feet from land that is a designated historic or archaeological area as defined by the State Historic Preservation Officer (SHPO) or by local historic preservation districts.
- F. No part of the site and respective parcel(s) is located within or less than 100 feet from one hundred year flood plains (as identified by Michigan DNR flood plain maps and as defined in the Part 115 Administrative Rules).
- G. No part of the site and respective parcel(s) is located within or less than 100 feet from the boundary edge of a Wellhead Protection Zone established around municipal Type I public water supplies as created pursuant to a Wellhead Protection Program established, or being established under Michigan Wellhead Protection guidelines unless the disposal area to be located on the site and respect parcel(s) is a Solid Waste Transfer Station.
- H. No part of the active work area of the site is located within or less than 100 feet from the boundary edge of:
 - 1. Any surface water;
 - 2. Beach contiguous to a lake or stream;
 - 3. Existing public utility easements; and
 - 4. Existing public rights-of-way.
- I. No part of the site and respective parcel(s) is located within or less than 300 feet from a water well which services a dwelling (which is drilled by a licensed well driller and a well log is filed with the Geological Survey Division of the DEQ and district Health Department) in existence on the date the disposal area application was found complete.
- J. No part of the site and respective parcel(s) is located within or less than 300 feet from dwellings, duplexes, apartment buildings, hospital, medical care facilities and foster care facilities in existence on the date the disposal area application was found complete.
- K. No part of the site and respective parcel(s) is located within or less than 300 feet from lands which are held by a land conservancy or which have development restrictions held by a land conservancy, either of which were in existence on the date the disposal area application was found complete..
- L. No part of the site and respective parcel(s) is located less than one half mile from the boundary edge of schools and education establishments in existence on the date the disposal area application was found complete.
- M. No part of the site and respective parcel(s) is located less than one half mile from the boundary edge of certain recreation facilities, unless the proposed facility is only an enclosed solid waste transfer station or processing facility disposal area in which case the required distance will be 300 feet:

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1. Snowmobile and all terrain vehicle trails which are marked and signed and receive care, grooming with public funds;
 2. Horse, bicycle, hiking and ski trails which are marked and signed and receive care, grooming with public funds;
 3. Abandoned rail road right-of-ways when owned by a railroad company or a public agency;
 4. The parcel boundary of state game area;
 5. The parcel boundary of municipal and county parks with recreation facility improvements;
 6. A national park or recreation area designated by the U.S. Department of Interior;
 7. A national scenic river designated by the U.S. Department of Interior; and
 8. A special interest area as designated by the U.S. Forest Service.
- N. No part of the site and respective parcel(s) is located within or less than one half mile from land listed on the MDNR Natural Features Inventory, as determined by the MDNR through the Environmental Review process for compliance with Act 365, Endangered Species Protection, of the NREPA as amended unless the proposed facility is only an enclosed solid waste transfer station or processing facility disposal area in which case the required distance will be 300 feet.
- O. No part of the site and respective parcel(s) is located within or less than one half mile from land regulated under parts 351 through 361 of P.A. 451 of 1994, as amended (being the Wilderness and Natural Areas, Sand Dunes, Biological Diversity, Natural Beauty Roads, Sanctuaries, Farmland and Open Space preservation part of the Michigan NREPA, M.C.L. 324.35101 *et. seq.* through 324.35101 *et. seq.*) and part 511 of P.A. 451 of 1994, as amended (being the Commercial Forests part of the Michigan NREPA, M.C.L. 324.51101 *et seq.*) unless the proposed facility is only an enclosed solid waste transfer station or processing facility disposal area in which case the required distance will be 300 feet.
- P. No part of the site and respective parcel(s) is located less than one mile from the boundary edge of certain recreation lands unless the proposed facility is only an enclosed solid waste transfer station or processing facility disposal area in which case the required distance will be 300 feet:
1. The parcel boundary of a state park;
 2. The licensed area of public and private campgrounds licensed by the District Health Department;
 3. The parcel boundary of day, summer and retreat camps;
 4. Federally designated wild and scenic river corridors;
 5. State designated natural river's water's edge; and
 6. The parcel boundary of arboretums or sanctuaries established under statute.

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- Q. No part of the site and respective parcel(s) is located less than 10,000 feet from the boundary edge of a licensed public use airport runway(s), unless the proposed facility is only an enclosed solid waste transfer station or processing facility disposal area.
- R. Applicant's Proposal demonstrates that the facility, as designed and constructed, will incorporate the following setback, buffering, screening and service access requirements and includes a written and signed statement from the Applicant indicating that they will abide by and remain in compliance with these requirements at all times. Submittal by the applicant of this signed statement is required to meet this criteria:
- 1: For facilities which are landfill disposal areas or landfill disposal area expansions, a vegetation belt, buffer, screening and service access area shall meet standards which are not less than:
 - a: Vegetation Belt: A vegetation belt of 100 feet from the parcel line toward the center of the parcel will be maintained in natural vegetation to provide visual screening from roads and adjacent property. The vegetation belt will not include any improvements, buildings, fences, except for an entrance drive(s), utilities and identification signs.
 - i: If the site, prior to the date of application, has mature forest cover it will be maintained within this vegetation belt except for the entrance drive, utilities;
 - ii: If the site, prior to the date of application, does not have mature forest cover, or mature forest cover is lost at any time during the operation of the facility, then the mature forest will be established by planting a variety of native forest species under consultation of a professional forester. The planting will be designed with use of appropriate species to have fast maturing trees to have a mature forest as soon as possible and species which will be mature trees with a long life span; and
 - iii: The mature forest cover will be maintained by the landfill operator and will not be removed.
 - b: Buffers: Toward the center of the landfill property, but not within the 100 foot vegetation belt, a buffer shall be established which will include an earth berm. The berm shall:
 - i: Be eight (8) feet, or more, higher than the original grade within the buffer area;
 - ii: Not be sloped greater than one (1) unit vertical for each of the same two (2) units horizontal; and
 - iii: Be covered with a healthy grass, lawn, ground cover or other indigenous vegetation.
 - c: Service Access Area: Toward the center of the Landfill property, but not within the 100 foot vegetation belt, or buffer will be established a minimum of a ten (10) foot wide service access area maintained between the berm and nearest edge of the landfill's active fill area.
 - 2: For facilities which are not landfill disposal areas, a vegetation belt, buffer, screening and service access area shall meet standards which are not less than:
 - a: Vegetation Belt: A vegetation belt of five (5) feet from the parcel line toward the center of the parcel will be maintained in woody plant vegetation to provide visual screening from roads and adjacent property. The vegetation belt will not include any improvements, buildings or fences except for an entrance drive(s), utilities and identification signs.
 - b: Buffers: Measuring toward the center of the disposal area property, but not within the 5 foot vegetation belt, a buffer shall be established which:

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- i: Shall not be occupied by any structure, storage of equipment, materials, operations, or similar activities;
 - ii: Shall consist of the following for any side of the parcel that is adjacent to an industrial or commercial zoned area:
 - a buffer area setback of fifty (50) feet, or
 - a berm four (4) feet or more high, not sloped greater than (1) vertical for each of the same two units horizontal, or
 - a solid wall four (4) feet or more, in height, or
 - a proportionately adjusted combination of all the above.
 - iii: Shall consist of the following for any side of the parcel that is adjacent to all other uses:
 - a buffer area setback of one hundred (100) feet, or
 - a buffer area setback of fifty (50) feet followed by a berm four (4) feet or more high, not sloped greater than (1) vertical for each of the same two units horizontal, or
 - a buffer area setback of twenty-five (25) feet followed by a solid wall four (4) feet or more, in height.
- c: No Service Access Area is required.
- S. An analysis has been submitted that defines the public services which are required by the solid waste disposal area, inventories existing public services (fire protection, sewer, water, sanitation, County emergency services/response, and utilities including gas, electric, telephone, etc.) available at the site boundaries and that documents that the existing public services are the same as or exceed the public services required by the solid waste disposal area. Submittal by the Applicant of this analysis is required to satisfy this criteria. The adequacy of the submittal will not be used to determine if this criteria has been satisfied.
- T. Applicant has submitted a written and signed statement that the disposal area will abide by and remain in compliance with any applicable part of the Michigan Subdivision Control Act, Michigan Soil Erosion and Sedimentation Control Act, Michigan Construction Code, applicable state air and water pollution standards, local wellhead protection ordinances, applicable building codes, state and local health codes, local noise ordinances and local junk ordinances as determined with the advice of appropriate state and local officials and as specified in Section III of the Solid Waste Plan, Local Ordinances and Regulations. Submittal by the Applicant of this signed statement is required to satisfy this criteria. The adequacy of the submittal will not be used to determine if this criteria has been satisfied.
- U. Applicant has submitted a written and signed statement that the disposal area will abide by and remain in compliance with any applicable part of the respective zoning ordinance's regulations dealing with: parcel size, road frontage, setback requirements, buffering and screening, off street parking, signs, as specified in Section III of the Solid Waste Plan, Local Ordinances and Regulations, but not subject to zoning regulation of location of a solid waste disposal area as a land use. Submittal by the Applicant of this signed statement is required to satisfy this criteria. The adequacy of the submittal will not be used to determine if this criteria has been satisfied.

III-10 SOLID WASTE MANAGEMENT COMPONENTS

The following identifies the management responsibilities and institutional arrangements necessary for the implementation of the Plan's Enforceable Program and Process. 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.

STRENGTHS OF THE CURRENT MANAGEMENT SYSTEM

Some key components of the organizational and management structure required to develop a suitable funding mechanism to implement the selected alternative are already in place and include:

- The County Department of Public Works as the designated implementation agency, with its Director and staff and supporting County administrative leadership.
- The County Department of Public Works Board (DPW Board) as the oversight committee and as an official body with fiduciary responsibility to oversee the details of development and operation of the County's current system including responsibility for development and adoption of an annual strategic plan and budget.
- The statutory authorities and powers of the County Department of Public Works as provided for by Michigan law, enabling it to support implementation of the selected alternative with appropriate legal, management and financial capabilities.
- The County DPW Board's authority to create subcommittees to address specific issues in program implementation as needed.
- The assignment, via existing intergovernmental contracts, of certain powers and responsibilities to the County DPW by local units of government in the County.
- The Emmet County Solid Waste Ordinance No. 20, that takes these powers and responsibilities and structures the basic framework of the solid waste and recycling system for the County solid waste management system.
- The Administrative Rules for the Emmet County Solid Waste Ordinance No. 20 that prescribes in greater detail the specific components of the system.
- The Hauler Licensing Agreements authorized by the Ordinance and Administrative Rules.
- The facility designation arrangements authorized by the Ordinance and Administrative Rules for solid waste.
- The County DPW's management/operational staff that oversee County programs.
- The County DPW's contracting capability for operating programs (e.g. household hazardous waste services).

The current organizational and management structure as just described is deemed to be consistent with the Plan and is authorized as the basis for further development of the Plan's Management Component with all the assignment of powers able to be provided for by the Plan.

FURTHER DEVELOPMENT OF THE MANAGEMENT COMPONENT

The Authorized Management Component builds on the County's current organizational and management structure including the County's solid waste ordinance, system of intergovernmental agreements, contractual arrangements for plan implementation and all related

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features. Further development of the Plan's Authorized Management Component is provided for as part of the Plan's Enforceable Program and Process.

Further development of this organizational and management structure as part of the Plan's Authorized Management Component is provided for as part of the Plan's Enforceable Program. These developments may take a number of forms and will only be initiated after an evaluation of the best steps that can be taken to build on the strengths of the current system already in place. These steps will be detailed in an "implementation action plan" that the Plan's Implementation Agency will coordinate development of in order to provide for necessary details required to carry out the Plan's Enforceable Program. These action steps are expected to follow some, if not all, of the following description of an enhanced management system that will provide for a method of funding the selected alternative, including the continued upgrading of the Material Recovery Facility/Transfer Station (MRF/TS) as identified in the selected alternative, as well as implementation of all other aspects of the Selected Alternative.

Every effort will be made during further development of the Management Component, to build a system that is supportive of and enables development of similar services and management capabilities throughout the region out-of-county.

- A: User fees should continue to be a primary revenue source for the system. Examples of this current practice are the haulers that pay for tipping solid waste at the transfer station, and residential/commercial generators that pay for collection services through monthly or quarterly fees or pay-per-bag. Expanding services as proposed in the Selected Alternative result in additional user fee opportunities whether at a small solid waste drop-off in a more rural part of the County, at a new yard waste processing center in the County, or at the transfer station as new materials (e.g. construction/demolition) are able to be handled.

Where possible, any user fee paid for solid waste services (collection, transfer or disposal) will include "pay as you throw" (PAYT) features that result in the generator incurring additional costs as volumes of solid waste increase. The County Ordinance and Administrative Rules provide for these features. The Plan reinforces and authorizes this capability.

- B: Bundling of other system costs into solid waste user fees will continue, consistent with current practices. An evaluation of the Planned Program costs will need to be completed to determine what effect this will have on the current user fee structure and what, if any, changes will be needed to that structure. This bundling of system costs, similar to a surcharge on solid waste collected and/or disposed, is a proven mechanism for raising operating and capital funds to cover program administration, recycling drop-off system, recycling processing, household hazardous waste programming, as well as other system components. An added benefit is the ability, where appropriate, to offer alternatives to solid waste disposal with no additional user fee that would discourage use of the service. In this way, use of recycling services or household hazardous waste collection programs is maximized. Again, the current Ordinance and Administrative Rules structure is capable of providing this feature to the County's programs.
- C: Leveraging of contributed resources will continue, with the best example being the use of corrections labor at the recycling facility. This saves money for the County and area residents and businesses, while also providing a valuable community rehabilitation service. Increased tonnage that is projected during the planning period will mean additional staffing requirements. Every effort will be made to work with the corrections agencies to draw on their labor resources to the maximum extent possible. Discussions, well in advance of any planned expansions, will be completed to open up opportunities by giving these agencies time to plan accordingly for necessary changes.

Arrangements for drop-off sites will be assessed and carefully maintained in order to assure their availability for the full planning period.

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- D: Landfill disposal contract(s) will be evaluated and competitively bid (or re-negotiated) to maximize use of system funds. Solid waste transfer and disposal are the primary costs in the system. To the degree possible these negotiations will include, 1) arrangements for a long-term price for disposal, for the ten-year Planning Period, that factors in adjustments to that rate to reflect downturns in disposal rates in a larger regional market, 2) a tipping fee surcharge structure that works with adjacent counties that may want to use Emmet County's recycling facility, yet at the same time is set up to recognize that Emmet's equivalent of a surcharge is already collected in advance of final disposal, and 3) use of Emmet's recycling capabilities to process material collected at the landfill and hauled back to the recycling facility.
- E: Contracts with other major generators/user groups will be negotiated to bring in additional user fee revenue streams and also provide (through longer contract terms of 5-10 years) the type of security needed to fund additional capital improvements at the recycling facility. User groups that will be approached include nearby counties that have expressed an interest in these services as well as larger generators in the region such as major resorts (Bay Harbor, etc.) that will benefit from the services the recycling facility can provide.
- F: Bond financing will be an option that will be investigated, depending on the final details of how the overall system is structured, to raise the required capital for solid waste, recycling, and composting system improvements.
- G: Revenues from material sales will continue to contribute, as they have in the past, towards the overall operating budget for the system. Conservative accounting practices and a "revenue fund" approach will be used to build and maintain a revenue fund balance that offsets periods of low market pricing for recyclables and also provides a source of additional capital funds during longer periods of high market pricing for recyclables.
- H: Consideration will be given to building County program capacity, to provide collection services for recyclables beyond the current network of drop-off sites that are managed, to determine if it will be more cost effective for citizen's and businesses to contract directly with the County DPW for certain services rather than contract with haulers whose core business is solid waste management, not recycling. This will include consideration of services such as providing additional drop-offs (in the county, outside of the county, or at special use sites such as campgrounds, marinas or other public sites), pickup services for commercial businesses interested in recycling, and possibly curbside recycling.
- The DPW will also evaluate, in an effort to maintain competitive and comprehensive waste services, a facilitating role in providing services by acting as a contracting agency, taking advantage of the contracting and franchising provisions in Michigan municipal law, and soliciting proposals/bids from interested private for-profit or not-for-profit entities to provide comprehensive solid waste management services. These contracting arrangements will be structured to be compatible with and supportive of the County's ordinance and intergovernmental agreements.
- I: Further steps will be taken to access the fundraising capabilities of private giving and foundations. A "friends of Emmet County recycling", or equivalent, will be enabled in order to leverage additional private donations from individuals, estates, and foundations, as well as corporations and other granting agencies that can strengthen the overall program across the County. These efforts will also be targeted at providing support for education and promotion of clean community initiatives, reduce/reuse/recycle programming and, in some cases, capital funds for informational exhibits, displays, educational facilities and school programs. As well, this structure will be used for channeling volunteer time and overall community good-will to assure that funds are available to cover costs of quality programming that is supported by the public.

IMPLEMENTATION OF THE MANAGEMENT COMPONENT

The following key steps will be taken to further develop the Management Component as needed to implement the selected alternative and the Plan's Enforceable Program:

- A: The Department of Public Works is established in this Plan as the "designated implementation agency" to take responsibility for necessary program development through public and private sector channels, working with the Department of Public Works Board (DPW Board) and key stakeholders in the implementation process. The DPW will be provided with continued staffing, supporting technical resources, as well as a budget and all required delegated responsibilities in order to accomplish its task. Where appropriate, every effort will be made to link this implementation capability with other regional efforts out-of-county. As well, other alternate approaches for implementation will be allowed for, should they be determined to be necessary, including 1) a multi-governmental Authority organized as provided for in Michigan law; 2) a quasi-governmental consortium, with staff provided by its member agencies (County and Cities); 3) a newly created non-profit agency; or 4) an existing non-profit agency.
- B: The role, powers and authority of the DPW Board will be further defined as a committee that functions as the Plan's "implementation oversight committee" and is assigned the responsibility to facilitate program development through public and private sector channels, advising the DPW, the County Board of Commissioners and key stakeholders on the implementation process. The DPW Board will serve as the focal point for encouraging intergovernmental cooperation, regional collaboration and private sector participation, as well as involving the local business sector and community groups.
- C: The DPW will develop a comprehensive "Implementation Action Plan" covering all aspects of Solid Waste Plan program implementation, where specific milestones will be identified for the coming years -- serving as a road map to guide the Implementation Oversight Committee and the designated implementation agency. This action plan will have a strong emphasis on "planning to plan" in order to define required decisions, important decision factors, and expected timing/outcomes, all consistent with the Plan's Enforceable Program and Process as provided by statute, but at a level of detail required for actual task assignments with coordination and accountability for measurable outcomes. The action plan format will also provide for a means to be updated on a regular basis, based on the monitoring of progress towards plan goals and targeted diversion rates and a mechanism for feeding these updates into the ordinance/contract structure, should they need to be changed.
- D: The intergovernmental contracts between the County and participating local units of government will be amended to allow implementation of the next steps in the system development as described above. Ordinance changes will follow, as required for implementation of the Plan's Enforceable Program. Amendments to the Intergovernmental Agreements and Ordinance are authorized by this Plan, which will not need to be updated to reflect the amendments to the Agreements and Ordinance as long as such amendments are in compliance with relative provisions of Part 115 of NREPA.

A negotiation process will be initiated with communities in the County to identify and resolve specific issues that need to be addressed before the communities are expected to sign amended intergovernmental agreements. These communities, as well as other key parties affected by the planned programs, will be asked to participate in discussions on implementation details, scheduling and coordination issues. This process will include discussions and decisions about the various roles to be played by the public and private sectors in system implementation. The resulting recommendations will then be incorporated into the Implementation Action Plan and the Plan Management Component legal/financing mechanisms, to the degree that they support implementation of the Plan's Enforceable Program. This process also will involve negotiations with nearby counties

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interested in working with the County on various program areas (e.g. recycling processing) on a regional basis so that these details can be worked out and incorporated into the Implementation Action Plan.

- E: System improvements, new services, required contract/licensing structures and processing facility expansions will be further detailed, incorporated into the Implementation Action Plan and then implemented. The implementation is expected to be handled by private and/or non-profit or other governmental agencies, with service contracts being the principal means to define expected performance and the necessary flow of funds. In addition to updating the intergovernmental contract, County Ordinance and the hauler licensing and facility designation contracts, it is expected that service contracts will be needed for any recommended service zones or franchise arrangements. Other contracts will be needed for purchased services such as the upgraded household hazardous waste program, as well as other program components.
- F: Upon implementation, progress will be tracked through methodical data compilation and analysis in order to measure, on an annual basis, overall waste generation, reduction and recycling, benchmark performance against goals, and target future implementation planning. Regular updates of system performance and new goals will be incorporated into the continuously updated Implementation Action Plan as they develop.

III-11 IDENTIFICATION OF RESPONSIBLE PARTIES

Document which entities within the County will have management responsibilities over the following areas of the Plan.

Emmet County Board of Commissioners: The County Board is responsible for the overall supervision of the solid waste management system for the county, acting through its Board of Public Works and Department of Public Works (DPW).

Board of Public Works: This board is comprised of members appointed by the County Commissioners and elected officials and has responsibility for oversight of regulatory, fiduciary and operational matters relating to the County solid waste ordinance, Emmet County Recycling Center and Transfer Station, and all related resource recovery programs run by the DPW. This includes oversight of hauler licensing arrangements, and other services, as required by the ordinance.

Department of Public Works: This office, which has a director reporting to the Board of Public Works, provides day-to-day management of County solid waste management programs. This includes providing recycling and composting outreach and education; coordinating operation of the household hazardous waste collection; implementation and administration of the County solid waste ordinance; operation and maintenance of recycling collection, processing and materials marketing; contract management and grant administration; operation of the Transfer Facility; and providing general information to the public.

Solid Waste Management Planning Committee (SWMPC): The Emmet County SWMPC is responsible for updating the County five-year and 10-year Solid Waste Management Plan. The SWMPC is also responsible to the County Board to assist in the approval process of the plan.

Municipal and Township Governments: Local units of government who have entered into an intergovernmental agreement, for certain solid waste handling and designation provisions.

Private Solid Waste Companies: Private sector waste companies provide for collection of solid waste as defined in the County solid waste licensing ordinance. Private sector entities also operate scrap metal recovery, wood grinding, concrete rubbleizing and other recovery activities.

The following lists which entities within the County that will have management responsibilities over various areas of the Plan:

Resource Conservation:

Responsible Parties

- Source or Waste Reduction - Department of Public Works (DPW)
- Product Reuse - DPW/private/non-profit and waste generators
- Reduced Material Volume - DPW and waste generators
- Increased Product Lifetime - DPW and waste generators
- Decreased Consumption - DPW and waste generators

Resource Recovery Programs

Responsible Parties

- Composting - Emmet County DPW
Petoskey Department of Public Works
Harbor Springs Department of Public Works
Mackinaw City Department of Public Works
Private waste companies
- Recycling - DPW, Public Agencies & Private companies
- Energy Production - not applicable

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Volume Reduction Techniques:

DPW and waste generators

Collection Processes:

DPW, Public Agencies & Private waste companies

Transportation:

DPW, Public Agencies & Private waste companies

Disposal Areas:

Processing Plants -
Incineration -
Transfer Stations -
Sanitary Landfills -

DPW, Public Agencies & Private waste companies
not applicable
DPW
not applicable

Ultimate Disposal Area Uses:

DPW

Local Responsibility for Plan

Update Monitoring & Enforcement:

DPW

Educational and Informational Programs:

DPW

Documentation of acceptance of responsibilities is contained in Appendix D.

III-12 LOCAL ORDINANCES AND REGULATIONS AFFECTING SOLID WASTE DISPOSAL

- X 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 the manner in which they will be applied described.

There are two principal areas where the County's Solid Waste Management System is authorized to include ordinance provisions and appropriate rules and regulations. These are:

- A. Selected provisions of the Siting Mechanism contained in this Plan cover ancillary construction details and operational aspects of any permitted facility that is sited within the County. These provisions are considered to be consistent with the Plan and are enabled and authorized by the Plan including any ordinance and related rules and regulations required to implement them which may be adopted and implemented by the appropriate governmental unit without additional authorization from, or formal amendment to, the Solid Waste Management Plan. These include and are limited to the following:
- a. Certain ancillary construction details,
 - b. Hours of operation,
 - c. Noise, litter, odor and dust controls as well as other site nuisances,
 - d. Operating records and reports,
 - e. Facility security and safety,
 - f. Monitoring requirements for wastes accepted, banned or prohibited, and
 - g. Volume reduction, recycling and composting requirements.
- B. The Plan's Enforceable Program and Process, including the Authorized Management Component, the Authorized Export conditions, and the Plan's authorized Ordinance provisions, will be carried out through the County's system of intergovernmental contracts, Emmet County Ordinance 20 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 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 NREPA with regards to the location of disposal areas.

- X 2. This Plan authorizes adoption and implementation of local regulations governing the following subjects by the indicated units of government without further authorization from or amendment to the Plan.

Regulations meeting these qualifications may be adopted and implemented by the appropriate governmental unit without additional authorization from, or formal

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amendment to, the Solid Waste Management Plan. Allowable areas of local regulation, beyond those specified elsewhere in this document, include:

- a. Certain ancillary construction details,
- b. Hours of operation,
- c. Noise, litter, odor and dust controls as well as other site nuisances,
- d. Operating records and reports,
- e. Facility security and safety,
- f. Monitoring requirements for wastes accepted, banned or prohibited, and
- g. Volume reduction, recycling and composting requirements.

III-13 CAPACITY CERTIFICATIONS

Every County with less than ten years of capacity identified in their Plan is required to annually prepare and submit to the DEQ 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.

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

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

The table below identifies landfill disposal areas, their expected life, historical usage rates, and supporting analysis that demonstrates that the County will have more than ten years of disposal capacity for the duration of the ten year planning period. These facilities have all been included in the Plan and appropriate export arrangements made.

Identified Disposal Area Capacity	Available Air Space (Gate CY)	Gate CY Delivered 1995/96	Landfill Life (in yrs) Based on 1995/96 Delivery Rates	Landfill Life (in yrs) Based on 1995/96 Rates w/2% Growth
Manistee (Allied)	7,000,000	151,083	74	60
Glen's (WMI)	22,000,000	278,469	126	102
Cedar Ridge (WMI)	370,000	279,593	2	2
Ken's (WMI)	140,000	77,020	3	2
Wexford	2,000,000	215,027	15	12
CES Waters (WMI)	8,200,000	217,314	60	49
TOTAL	39,710,000	1,218,506	52	42

The calculations of landfill life assume that 20% of available air space is lost to cover and liner components and that gate cubic yards to in-place compaction is 50%. Available air space and delivery rates are based on information provided by landfills either to the State of Michigan or directly to Resource Recycling Systems, Inc.. Available air space for Manistee (Allied) was estimated based on the site that is currently approved in the County Plan and assuming approximately 2 million cubic yards per 40 acres with 2 million cubic yards for overfill, minus 1 million cubic yards for existing filled space.

APPENDICES

**APPENDIX A: ADDITIONAL INFORMATION REGARDING THE
SELECTED SYSTEM**

**APPENDIX B: ADDITIONAL INFORMATION REGARDING THE
NON-SELECTED SYSTEMS**

APPENDIX C: PUBLIC PARTICIPATION AND APPROVAL

APPENDIX D: PLAN IMPLEMENTATION STRATEGY

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. This is essential for ensuring the integrity of the financial statements and for providing a clear audit trail. The records should be kept up-to-date and should be easily accessible to all relevant parties.

2. The second part of the document outlines the various methods used to collect and analyze data. These methods include interviews, surveys, and focus groups. Each method has its own strengths and weaknesses, and it is important to choose the most appropriate method for the specific research objectives. The data collected should be analyzed carefully to identify any trends or patterns that may be significant.

3. The third part of the document discusses the importance of maintaining accurate records of all transactions. This is essential for ensuring the integrity of the financial statements and for providing a clear audit trail. The records should be kept up-to-date and should be easily accessible to all relevant parties.

4. The fourth part of the document outlines the various methods used to collect and analyze data. These methods include interviews, surveys, and focus groups. Each method has its own strengths and weaknesses, and it is important to choose the most appropriate method for the specific research objectives. The data collected should be analyzed carefully to identify any trends or patterns that may be significant.

5. The fifth part of the document discusses the importance of maintaining accurate records of all transactions. This is essential for ensuring the integrity of the financial statements and for providing a clear audit trail. The records should be kept up-to-date and should be easily accessible to all relevant parties.

6. The sixth part of the document outlines the various methods used to collect and analyze data. These methods include interviews, surveys, and focus groups. Each method has its own strengths and weaknesses, and it is important to choose the most appropriate method for the specific research objectives. The data collected should be analyzed carefully to identify any trends or patterns that may be significant.

7. The seventh part of the document discusses the importance of maintaining accurate records of all transactions. This is essential for ensuring the integrity of the financial statements and for providing a clear audit trail. The records should be kept up-to-date and should be easily accessible to all relevant parties.

8. The eighth part of the document outlines the various methods used to collect and analyze data. These methods include interviews, surveys, and focus groups. Each method has its own strengths and weaknesses, and it is important to choose the most appropriate method for the specific research objectives. The data collected should be analyzed carefully to identify any trends or patterns that may be significant.