

Leelanau County Planning and Community Development

113 S. Grand Ave.
P.O. Box 546
Leland, MI 49654-0546
Phone: (231) 256-9812 or
Toll Free (866) 256-9711
Fax: (231) 256-0174

Trudy J.C. Galla, AICP
Planning Director

Sarah J. Lucas
Senior Planner

Karen J. Gleason
Secretary

Ron W. Crummel
Housing Coordinator

February 10, 2003

Michigan Department of Environmental Quality
Attn: Lyn Dumroese, Environmental Quality Analyst
Waste & Hazardous Materials Division
PO Box 30241
Lansing MI 48909-7741

Dear Ms. Dumroese:

Enclosed please find a copy of the reciprocal agreement between Leelanau County and Manistee County and an Excerpt from the January 21, 2003 Board of Commissioners minutes. The agreement was approved subject to a joint meeting being held between the 2 counties and Leelanau County urging Manistee County to secure funding for their recycling program. Both of these contingencies have been met.

This document should now be included as part of the Leelanau County Solid Waste Management Plan.

If you have any questions, please do not hesitate to contact me. Thank you.

Sincerely,



Trudy J.C. Galla, AICP,
Planning Director

Office of Leelanau County Clerk

*County Building
301 E. Cedar St.
P.O. Box 467
Leland, Michigan 49654*

Michelle L. Crocker
County Clerk
Clerk of Circuit Court

*Phone (231) 256-9824
Fax (231) 256-8295*

**EXCERPT
LEELANAU COUNTY BOARD OF COMMISSIONERS
REGULAR SESSION – JANUARY 21, 2003
Tentative Minutes – Meeting taped**

Meeting called to order by Chairman Hawley at 7:00 p.m.

Pledge of Allegiance led by Chairman Hawley.

Roll Call:	District #1 – Jean I. Watkoski	PRESENT
	#2 – Mark Walter	PRESENT
	#3 – Richard A. Schmuckal	PRESENT
	#4 – Mary P. Tonneberger	PRESENT
	#5 – Thomas F. Evans	PRESENT
	#6 – Robert L. Hawley	PRESENT
	#7 – Melinda C. Lautner	PRESENT

...

CONSENT ITEMS:

MOTION BY SCHMUCKAL TO APPROVE CONSENT ITEMS #1 - #10 AS PRESENTED ON THE AGENDA. SUPPORT EVANS.

- 01. Reciprocal agreement between Manistee and Leelanau Counties. THAT THE RECIPROCAL AGREEMENT BETWEEN MANISTEE AND LEELANAU COUNTY BE APPROVED AS PRESENTED, SUBJECT TO JOINT MEETING BEING HELD BETWEEN MANISTEE AND LEELANAU COUNTY OFFICIALS, AND ALSO TO URGE MANISTEE COUNTY THAT THEY SECURE FUNDING FOR THEIR RECYCLING PROGRAM.**


...

AYES – 7 NO – 0

MOTION CARRIED.

State of Michigan
County of Leelanau

I, Michelle L. Crocker, Clerk of said County and Clerk of Circuit Court for said County, the same being a Court of record having a seal, do hereby certify that the above is a true copy/excerpt of the Record now remaining in my office and of the whole thereof. In Testimony whereof, I have hereto set my hand and affixed the seal of the Circuit Court the 22nd day of January 2003.


Michelle L. Crocker, Leelanau County Clerk

SOLID WASTE RECIPROCAL AGREEMENT

WHEREAS, Manistee County, as well as all counties in the State of Michigan, are required by Part 115 of Act 451, P.A. 1994, to update the current Solid Waste Plan, and;

WHEREAS, Manistee County and Leelanau County are responsible for the final deposition of all waste generated in their respective counties, and;

WHEREAS, Part 115 of Act 451, P.A. 1994, as amended, requires that both the receiving and the sending county's solid waste management plan include the mechanism for a signed agreement between the two counties prior to any shipment of solid waste;

THEREFORE, BE IT RESOLVED, THAT Manistee County will agree to accept solid waste from Leelanau County so long as Manistee County has an approved solid waste disposal site that is open for public use.

BE IT FURTHER RESOLVED, THAT Leelanau County will agree to accept solid waste from Manistee County so long as an approved solid waste disposal site exists in Leelanau County that is open for public use.

BE IT FURTHER RESOLVED, THAT Manistee County agrees to establish and maintain a program for diverting a portion of its waste from landfill facilities and send its ANNUAL PROJECT UPDATE AND PROGRESS REPORT to Leelanau County. The waste diversion program must be acceptable to Leelanau County and shall contain, at a minimum, the following four (4) items:

1. Public Education Program

Manistee County shall participate in a program to inform the public of proper disposal methods for various wastes so that no improper wastes are disposed of in the landfill. The educational program shall also inform the public as to the importance of recycling and how the public can participate.

2. Recycling Program

The Manistee County recycling program shall include a sufficient number of drop-off sites or sufficient curbside recycling to provide the public with an opportunity to participate in the program.

3. Composting Program

Manistee County shall establish or participate in a composting program to prevent yard waste and other organic wastes from being disposed of in the landfill.

4. Household and Agricultural Hazardous Waste Collection

Manistee County shall conduct or participate in at least one (1) household and agricultural hazardous waste collection day per year. The collected waste shall be disposed of at a facility licensed to receive that type of waste.

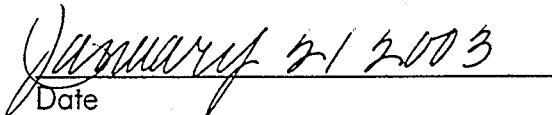
BE IT FURTHER RESOLVED, THAT Manistee County agrees to implement a waste diversion program, as outlined above as funding is secured and approved for such use by the Manistee County Commission.

BE IT FURTHER RESOLVED, THAT this agreement is valid until the next revision of the Leelanau County Solid Waste Plan is approved. However, either county may give one-hundred eighty (180) days written notice of intent to terminate this agreement to allow the other party time to develop another source for solid waste disposal. Each county will save and hold the other county harmless from any and all liability actions arising from the above waste diversion program or the disposal of solid waste.

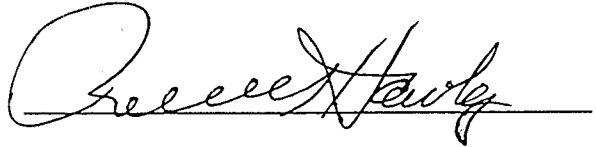
FOR MANISTEE COUNTY



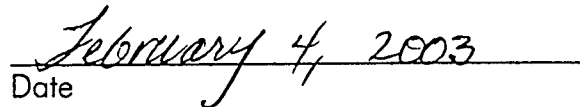
Sharlene Wild, Chairperson
Manistee County
Board of Commissioners


Date

FOR LEELANAU COUNTY



Chairperson
Leelanau County
Board of Commissioners


Date



PLANNING DEPARTMENT
231-723-6041
Fax 231-723-1718
wfbeaver@manisteecounty.net

February 24, 2003

Michigan Department of Environmental Quality
Attn: Lyn Dumroese, Environmental Quality Analyst
Waste & Hazardous Materials Division
P.O. Box 30241
Lansing, MI 48909-7741

Dear Ms. Dumroese:

Enclosed please find a signed copy to the solid waste reciprocal agreement between Manistee and Leelanau counties. This agreement was recommended for approval by the Manistee County Solid Waste Council, approved by the Manistee County Board of Commissioners, and signed by the Chair of the Manistee County Board of Commissioners.

Please include this reciprocal agreement as part of the Manistee County Solid Waste Management Plan.

If you have any questions relating to the approval process followed by Manistee County, please do not hesitate to contact me.

Sincerely,

W. Frank Beaver
Planning Director

SOLID WASTE RECIPROCAL AGREEMENT

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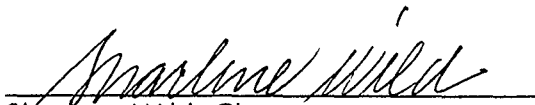
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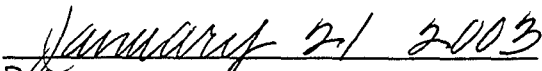
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FOR MANISTEE COUNTY

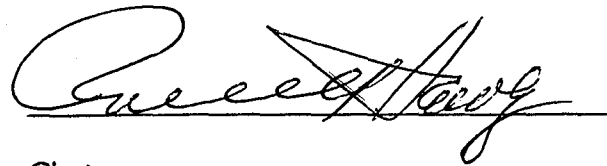


Sharlene Wild, Chairperson
Manistee County
Board of Commissioners

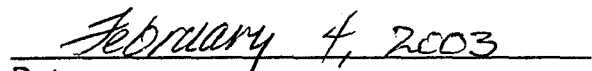


Date

FOR LEELANAU COUNTY



Chairperson
Leelanau County
Board of Commissioners



Date



JOHN ENGLER, Governor

DEPARTMENT OF ENVIRONMENTAL QUALITY*"Better Service for a Better Environment"*

HOLLISTER BUILDING, PO BOX 30473, LANSING MI 48909-7973

INTERNET: www.deq.state.mi.us

RUSSELL J. HARDING, Director

May 15, 2000

Ms. Sharlene Wild, Chairperson
Manistee County Board of Commissioners
415 Third Street
Manistee, Michigan 49660

Dear Ms. Wild:

The Department of Environmental Quality (DEQ) received the locally approved update to the Manistee County Solid Waste Management Plan (Plan) on December 1, 1999. Except for the items indicated below, the Plan is approvable. As outlined in the March 9, 2000 letter to Mr. W. Frank Beaver, County Planner, Manistee County Planning Department, from Mr. Stan Idziak, DEQ, Waste Management Division, and as confirmed in Mr. Beaver's letter of April 4, 2000, to Mr. Idziak, the DEQ makes certain modifications to the Plan as discussed below.

On [page 127](#) of the Plan under Local (County) Ordinances, reference is made to the Manistee County Solid Waste Ordinance of 1990 (Ordinance) and "Plan Compliance Agreements" consummated pursuant to the Ordinance. Section 109 (B) of the Ordinance requires that a finding of compliance with the Plan must take place before the Michigan Department of Natural Resources can license a solid waste facility. This requirement preempts DEQ licensing authority.

Section 11538 (8) of Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, preempts enforcement of all local regulation of disposal area location, development, and operation, except to the degree approved by the DEQ as part of the Plan. The purpose of this section is to ensure that any local disposal area regulation does not conflict with Part 115 or the DEQ's regulatory authority and responsibilities. Therefore, the Ordinance and all references to the Ordinance are deleted from the Plan.

Also on [page 127](#), under Requirement/Restriction: The requirement by the County to enter into a "Plan Compliance Agreement" with the solid waste facility covering design and operation issues cannot be included in the Plan.

An agreement is a contract that must be signed by two parties to be binding. It is possible, if the County elects not to sign the agreement, that the siting of a landfill could arbitrarily be prevented. Section 11538(3) of Part 115 prohibits disposal area siting mechanisms from including discretionary acts as part of the consistency determination. Accordingly, all references to the "Plan Compliance Agreement" are removed from the Plan.

On [page 128, 2](#): The Michigan Land Division Act and the Manistee County Subdivision and Site-Condominium Control Ordinance do not have application to the siting of solid waste disposal facilities. Insufficient information was provided to enable the DEQ to determine the scope of intended regulation. As a result, we are unable to evaluate whether the area of regulation would conflict with or hinder DEQ's regulatory authority or responsibility. Consequently, reference to the Michigan Land Division Act and the Manistee County Subdivision and Site-Condominium Control Ordinance are deleted from the Plan.

Also on [page 128](#) and continuing on page 129, Municipal Zoning Ordinances: This section attempts to incorporate local municipal ordinances into the Plan. In general, the DEQ will not approve the broad inclusion of all local zoning authorizations in solid waste management plans. These ordinances (1) may include provisions that will have siting impacts not included in the Plan's siting criteria, (2) may provide for discretionary local decisions which may impermissibly impact siting decisions which by law are controlled by the siting provisions specified in the Plan, or (3) may otherwise interfere with or conflict with the DEQ's regulatory responsibilities. This entire section is deleted from the Plan.

On [page 192](#) of the Plan, Siting Criterion H. reads as follows:

- H. No part of the site and respective parcel(s) 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 believe that the criteria under numbers 3 and 4 will effectively prohibit any new disposal area from being sited under this plan, since virtually all property on which a disposal area might seek to locate would abut a public road and would be located near the public utilities necessary to provide service to the property. Section 11538(3) of Part 115 requires an approvable siting mechanism to include: "both a process and a set of minimum siting criteria, both of which are not subject to interpretation or discretionary acts by the planning entity, and which if met by an applicant submitting a disposal area proposal, will guarantee a finding of consistency with the plan." The above referenced siting criterion would ensure that no proposed disposal area could be found consistent with the Plan.

Therefore, Siting Criterion H of the Plan is hereby altered to read:

- 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.

The term, active work area, is the legally defined phrase most appropriate to the intent of this criterion. This term is defined in R 299.4101 (g) of the administrative rules of Part 115.

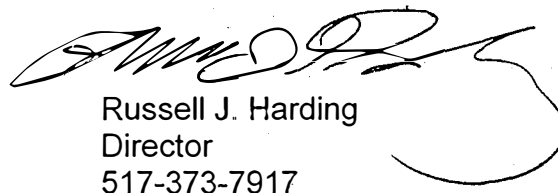
With these modifications, the County's updated Plan is hereby approved, and the County now assumes responsibility for the enforcement and implementation of this Plan. Please ensure that a copy of this letter is included with copies of the approved Plan distributed by the County.

By approving the Plan with modifications, the DEQ has determined that it complies with the provisions of Part 115 and the Part 115 administrative rules concerning the required content of solid waste management plans. Specifically, the DEQ has determined that the Plan identifies the enforceable mechanisms that authorize the state, a county, a municipality, or a person to take legal action to guarantee compliance with the Plan, as required by Part 115. The Plan is enforceable, however, only to the extent the County properly implements these enforceable mechanisms under applicable enabling legislation. The Plan itself does not serve as such underlying enabling authority, and the DEQ approval of the Plan neither restricts nor expands the County's authority to implement these enforceable mechanisms.

The Plan may also contain other provisions that are neither required nor expressly authorized for inclusion in a solid waste management plan. The DEQ's approval of the Plan does not extend to any such provisions. Under Part 115, the DEQ has no statutory authority to determine whether such provisions have any force or effect.

The DEQ applauds your efforts and commitment in addressing the solid waste management issues in Manistee County. If you have any questions, please contact Mr. Seth Phillips, Chief, Solid Waste Management Unit, at 517-373-4750.

Sincerely,



Russell J. Harding
Director
517-373-7917

cc: Senator George A. McManus, Jr.
Representative David C. Mead
Mr. W. Frank Beaver, Manistee County Planner
Mr. Arthur R. Nash Jr., Deputy Director, DEQ
Ms. Cathy Wilson, Legislative Liaison, DEQ
Mr. Jim Sygo, DEQ
Ms. Joan Peck, DEQ
Mr. Philip Roycraft, DEQ - Cadillac
Mr. Seth Phillips, DEQ
Mr. Stan Idziak, DEQ
Manistee County File



Solid Waste Management Plan

1999

This copy printed November 30, 1999

Adopted April 12, 1999 pursuant to P.A. 282 of 1945, as amended, (being the County Planning Act M.C.L. 125.101 *et seq.*) and as Required by Section 11539a of Part 115 of P.A. 451 of 1994, as amended, (being the Solid Waste Management part of the Natural Resources and Environmental Protection Act, M.C.L. 324.1150 *et seq.*)

RECEIVED

DEC 01 1999

Waste management

Copies of this *Plan* are available:

Entire *Plan*
\$25.00

Please send payment in advance
Order copies from the Manistee County Planning Department
415 Third Street — Courthouse
Manistee, Michigan 49660-1606
(616)723-6041
FAX (616)723-1718

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Bibliographic cite is: Manistee County Solid Waste Council (Maitland, Christy Lee (and Schindler, Kurt H.)); *Manistee County Solid Waste Plan* of 1999; Manistee County Planning Department; Manistee, Michigan; 1999.

This document was prepared entirely "in-house". It is typeset using Times New Roman 10 TrueType for Windows95 with Corel WordPerfect 7.0. Many of the black and white graphic elements were converted into WordPerfect graphics for presentation in this document. Maps were prepared using Manistee County Planning Department's Geographic Information System, Michigan State University's C-Map GIS software. The framework for this document was prepared by the Waste Management Division of the Michigan Department of Environmental Quality and published as "*Plan Format for Preparing County Solid Waste Management Plans*" in Microsoft Word 6.0/7.0. It was converted to Corel WordPerfect 7.0 by the Manistee County Planning Department for use here.

Part A: Prologue and Introduction

Chapter A1: 1999 Plan Update Cover Page

Part 115 of P. A. 451 of 1994, as amended, (being Solid Waste part of The Natural Resources and Environmental Protection Act, M.C.L. 324.1150 *et. seq.*) (hereafter "SW NREPA"), and its Administrative Rules, requires that each County have a Solid Waste Management Plan Update approved by the Michigan Department of Environmental Quality (DEQ). Section 11539a requires the DEQ to prepare and make available a standardized format for the preparation of this *Plan* updates. This document follows that format. Text found in Arial Font, like this, is material from the DEQ *Plan Format*. A county solid waste plan should be prepared using the DEQ *Plan Format* without alteration. Please refer to the document entitled *Guide to Preparing the Solid Waste Management Plan Update*.

Date Submitted to The DEQ

THE date this *Plan* was submitted to the DEQ is November 30, 1999. If this *Plan* includes more than a single County, list all counties participating in this *Plan*. This *Plan* is written for Manistee County, only.

The following lists all the municipalities from outside Manistee County who have requested and have been accepted to be included in the *Plan*, or municipalities within the County that have been approved to be included in the plan of another County according to Section 11536 of Part 115 of the SW NREPA. Resolutions from all involved County Boards of Commissioners approving the inclusion are included in Appendix E4, page 180.

In preparing this *Plan* it was believed the 10 counties in northwest Michigan, working through the Northwest Michigan Council of Governments (NWMiCOG), could realize cost savings and efficiency of time if a consultant was hired to perform certain tasks associated with preparing county solid waste plans for the each of the 10 counties. Seven counties joined with NWMiCOG to share consultant services. The consultant selected to do this work was Resource Recycling Systems, Inc. of 416 Longshore Drive, Ann Arbor, Michigan 48105 (James Frey, Kerry Sandford, Cathy Semer). The counties actually participating in this cooperative effort were Antrim, Benzie, Charlevoix, Emmet, Kalkaska, Grand Traverse and Manistee.

A number of tasks are repetitive, or require the same research and data creation which is then used in more than one county's solid waste plan. The consultant does the work, and presents his work to the Planners Review and Advisory Committee of the NWMiCOG. Manistee's members of the committee in turn present the work to the Manistee County Solid Waste Council (the solid waste planning committee).

It is also intended the use of a single consultant will result in some de-facto region-wide coordination. This region-wide coordination will occur at the staff level (COG). Throughout the consultant is to be mindful of multi-county cooperation opportunities and to present the same. Each county will continue to retain its autonomy with the work being presented to each county's respective Solid Waste Planning Committee who will finalize the final product as a "proposed solid waste plan" for that county.

<u>Municipality</u>	<u>Original Planning County</u>	<u>New Planning County</u>
Arcadia Township	Manistee County	n/a
Bear Lake Township	Manistee County	n/a
Bear Lake Village	Manistee County	n/a
Brown Township	Manistee County	n/a
Cleon Township	Manistee County	n/a
Copemish Village	Manistee County	n/a
Dickson Township	Manistee County	n/a
Eastlake Village	Manistee County	n/a
Filer Charter Township	Manistee County	n/a
<i>Gaaching Ziibi Daawaa Anishnaabe</i> (Little River Band of Ottawa Indians)		
Kaleva Village	Manistee County	n/a
Manistee City	Manistee County	n/a
Manistee County	Manistee County	n/a
Manistee Township	Manistee County	n/a
Maple Grove Township	Manistee County	n/a
Marilla Township	Manistee County	n/a
Norman Township	Manistee County	n/a
Onekama Township	Manistee County	n/a
Onekama Village	Manistee County	n/a
Pleasanton Township	Manistee County	n/a
Springdale Township	Manistee County	n/a
Stronach Township	Manistee County	n/a

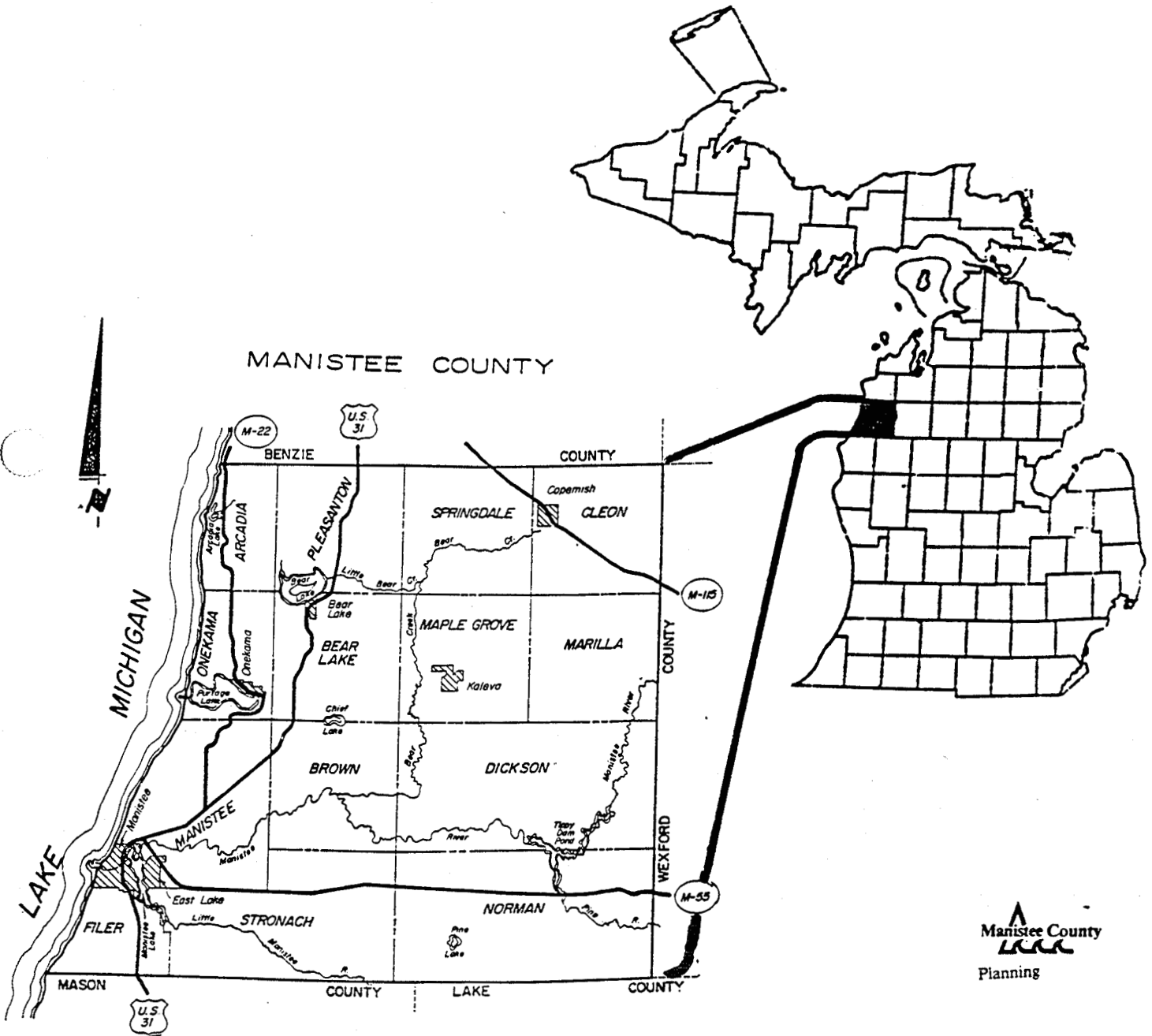
Designated Planning Agency Preparing This *Plan* Update:

THE designated Planning Agency for Manistee County is the Manistee County Planning Department/Commission. The Planning Commission is created pursuant to P.A. 282 of 1945, as amended. (being the County Planning Act M.C.L. 125.101 *et. seq.*). The Commission is appointed by the Manistee County Board of Commissioners. The Commission, in turn, receives a budget from the Manistee County Board and hires staff for the Manistee County Planning Department.

CONTACT PERSON: Christy Lee Maitland
 ADDRESS: Manistee County Planning Department
 415 Third Street — Courthouse
 Manistee, Michigan 49660-1601
 PHONE: (616)723-6041
 FAX: (616)723-1817
 E-MAIL: plan@mufn.org

CENTRAL REPOSITORY LOCATIONS: The Manistee County Planning Department is where one can view and purchase copies of all documents associated with this *Plan's* adoption. The Planning Department is open Monday through Friday 8:30am to noon and 1:00pm to 5:00pm.

Manistee County, Michigan, Location Map



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Chapter A3: Glossary

COUNTY means the County of Manistee, a Michigan Municipal Corporation.

County Board means the Manistee County Board of Commissioners of the County of Manistee, pursuant to P.A. 156 of 1851, as amended, (being County Boards of Commissioners; M.C.L. 46.11 *et. seq.*)

DEQ means the Michigan Department of Environmental Quality (formerly a part of the Michigan Department of Natural Resources).

Municipality means unincorporated municipalities, townships, and incorporated municipalities, villages, charter townships and city.

NREPA means P. A. 451 of 1994, as amended, (being The Natural Resources and Environmental Protection Act, M.C.L. 324.00 *et. seq.*).

PAYT means "pay as you throw" which is a volume based charge for disposal of solid waste. It include pre-paid garbage bags, or bag limits for municipal collection, or graduated fees for level of service. It may include other techniques of limiting volume of solid waste disposed, or charging more for more solid waste being disposed. There are a number of flexible ways to obtain this goal.

Plan (in *italic*, or sometimes underlined) means this document; the *Manistee County Solid Waste Plan* of 1999.

Planning Commission means the Manistee County Planning Commission created pursuant to the Manistee County Planning Commission Ordinance under authority of P.A. 282 of 1945, as amended, (being County Planning act, M.C.L. 125.101 *et. seq.*) as a metropolitan county planning commission and together with the Manistee County Planning Department are the designated solid waste planning agency pursuant to SW NREPA for Manistee County.

RRSI means Resource Recycling Systems Inc., a consultant used to prepare this *Plan*.

Solid Waste Council means the Manistee County Solid Waste Council, also known as the Manistee County Solid Waste Planning Committee created pursuant to SW NREPA.

SW NREPA means part 115 of P. A. 451 of 1994, as amended, (being Solid Waste part of The Natural Resources and Environmental Protection Act, M.C.L. 324.1150 *et. seq.*).

Chapter A4: Executive Summary

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

Part A: Prologue and Introduction

IN Chapter A1 is the *Plan*'s Cover Page, date submitted to the DEQ, and the identification of the Designated Planning Agency preparing this *Plan* as the Manistee County Planning Commission/Department (mainly Christy Lee Maitland).

Chapter A2 is the Table of Contents, Chapter A3 is the Glossary and Chapter A4 is this Executive Summary.

Goals and Objectives are in Chapter A5. The main goals for this *Plan* are (1) Implement a Solid Waste Management Plan which provides for the protection of the public health, environment and the conservation of natural resources; (2) Develop a solid waste management plan that is financially realistic and economically feasible; (3) Inform citizens and businesses about solid waste management issues, concerns, and wise use of natural resources; (4) Maintain, support and expand recycling programs and facilities which will permit the solid waste facility operation to become a subsidiary function to an overall solid waste system which maximizes environmental quality; (5) Encourage the utilization of private enterprise in the ownership and operation of landfill and resource recovery systems; (6) Encourage and make certain the option for new solid waste facilities exist in Manistee County and new facilities are located and designed to provide resource recovery, recycling, energy production, source reduction and/or composting options, as applicable.

Part B: Data Base

SOURCES and volumes of Solid Waste for Manistee County are outlined in chapter B1. Manistee County will generate Approximately 12,662 tons in 1998; 12,605 tons in 2003; and 12,571 tons in 2008 of solid waste from municipal sources. In addition to that the county will generate 7,700 tons in 1995 (from Commercial/industrial sources). Major waste generators in Manistee County are (not in order) Tondu Energy Systems (TES), Packaging Corporation of America, a Madison Dearborn Partners Inc. company (formerly Tenneco Packaging Inc., and Packaging Corporation of America, a Tenneco company) (PCA), Morton International, Custom Packaging, Martin Marietta Magnesia Specialties, Ambar Chemical Inc., Oaks Correction Facility, West Shore Hospital and NABCO. Special waste streams include 40,000 tons per year of ash from Tondu, 38,000 tons per year of primary sludge, bark, and recycling residue from PCA, and 58,000 tons per year of secondary sludge from PCA. Total annual tons of solid waste generated in Manistee County will be around 160,234 tons in 1998; 160,207 tons in 2003; and 160,224 tons in 2008. In 1998 157,579 will be disposed of in a landfill or incinerator (PCA).

Chapter B2 and B3 lists and provides detail on the solid waste disposal areas and methods used in Manistee County. Sites in Manistee include the Maple Grove Township Transfer Station; Dickson Township Transfer Station; Manistee County Landfill Inc. (formerly Harland's Landfill Inc.); PCA Fluid Incinerator; a proposed PCA Type III Landfill; and a proposed TES Type III Landfill. Other facilities, outside of Manistee County which are used, or are contingency backup facilities for Manistee include Wexford County Landfill; Glen's Sanitary Landfill Inc. (Leelanau County); and Cedar Ridge Landfill (Charlevoix County). Other methods used for the collection and/or disposal of solid waste in the County include: land application of food processing, agricultural waste and paper mill sludge; landfilling

of construction and demolition debris; small scale independent industrial and commercial recycling efforts (e.g., sale of scrap metal and corrugated cardboard recycling, trash-to-cash paper recycling program, voluntary waste oil recycling; yard waste composting and land application; various other methods of disposal and reuse by private individuals. The present system of waste management consists of a variety of private and governmental efforts. The operational aspects, however, are primarily in the hands of private industry. The Manistee County Landfill Inc. (formerly Harland's Landfill Inc.) is privately owned and operated. Former [municipal] dumps and landfills are also inventoried.

Chapter B4 reviews the solid waste collection system in Manistee County. Solid Waste is primarily done by private enterprise. The haulers (Shoreline Disposal (formerly Harland's Trucking) and Waste Reduction Systems) contract directly with businesses and homeowners for curbside pickup anywhere in the county; or under bid with a municipality. When contracted by a municipality the service is for curbside pickup (Manistee City, Manistee Township, Filer Charter Township) or for a packer truck to park at a central location for residents to bring solid waste to (Bear Lake, Arcadia, Norman and Brown Townships). Dickson and Maple Grove Townships own a solid waste transfer station which is serviced by contracting to a solid waste hauler. Copemish Village and Stronach Township own and operate their own garbage truck for curbside pickup. Spring clean-ups also exists (as a municipal contracted service) for Manistee City, Filer Charter Township, Manistee, Norman, Arcadia, Cleon, Bear Lake, Dickson, Marilla, Onekama, Pleasanton and Springdale Townships.)

Solid Waste not brought to a landfill is recycled at one of eight county-required recycling drop-off locations (located in Bear Lake, Onekama, Copemish Village; comminutes of Wellston and Arcadia; two in Manistee City; and at Manistee County Landfill Inc. Processing is currently done in Muskegon. Most of the paper recycling is done by Manistee County Recyclers (Lakeshore Enterprises/Manistee-Benzie Community Mental Health Services, area schools and PCA) with locations at each highschool in the county. Processing is done by Lakeshore Enterprises and sold to PCA where it is recycled.

Conclusions

THE *Plan* provides an evaluation of deficiencies in the county's solid waste management system in Chapter B5. Foremost that is the solid waste industry in northern lower peninsula of Michigan has become dominated by two corporations; U.S.A. Waste and Allied Inc. Both companies own all landfills (except Wexford County Landfill) in the region and controls 85% to 90% of the solid waste collection companies in northwest Michigan. This has created a monopoly-like situation and competition is weak (higher prices, reduced service, limited recycling/composting programs and services).

Manistee County has four approved landfill sites but only one is actually built and operating. Major volumes of waste from Tondy and PCA may, or may not, (depending on alternative disposal options and if PCA is burning coal or not) send material to Manistee County Landfill Inc. The waste stream and thus life expectancy of the landfill can vary greatly.

General recycling in Manistee County is not as strong as it could be with eight drop-off sites open with very limited hours and poor service. There is also a lack of participation and public education for recycling. Paper recycling is a strong program in Manistee County through a cooperative effort lead by Manistee County Recyclers. Except for the majority of the paper products the remainder of the recycling processing has been moved from Manistee to Traverse City and now to Muskegon due to change in ownership of the landfill.

Also lacking are good implementation tools (ordinances, intergovernmental contracts, oversight committees, enforcement, hauler licencing). This is because existing staff cannot be expected to take on the tasks to do the above without additional help. The county also lacks adequate funding sources for solid waste management.

Regionally (the 10 counties in the NWMiCOG area) deficiencies include unstable and changing private sector (waste industry); uncoordinated public sector response; failure to delegate to competent implementation staff; failure to work together as a region because of past problems; and possible failure to act and the loss of momentum.

Overall View of the County

THE impacts of population change and growth are covered in Chapter B6. The population — as it impacts solid waste planning — includes seasonal peak fluctuations as well as the base population. Population, adjusted for purposes of this Plan is 21,265 in 1990, estimated at 22,900 in 1998, projected at 22,960 in 2003 and 23,060 in 2008.

Municipal Population and Land Use

	Population in 1990	% Land use		% of economic base					Total land Area in acres
		Rural	Urban	Agriculture	Forestry	Industry	Commercial	Other	
Manistee County (TOTAL)	21,265	95.49%	4.22%	10.56%	57.11%	0.24%	0.34%	0.00%	359,943

Chapter B7 reviews the land development of Manistee County by including the summary of the *Manistee County Land Use Plan* of 1997.

Chapter B8 presents the various solid waste management alternatives that were evaluated for future use in Manistee County which include: clean community, recycling incentives, drop-off residential recycling, curbside residential recycling, residential yard waste composting, commercial recycling, material transfer and processing, and disposal. Six options were developed:

- 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 Systems.

The options were evaluated, and some discarded for a number of reasons explained in the chapter. Then two system alternatives were developed and evaluated for Manistee County: system alternative 1 Expanded Clean Community & Drop-Off Recycling Program is adapted from System Option C; and system alternative 2 Expanded Clean Community and Curbside Recycling Program is adapted from System Option D.

Part C: Selected Alternatives

BASED on the evaluation process the System Alternative 1 was selected for years one through three of the planning period. For years four through 10 of the planning period System Alternative 2 was selected.

System Alternative 1 includes a Clean Community program that operates at highly effective levels. Incentives for recycling to boost program performance, increasing tons and lowering unit costs. Expanded recycling drop-off capabilities are made available throughout the County at permanent sites open for longer periods of time each week. Arrangements are made for processing of recyclables that allows complete or partial commingling of paper products (commingled fibers) and complete or partial commingling of containers (commingled containers), increasing the types of materials that can be recovered and further increasing overall convenience. Direct haul of collected solid waste to regional landfills would remain as the standard practice although more options for local drop-off by residents would become available.

System Alternative 2 includes a Expanded Clean Community and Curbside Recycling 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 one or more flagship sites increase options for recovering more materials. Curbside programs for cities, villages and towns are developed to increase convenience for large sectors of the population. Arrangements for commingled recycling processing capabilities as well as commercial recycling services are further developed to increase diversion. Construction & Demolition (C&D) recovery services are more closely coordinated with area service providers. Organic management options exist throughout the year with the addition of

drop-offs for yard waste generated in the County. Direct haul of collected solid waste to regional landfills would remain as the standard practice. A network of drop-off sites for solid waste would be available including a flagship site that took other types of waste (bulky, C&D, etc.) with this system preferably located at same sites as recycling drop-offs. The County may collaborate with nearby counties on a ban of certain materials being landfilled, targeted for 5 years away and coordinated between regional disposal facilities.

Manistee County will review possible funding mechanism for *Plan* implementation, but not limited to, P. A. 7 of extra session of 1967 as amended (in particular by P. A. 138 of 1989), (being the Urban Cooperation Act, M.C.L. 124.501 *et seq*); bonding; millage; tipping fee surcharge at a solid waste facility; grants; user fees; gifts and donations. This project is assuming funding is available. This *Plan* does not require government (municipal and county) funding. If funding is not available, that does not contravene this *Plan*.

Solid Waste cannot be taken across Michigan county lines unless authorized in both county's solid waste plans. Part of the county's responsibility is to have back up — or contingency — plans should solid waste facilities in Manistee County close. No solid waste facilities cannot afford to say in business with only customers in Manistee County. A larger service area may be necessary. Chapter C1 creates a system for Manistee to have agreements with certain other counties to deal with both these issues and to allow solid waste to come into and be taken out of Manistee County. "Day-to-day reciprocal agreements" can exist with any adjacent county. "Day-to-day conditional reciprocal agreements" might be considered with other northwest lower peninsula Michigan counties. Both these deal with service area needed, competition and possible backup. An "emergency back-up agreement" can be entered into with any county in the north part of the lower peninsula of Michigan that has a landfill.

Chapters C2 and C3 list and describe existing and possible future Solid Waste Disposal Areas Manistee County may use. Those sites in Manistee County: Manistee County Landfill, Inc.; Fischer Landfill site; PCA Landfill; Tondou Energy Systems, Inc. Landfill; Dickson Township Transfer Station; Maple Grove Township Transfer Station; PCA Incinerator; City Compost Yard. In other counties, if agreements are entered into: Wexford County Landfill (Wexford County); Glen's Sanitary Landfill (Leelanau County); Cedar Ridge Landfill (Charlevoix County); Elk Run Sanitary Landfill (Presque Isle County); Montmorency-Oscoda Joint Landfill (Montmorency County); Crawford-Otsego Landfill (Crawford County); and Northern Oaks Disposal Facility (Clare County); and other future facilities which may open in the northern part of the lower peninsula of Michigan.

Chapter C4 reviews the proposed solid waste collection services and transportation system. The existing system would continue to be used, with the following improvements: Spring/fall cleanup days provided in more areas of the county; adopt a "____" programs expanded and a flagship solid waste drop off site established.

Expanded resource conservation efforts (Chapter C5) would increase recycling drop-off from the current 900 to 1,370 tons per year in the tenth year; curb side recycling from a current 10 to 780 tons per year ten years from now. Commercial recycling increases from 600 to 2,400 tons per year in ten years; yard waste collection from 850 to 1,100 tons per year and a household hazardous waste collection system starts.

These efforts result in a reduction in the use of landfills from the current 7,086 cubic yards per year of air space not being used to 16,942 cubic yards per year of air space ten years of from now not being used (Chapter C6). This is with goals to have a 25 percent reduction in the waste stream by 2008. This is to be done by implementation of System Alternatives 1 and later 2. Details to do so is contained in Chapter C6, including: volume reduction techniques, overview of resource recovery programs, recycling and composting, recycling, composting and source separation of potentially hazardous materials. The Chapter also identifies the resource recovery management entities and a system to monitor the solid waste system.

Educational and informational programs are reviewed in Chapter C7. For the most part the service provider (Manistee County Recyclers, municipalities, county) are responsible for education and promotion. The Manistee Office of MSU Extension is responsible for coordination.

The timetable to implement the above is set forth in chapter C8, with phase I being the System Alternative 1 to be done 1998-2003. Phase II being the System Alternative 2 to be done during years 2003-2007. However all projects proposed is assuming funding is available. This *Plan* does not require government (municipal and county) funding. If funding is not available and the planned proposal does not take place, that does not contravene this *Plan*.

From time to time it will be necessary for the creation of a new solid waste facility (landfill, compost yard,

transfer station, incinerator, recycling processing, etcetera). Also existing solid waste facilities may need to expand. Chapter C9 establishes siting review process for new, or expansion of existing, solid waste facilities.

Chapter C10 spells out the responsibilities of the agencies which have a role to play in the county's solid waste management system. Agencies included — with responsibilities — are Michigan Department of Environmental Quality, Northwest Michigan Council of Governments, Manistee County Board of Commissioners; Manistee County Solid Waste Council, Manistee County Planning Commission/Department (designated solid waste planning agency), Manistee County Road Commission, Manistee County MSU Extension Service, District #10 Health Department/County Sheriff Dept., municipalities, private solid waste industry, Manistee County Recyclers/Lakeshore Enterprise, Michigan Department of Transportation, United States Forest Service and City of Manistee. The Chapter also lists responsibilities by topic area: resource conservation, resource recovery programs, volume reduction techniques, collection processes, transportation, disposal areas, ultimate disposal area uses, local responsibility for *Plan* update monitoring & enforcement, educational and informational programs.

Local ordinances and regulations which regulate solid waste disposal areas covered by this *Plan* are considered by State Statute not to be enforceable. The exception is when a solid waste plan specifically authorizes a local ordinance to have control. Chapter C11 lists the local ordinances and regulations which are authorized and may affect solid waste disposal. Those ordinances are (1) Manistee County Solid Waste Facility Ordinance of 1990 and "Plan Compliance Agreements" consummated pursuant to that Ordinance; (2) Manistee County Subdivision and site Condominium Control Ordinance; (3) Manistee County Health Code; (4) Manistee County Nuisance Ordinance; (5) Manistee County Junk Ordinance; (6) specific provisions based on existing zoning ordinances (for siting and regulation only of permanent and temporary recycling drop-off facilities, type II or smaller in size, permanent hazardous waste drop-off facilities, junk yards, transfer stations owned by the respective municipality).

Part D: Capacity Certification

MANISTEE County has more than ten years solid waste disposal capacity thus an annual certification process is not included in this *Plan*.

E: Appendixes

APPENDIX E1 includes additional detail on how waste generation projections were done.

Appendix E2 includes additional detail on the selected solid waste management system: evaluation of recycling, detailed features of recycling and composting programs, equipment selection, site availability & selection, composting operating parameters, coordination efforts, costs & funding, evaluation summary of the selected system, and advantages and disadvantages of the selected system.

Appendix E3 includes additional detail on the solid waste management systems which were not selected for Manistee County.

Appendix E4 includes additional detail on the process for public participation during the development of this *Plan* and the approval of this *Plan*. Appendix E4 also includes an outline of how the Manistee County Solid Waste Council members were appointed and lists the members of the Solid Waste Council.

Appendix E5 includes additional attachments for this *Plan*: resolutions of adoption, maps of solid waste facility locations; copies of inter-county agreements, special conditions, and more detail on the reciprocal agreement policies to be used by Manistee County.

Appendix E6 The siting rating system is an attempt to provide a non-discretionary evaluation of a landfill solid waste facility for purposes of siting in the *Manistee County Solid Waste Plan*. The intent is to have each subsequent landfill site at an equal, or better location in terms of what this evaluation/ranking measures. The goal is to first expand existing landfills and second, over time, improve sites used for landfills in Manistee County. This rating system was recommended by Casey Cline, geologist with the DEQ solid waste division, Cadillac.

Chapter A5: Goals and Objectives

To comply with Part 115 and its requirements, each *Plan* must be directed toward goals and objectives based on the purposes stated in Part 115, Sections 11538.(1)(a), 11541.(4) and the State Solid Waste Policy adopted pursuant to this Section, and Administrative Rules 711(b)(i) and (ii). At a minimum, the goals must reflect two major purposes of Solid Waste Management Plans:

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

THIS *Plan* works toward the following goals through actions designed to meet the objectives described under the respective goals which they support. This project is assuming funding is available. This *Plan* does not require government (municipal and county) funding. If funding is not available, that does not contravene this *Plan* and not pursuing the project does not contravene this *Plan*:

The following are defined as intended to be used in this Chapter.

<u>WORD</u>	<u>DEFINITIONS</u>	<u>EXAMPLE</u>
GOALS	The goal is the utopia, to provide direction or end-state; the Objectives, Policies, Strategies/Methods are to work toward.	<i>Have pure water everywhere.</i>
OBJECTIVES	The objective(s) is an achievable point to describe what is aimed at to resolve the issue.	<i>Maintain acceptable water quality</i>
STRATEGIES/ METHODS	The strategy(ies)/method(s) are the actual ways the policy(ies) or goals are carried out.	<i>Define standards and implement controls to achieve them and educate the public.</i>

The purpose of this *Plan* is to accomplish the following goals and objectives:

- Goal 1: Implement a *Solid Waste Management Plan* which provides for the protection of the public health, environment and the conservation of natural resources.
- Objective 1.1: Provide for optimum volume reduction practices to be in effect throughout the solid waste management process.
- Strategy 1.1.1: Collaborate with private enterprises, municipalities, recycling agencies, regional, local and other related organizations to develop and implement waste reduction, recycling, and composting programs.
- Objective 1.2: Ensure that solid waste management procedures in effect are in conformance with the State of Michigan's air and water quality standards.

- Objective 1.3: Develop and enforce regulations governing the appearance, odor, and noise aspects of collection, storage, and disposal facilities.
 - Objective 1.4: Support the elimination of dumping in unauthorized areas while increasing the enforcement of anti-litter and similar regulations.
 - Objective 1.5: Include consideration for wastes generated by agricultural and manufacturing interests which may require special handling and disposal.
 - Objective 1.6: Develop and implement regulations governing the location of landfill sites and transfer stations to avoid potential conflicts with adjacent uses.
 - Objective 1.7: Recognize the potential uses of closed landfill sites.
 - Objective 1.8: Develop an emergency response plan to recover recyclable materials after an emergency or natural disaster.
 - Objective 1.9: Institute volume-based pricing for waste disposal within the county.
 - Objective 1.10: Increase the ease and utilization of recycling opportunities with the cost to be subsidized by waste disposal fees.
 - Objective 1.11: Develop and implement a household hazardous waste collection program.
- Goal 2: Develop a solid waste management plan that is financially realistic and economically feasible.
- Objective 2.1: Work with regional and local agencies to provide solid waste disposal by maintaining current standards, reducing cost and increasing services provided.
 - Objective 2.2: Support existing and future approved solid waste facilities which are intended to provide a service to the general public and which provide that service on a county-wide, or larger, area. Exceptions would be mono-solid waste facilities which handle such volume and type of material generated by a single manufacturing facility and unlicensed transfer stations.
 - Objective 2.3: Encourage a competitive market place —more than one company providing the service— within the solid waste industry, while at the same time striving to avoid a saturation of supply in the marketplace so that major solid waste facilities are not abandoned or seek customers from outside this Plan's intended service area.
 - Objective 2.4: Solid waste facilities should as a first priority be privately owned and operated. As a last resort solid waste facilities would be publically owned or operated. Exceptions to this objective include resource recovery (recycling, reuse and composting) facilities.
- Goal 3: Inform citizens and businesses about solid waste management issues, concerns, and wise use of natural resources.
- Objective 3.1: Educate citizens and businesses about the need and costs of solid waste facilities, and alternatives for sharing of the public cost involved.
 - Objective 3.2: Notify citizens at least annually about opportunities for recycling and special concerns.
 - Strategy 3.2.1: Request local businesses to stock and carry products made with recycled materials whenever possible.
 - Strategy 3.2.2: Support and encourage solid waste education program for K-12 grades by providing information, classroom speakers, and other curriculum aids.
 - Strategy 3.2.3: Develop funding to educate the public and businesses about solid waste management.
- Goal 4: Maintain, support and expand recycling programs and facilities which will permit the solid waste facility operation to become a subsidiary function to an overall solid waste system which maximizes environmental quality.
- Objective 4.1: participate in the development of comprehensive multi-county disposal/recycling facilities which maximize energy recovery and salvage of materials while minimizing operational costs.
 - Objective 4.2: Promote purchasing of products made with recycled products

- Goal 5: Encourage the utilization of private enterprise in the ownership and operation of landfill and resource recovery systems.
- Goal 6: Encourage and make certain the option for new solid waste facilities exist in Manistee County and new facilities are located and designed so as to provide resource recovery, recycling, energy production, source reduction and/or composting options, as applicable.
 - Objective 6.1: Expand existing facilities, as a higher priority, than creation of new facilities.
 - Objective 6.2: Ensure new facilities are sited as good or "better" location than facilities which exist at the time this *Plan* is adopted.
 - Objective 6.3: Ensure a new facility does not overburden public facilities in the area and/or results in a significant increase in public expenditures.

Part B: Data Base

Chapter B1: Sources of Solid Waste

Identification of 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:

- MJC/Employment Service Agency, Labor market Analysis by SIC Code
- 1995 waste generation estimates
- Population Projections are interpolated from January 1996 projections obtained from the Office of the State Demographer, Michigan Department of Management and Budget.
- Northwest Michigan Council of Governments
- U.S. Census Bureau
- Michigan Office of State Demographer
- Northwest Michigan Seasonal Population Model

More detailed descriptions of how estimates were calculated may be found in Appendix of Attachments on page 137.

B1.1 Residential Waste Generated by Municipality

Residential solid waste data was calculated by the consultant, Resource Recycling Systems, Inc. using a generation rate ranging from 2.0 pounds of solid waste generated per person per day in rural areas to 3.2 pounds per day in urban (primarily City of Manistee) and resort 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.

Municipality	1998 Tons	2003 Tons	2008 Tons
Arcadia Township	267	271	274
Bear Lake Village	140	128	117
Balance of Bear Lake Twp	522	529	536
Brown Township	284	288	292
Copemish Village	91	84	77
Balance of Cleon Township	237	240	244
Dickson Township	333	325	316
Filer Township	1,336	1,422	1,513
Manistee City	5,174	4,940	4,713
Eastlake Village	228	232	235
Balance of Manistee Township	1,296	1,380	1,468
Kaleva Village	199	183	167
Balance of Maple Grove Twp	297	293	290
Marilla Township	120	115	111
Norman Township	621	662	704
Onekama Village	212	194	178
Balance of Onekama Township	393	418	445
Pleasanton Township	266	263	260
Springdale Township	241	244	247
Stronach Township	405	395	384
Manistee County Total	12,662	12,605	12,571

B1.2 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 Manistee 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 1997 from the Michigan Jobs Commission/Employment Service Agency. 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.

SIC	SIC Description	number of employees (1995) ¹	pounds/person/day	Tons/year (1995)
1500-1999	Construction/Mining	475	22.7	1,402
2000-3999	Manufacturing	1,700	19	4,199
4000-4999	Transportation/Public Utilities	250	4.86	158
5000-5199	Wholesale trade	200	12	312
5200-5999	Retail trade	1,625	12	2,535
6000-6999	Finance, Insurance, Real Estate	225	5.75	168
7000-8999	Services	1,325	8	1,378
9000-9998	Government (local, state, federal)	1,900	5.75	1,420
		7,700	11.26	11,572
		Total	Average	Total

¹ Source: MJC Employment Service Agency. Labor Market Analysis). Agricultural is calculated with residential usage. Forestry and wood products are included under Manufacturing

B1.3 Major Waste Generators in Manistee County

Manistee County is a year-round recreational area with a tourist industry generating approximately \$25 million per year, and about 700+ jobs are tourist dependent. The City of Manistee, County seat and principal trading center, has completed a full-facility industrial park. A second industrial park is in Kaleva Village and another under construction in Manistee Township. The County is considered one of Michigan's major gas producers and in the top 25 percentile for oil production. The County has about 70 manufacturing establishments which in 1996 employed a total of 1,640 full-time employees. Principal manufacturing products include salt, bromine, chemicals, pulp and paper, steam and electric generation and various smaller metal related industries. Agriculture in the County includes cherries, apples, pears, strawberries and other briar berries, potatoes, beans, truck crops, Christmas trees and forest products. Retail and service establishments employ approximately 3,500. The largest employers in the County include Oaks Correctional Facility, PCA (a major recycler of paper), West Shore Hospital and NABCO, Inc. Significant waste generators are PCA and Tondue Energy. These waste streams are described below under the special waste streams section.

Generator	Location	Type	Number of employees
Tondue Energy Systems	Manistee	Power plant	50
PCA	Filer City	Paper mill/ recycling	350
Morton International	Manistee	Manufacturer	236
Custom Packaging Systems, Inc.	Manistee	Manufacturer	166
Martin Marietta Magnesia Spe.	Manistee	Manufacturer	210
Ambar Chemical, Inc.	Manistee	Manufacturer	40
Oaks Correction Facility	Manistee	Prison	372
West Shore Hospital	Manistee	Hospital	255
NABCO	Kaleva	Manufacturer	302

B1.4 Special Waste Streams

Perhaps the largest waste generator in the county is the PCA Filer City paper mill plant (formerly Packaging Corporation of America). While PCA also is a major recycler, converting some 550 tons of wastepaper a day into liner board and related products, it generates significant quantities of sludge and other residuals. In the past, it has diverted a significant portion of waste secondary sludge to a land application program, however, at the time this *Plan* was written, that sludge was being temporarily landfilled while the land application program was being evaluated. PCA in the past has also generated a significant amount of coal ash. While it currently burns natural gas for much of its fuel needs, it expects that it could return to use of coal in the near future, generating as much as 50,400 cubic yards per year (approximately 38,325 tons). PCA has the option of developing its own Type III landfill in the future. Tondu Energy Systems (TES) is also a significant generator of fly ash. Approximately 100,000 cubic yards per year are currently going to the Manistee County Landfill Inc. (formerly Harland's Landfill Inc.) but TES has the option of developing its own Type III landfill in the future.

Source	Material	Tons per year generated	Tons disposed/year
City of Manistee	Sewage sludge		
Village of Onekama	Sewage sludge		
Tondu Energy Systems	Ash	40,000	40,000
PCA	Primary sludge, bark, fines, recycling residue	38,000	38,000
PCA	Secondary Sludge	58,000	58,000 ²
Total		136,000	136,000³

The following table shows the total amount of solid waste needing disposal. It reflects current and projected recovery programs.

Total Quantity of Solid Waste Generated:

Sector	1998 Tons Generated	2003 Tons Generated	2008 Tons Generated
Residential	12,662	12,605	12,571
Commercial	7,373	7,392	7,425
Industrial	4,199	4,210	4,228
Special ⁴	136,000	136,000	136,000
TOTAL ANNUAL TONS	160,234	160,207	160,224

² Previous land application practice being re-evaluated

³ Previous land application practice being re-evaluated

⁴ Future disposition uncertain

The following table shows the total amount of solid waste needing disposal. It reflects current and projected recovery programs.

Total Quantity of Solid Waste Needing Disposal:

Sector	1998 Tons Disposed	2003 Tons Disposed	2008 Tons Disposed
Residential	10,902	10,330	9,321
Commercial/Industrial	10,677	8,238	7,330
Special ⁵	136,000	136,000	136,000
TOTAL ANNUAL TONS	157,579	154,568	152,651

This table reflects total volume of solid waste that can be generated in the county. This quantity is not generated every year. Not all this quantity goes to a landfill.

⁵Future disposition uncertain.

Chapter B2: Solid Waste Disposal Areas

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

THE following solid waste disposal areas within the County will be utilized by the County to meet its disposal needs for the planning period.

- Maple Grove Township Transfer Station
- Dickson Township Transfer Station
- Manistee County Landfill Inc. (formerly Harland's Landfill Inc)
- PCA Fluid Incinerator

Other Non-disposal facilities include:

- Compost Yard (City of Manistee)
- Lakeshore Enterprises Recycled paper processing

Chapter B3: Facility Descriptions

MANISTEE County relies primarily on landfilling as a means of disposing of its solid waste. Currently there is one landfill serving the County found within Manistee County. Most of the solid waste is disposed of with little processing. Manistee County has a strong paper/cardboard recycling program. The City of Manistee offers city residents yard waste disposal at the city's yard waste compost yard.

The present system includes the use of curb-side pickup and small scale transfer stations for the collection and transport of normal residential solid waste, limited quantities of commercial wastes and recycling. Many commercial and industrial establishments, however, utilize individual containers which are transported and emptied on a regular basis. Other methods used for the collection and/or disposal of solid waste in the County include:

- Land application of food processing, agricultural waste and paper mill sludge.
- Landfilling of construction and demolition debris.
- Small scale independent industrial and commercial recycling efforts: e.g., sale of scrap metal and corrugated cardboard recycling.
- Trash-to-cash paper recycling program.
- Voluntary waste oil recycling.
- Yard waste composting and land application.
- Various other methods of disposal and reuse by private individuals.

The present system of waste management consists of a variety of private and governmental efforts. The operational aspects, however, are primarily in the hands of private industry.

The Manistee County Landfill Inc. (formerly Harland's Landfill Inc.) is privately owned and operated. Government involvement has been limited primarily to regulation and to securing contractual arrangement with the private solid waste industry. Exceptions to this are Stronach Township and Copemish Village which provides their own municipal waste collection services.

The Following are summaries of the major operational components of Manistee's waste management system. To obtain this data, questionnaires were sent out and numerous interviews were made with representatives of the various local units of government, the Michigan Department of Natural Resources, United States Forest Service, landfill operators, private haulers, and other individuals involved in waste management.

Facility Description for Manistee County Landfill, Inc.

Facility Type: Type II Landfill

Facility Name: Manistee County Landfill, Inc., owned by Allied (formerly Harland's Landfill Inc., formerly owned by USA Waste. United Waste, West Michigan Disposal, Keith and Annette (White) Harland (formerly White's Landfill owned by Loren "John" T. White and Annette White)).

Manistee County: Location: Section 32 of Town 21 North, Range 16 West, in Stronach Municipal Township.

Map identifying location included in Appendix E5 (Attachments) on page183: 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 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, flyash, Paper mill Sludge

Site Size:

Total area of facility property:	336 acres
Total area sited for use:	160 acres
Total area permitted:	40 acres
Operating:	5 acres
Not excavated:	25 acres

Current capacity:	1,700,000 cubic yards
Estimated lifetime:	14 years
Estimated days open per year:	250 days
Estimated yearly disposal volume:	200,000 cubic yards

(if applicable)

Annual energy production:	
Landfill gas recovery projects:	0 megawatts
Waste-to-energy incinerators:	0 megawatts

Facility Description for Dickson Township Transfer Station

Facility Type: Type B Transfer Station

Facility Name: Dickson Township Transfer Station

Manistee County: Location: Section 16 of Town 22 North, Range 14 West, in Dickson Township.

Map identifying location included in Appendix E5 (Attachments) on page183: 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: Manistee County Landfill, Inc.

Public Private Owner:

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: 31.8 acres
 Total area sited for use: 1 acre
 Total area permitted: n/a
 Operating: n/a
 Not excavated: n/a

Current capacity: tons or cubic yards
 Estimated lifetime: indefinite
 Estimated days open per year: 52 days
 Estimated yearly disposal volume: 1,500 loose cubic yards

(if applicable)

Annual energy production:
 Landfill gas recovery projects: 0 megawatts
 Waste-to-energy incinerators: 0 megawatts

Facility Description for Maple Grove Township Transfer Station

Facility Type: Type B Transfer Station

Facility Name: Maple Grove Township Transfer Station

Manistee County: Location: Section of Town 23 North, Range 14 West, in Maple Grove Township

Map identifying location included in Appendix E5 (Attachments) on page183: 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: Manistee County Landfill, Inc.

Public Private Owner: Maple Grove Township

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: 80 acres
 Total area sited for use: 2 acres
 Total area permitted: n/a
 Operating: n/a
 Not excavated: n/a

Current capacity: tons or cubic yards
 Estimated lifetime: indefinite
 Estimated days open per year: 21 - 30 days
 Estimated yearly disposal volume: 1,000 compacted cubic yards

(if applicable)

Annual energy production:
 Landfill gas recovery projects: 0 megawatts
 Waste-to-energy incinerators: 0 megawatts

Facility Description for Wexford County Landfill

Facility Type: Type II Landfill

Facility Name: Wexford County Landfill

Wexford County: Location: Section 33 & 34 of Town 23 North, Range 09 West.

Map identifying location included in Appendix E5 (Attachments) on page184: 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)

- 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:	146 acres
Total area sited for use:	51 acres
Total area permitted:	51 acres
Operating:	4 acres
Not excavated:	0 acres

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

(if applicable)

Annual energy production:	
Landfill gas recovery projects:	0 megawatts
Waste-to-energy incinerators:	0 megawatts

Facility Description for Glen's Sanitary Landfill Inc.

Facility Type: Type II Landfill

Facility Name: Glen's Sanitary Landfill

Leelanau County: Location: Section 35 of Town 28 North, Range 13 West.

Map identifying location included in Appendix E5 (Attachments) on page 184: Yes No

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

Public Private Owner: Waste Management of Michigan (formerly USA Waste Inc.) 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) Type II Sludge

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 - 96.0 acres

Current capacity: 22,000,000- 22,500,000 cubic yards
 Estimated lifetime: 60 years
 Estimated days open per year: 310 days
 Estimated yearly disposal volume: 3,000,000 gate cubic yards

(if applicable)

Annual energy production:
 Landfill gas recovery projects: 0 megawatts
 Waste-to-energy incinerators: 0 megawatts

Facility Description for Cedar Ridge Landfill

Facility Type: Type II Landfill

Facility Name: Cedar Ridge Landfill

Charlevoix County: Location: Section 19 of Town 33 North, Range 07 West.

Map identifying location included in Appendix E5 (Attachments) on page184: Yes No

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

Public Private Owner: Waste Management of Michigan (USA Waste)

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:

Foundry sand and flyash from East Jordan Iron Works.

Site Size:

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

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

(if applicable)

Annual energy production:
 Landfill gas recovery projects: 0 megawatts
 Waste-to-energy incinerators: 0 megawatts

Facility Description for Packaging Corporation of America Incinerator

Facility Type: Door-Oliver Fluid Bed Incinerator

Facility Name: Packaging Corporation of America Incinerator

Manistee County: Location: Section 19 of Town 21 North, Range 16 West, Filer Charter Township.

Map identifying location included in Appendix E5 (Attachments) on page183: 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: Manistee County Landfill, Inc. or the PCA Private Landfill when/if constructed.

Public Private Owner: Packaging Corporation of America, a Madison Dearborn Partners Inc. company (formerly Tenneco Packaging Inc., and Packaging Corporation of America, a Tenneco company) (PCA)

Operating Status (check)	Waste Types Received (check all that apply)
<input checked="" type="checkbox"/> open	<input type="checkbox"/> residential
<input type="checkbox"/> closed	<input type="checkbox"/> commercial
<input checked="" type="checkbox"/> licensed	<input checked="" type="checkbox"/> industrial
<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	<input checked="" type="checkbox"/> special wastes *
<input type="checkbox"/> pending	<input type="checkbox"/> other: _

* Explanation of special wastes, including a specific list and/or conditions:
Incineration of PCA paper mill sludge.

Site Size:

Total area of facility property:	320 acres
Total area sited for use:	20 acres
Total area permitted:	N/A
Operating:	N/A
Not excavated:	N/A
Current capacity:	10 tons per day (dry wt.) Of 10% sludge
Estimated lifetime:	indefinite
Estimated days open per year:	365 days
Estimated yearly disposal volume:	16 tons per day (dry wt.) Of 10% sludge

(if applicable)

Annual energy production:	
Landfill gas recovery projects:	0 megawatts
Waste-to-energy incinerators:	0 megawatts

Former Dumps

LISTED below are former dumps, disposal piles and similar facilities which were operated by various municipalities. A map of their location in Manistee County is on page 29.

A properly closed disposal site need not remain an unused parcel of waste land. Given recognition to its limitations, it can be converted to a variety of uses. The map of former dump locations shows former disposal sites in Manistee County. For the most part, these sites reflect abandoned township dumps.

Based on the map of former dump locations, there are 18 non-active sites in the county. Table 36 indicates general information about each of these facilities. Detailed information including DNR facility reports, is available from the Manistee County Planning Office.

Former Dumps Detailed Information

Site ⁷	Size ⁹ (Acres)	Zoning	Area Land Use
1.	NA	Agricultural- Residential	Field
2.	10	Agricultural- Residential	Wooded
3.	NA	Agricultural- Residential	Wooded
4.	40	Agricultural- Residential	Wooded/Field
5.	NA	Agricultural	Farm/Field
6.	5	Forest-Wetland	Field
7.	40	Forest-Recreation. Wildlife-Wetland	Farm/Wooded
8.	NA	Public Green area	Wooded
9.	NA	Residential	Residential
10.	NA	Resort-Residential	Wooded/Industrial
11.	NA	Commercial	Field
12.	NA	None	Residential/Commercial
13.	20	None	Wooded
14.	NA	None	Wooded wetland
15.	10	Agriculture	Wooded
16.	10	None	Wooded
17.	40	Forestry	Wooded
18.	NA	Agricultural- Residential	Field
19.	NA	Rural Residential	Wooded/Wetland
20.	NA	Rural Residential	Wooded

⁷ Refer to map for site location

⁹ Source: NWMRP&DC, Clean Water Program. Working with paper number 27.

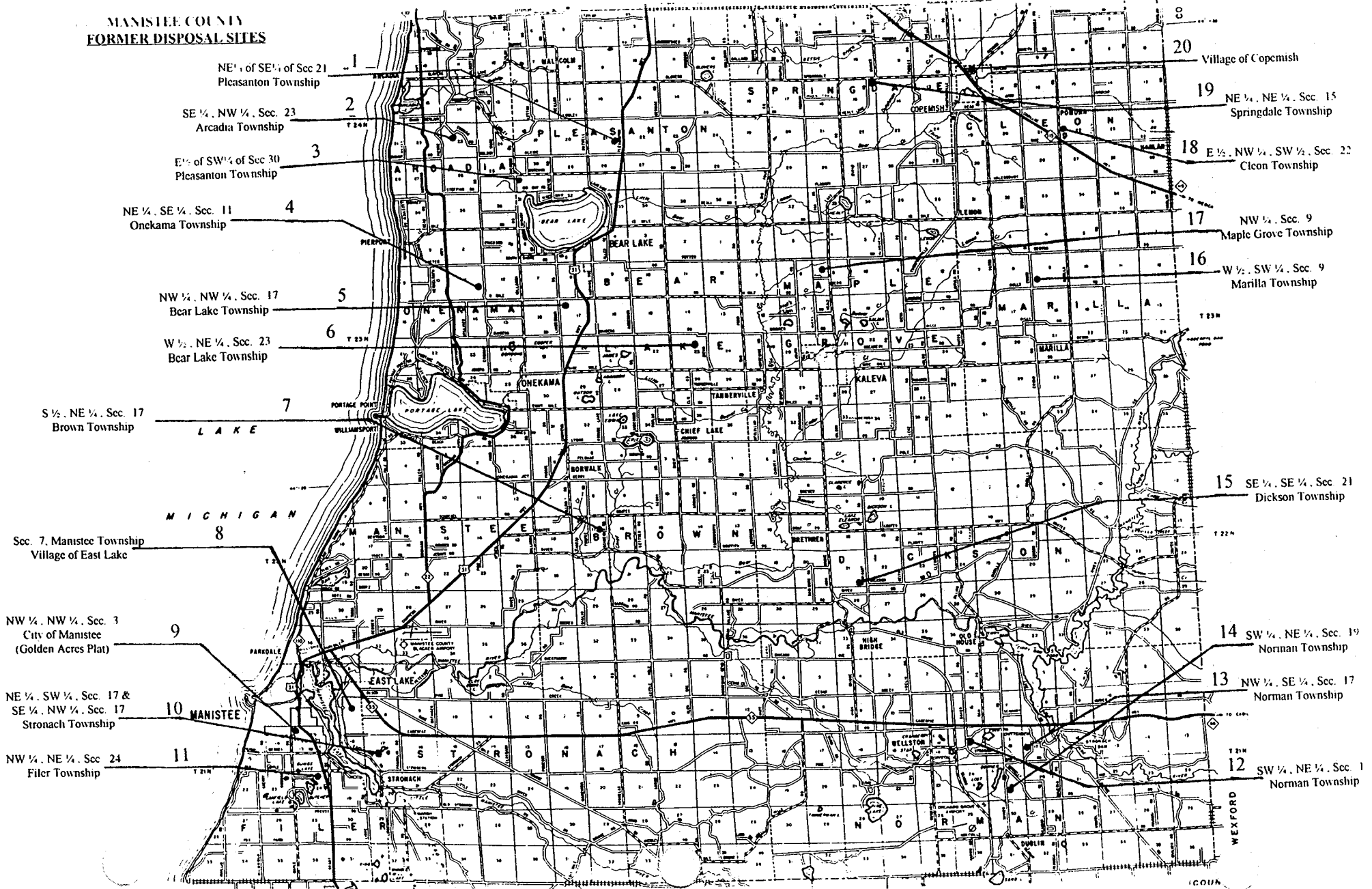
In general, it is not advisable to construct buildings over a closed disposal area because it serves as a poor foundation. Furthermore, gas from the decomposing waste may accumulate in explosive concentrations in or beneath buildings constructed on or adjacent to the fill. Playgrounds, golf courses, and similar recreational facilities do not normally have to support appreciable concentrated loads, and converted sites are often used for these purposes, but they still require careful planning. Maintenance costs may be greater for recreational areas constructed on disposal sites than on natural ground because of excessive and irregular settling and possible cracking of the cover material.

In addition to recreational uses, closed disposal sites offer potential for reforestation programs. The costs are usually quite low and, if the proper species are used, growth can be substantial in a short period of time.

Because of the potential construction and health problems inherent in abandoned disposal areas, it is advisable that these sites be adequately zoned to restrict future development. If the individual municipalities choose not to zone, then the county should use extreme caution prior to issuance of building and health permits for local development.

Sites presently in operation fall under the auspices of SW NREPA. This act requires the monitoring of landfills to protect against groundwater contamination and gas control. Similar monitoring procedures should be considered for those sites closed prior to this act. This is especially important if residential development is allowed to occur at or near the site.

**MANISTEE COUNTY
FORMER DISPOSAL SITES**



Chapter B4: Solid Waste Collection Services and Transportation Infrastructure

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

SOLID waste collection is largely arranged between individual residents, municipalities, businesses and private haulers with private solid waste collection companies. The exceptions are Cleon and Springdale Townships which have established collection contracts with Shoreline Disposal. The municipality does not participate in the contract, but pays for part of the collection cost.

In Onekama and Marilla Townships customers must contract individually with Shoreline Disposal (formerly Harland's Trucking) or Waste Reduction Systems. The municipality does not participate.

Copemish Village and Stronach Township run their own garbage truck

The City of Manistee, Manistee Township and Filer Charter Township have municipal contracted door-to-door pickup with a fee per bag for any amount over the first two bags set-out.

In Bear Lake, Arcadia, Norman, Pleasanton and Brown Townships, Shoreline disposal parks a packer truck in a designated location at scheduled times for use only by residents of those municipalities. This is done by municipal contract. Customers may, at their own expense and option, contract individually with Shoreline Disposal or Waste Reduction Systems for curbside collection.

Spring clean-ups, when residents can set out an unlimited amount of waste, are operated by the municipalities of Manistee City, Filer Charter Township, Manistee, Norman, Arcadia, Cleon, Bear Lake, Dickson, Marilla, Onkama, and Springdale Townships.

Solid Waste Collection Services

Service Provider	Service Type	Service Area	Disposal Facility
Waste Reduction Systems	Residential, Commercial	County-wide plus contracts	Manistee County Landfill, Inc.
Shoreline Disposal (formally Harland's)	Residential, Commercial, Industrial	County-wide plus contracts	Manistee County Landfill, Inc.
Stronach Township municipal crew	Residential	Township only	Manistee County Landfill, Inc.
Copemish Village municipal crew	Residential	Villages of Copemish and Thompsonville (Benzie County)	Manistee County Landfill, Inc.

Recycling Collection/Processing Services

Service Provider	Service Type	Service Area	Recycling Facility
Waste Reduction Systems	Recycling Drop-off	County-wide	Muskegon
Shoreline Disposal	* Commercial dumpster route * Curbside pick-up for fee * Drop-off recycling (eight county-required sites): -Manistee County Landfill, Inc. -In Bear Lake Village -In town of Arcadia -In Onekama Village -Two in City of Manistee -In Copemish Village -In town of Wellston	Manistee-Benzie	Paper to Lakeshore Enterprises; additional material to Muskegon
Lakeshore Enterprises	Recycling Processing (cardboard and paper only)	Manistee-Benzie	Lakeshore Enterprises;
Maple Grove Township Transfer station	Recycling Drop-off	Maple Grove Township and Kaleva Village residents only	Manistee County Landfill, Inc.
Brown Township Hall	Recycling Drop-off	Brown Township residents only	Manistee County Landfill, Inc.
Manistee County Recylers	Recycling Drop-off -Lakeshore recycling Center -Brethren High School -Bear Lake High School -Onekama High School -Manistee High School -Manistee Catholic Central School	Open	Lakeshore Enterprises

Through a landfill host arrangement between Manistee County and Manistee County Landfill, Inc /Shoreline Disposal, must provide a network of eight drop-off stations throughout the county that accepts glass, metal, #2 HDPE, cardboard and paper. This material is primarily taken to a facility in Muskegon for processing, although some paper is taken to Lakeshore Enterprises in Manistee.

Six additional drop-off sites that accept mixed paper only (newspaper, magazines, office paper and corrugated cardboard) are serviced by Lakeshore Enterprises through an agreement with PCA, which uses the paper in its fiber recycling and manufacturing process. Manistee County Recyclers is non-profit organization that governs recycling by Lakeshore Enterprises. Lakeshore Enterprises is a Manistee-Benzie Community Mental Health work program for developed and physically handicapped. Trailers used to collect the mixed paper were donated by a local business which also provide hauling at no charge.

Shoreline Disposal also offers curbside recycling (for a fee of \$4 per household per month) but participation is limited. Shoreline Disposal also provide corrugated collection services to businesses in the County.

Yard Waste Collection Services

The City of Manistee has a significant yard waste composting program with yard waste generated in the city brought to its processing facility. Material is collected in biodegradable bags, piled in large windrows at the site, and turned by a front loader. Periodically, finished compost is screened and used in city programs.

Service Provider	Service Type	Service Area	Disposal Facility
City of Manistee	Fall Leaf, Weekly seasonal	City of Manistee	City compost Yard
Stronach Township Filer Township	Drop-off	Host Township only for a fee paid to the city.	City compost Yard
Other municipalities and contractors (providing their own employees with workers compensation)	Drop-off	Manistee County for a fee paid to the city.	City compost Yard

Chapter B5: Evaluation of Deficiencies and Problems

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

CURRENTLY Manistee County Landfill, Inc. (formerly Harland's landfill) is owned and operated by Allied Inc. The landfill has changed ownership many times. The concern is the continual change of ownership and possible future reacquisition by Waste Management Inc. (formerly USA Waste Inc.) which would create a monopoly-like situation, more than already exists in the northwestern Michigan region. During this planning period the most significant development with the greatest concern for the region was the consolidation of nearly all the available landfill capacity serving the region by the "new" Waste Management Inc. owned by Waste Management Inc. (formerly USA Waste Inc.) and Allied Waste Systems of Michigan, Inc. This creates far fewer options for homeowners, businesses and communities as they seek solid waste management services that are environmentally responsible, cost effective and affordable. This development places a greater importance on solid waste planning process for the county and the region.

Manistee County has four approved landfill sites three of which have not been built at this time. The Fischer Landfill site near the Wexford County line is the first. Packaging Corporation of America, a Madison Dearborn Partners Inc. company (formerly Tenneco Packaging Inc., and Packaging Corporation of America, a Tenneco company) (PCA) has an approved landfill site for its paper mill sludge and ash. Tondu Energy System (Tondu) has an approved ash monofill landfill site to dispose of its flyash. Currently Tondu's flyash along with PCA's sludge is being used for daily cover at the Manistee County Landfill, Inc. The concern is the volume consumed by these two waste products were not figured in to the waste stream and vary greatly due to the marketability which take it out or adds it to the waste stream.

Competition in the solid waste industry is weak, especially in regards to landfill disposal where one firm controls most of the available capacity and solid waste collection in the region. The failure to respond to this trend will result in higher prices, reduced service, and limited recycling/composting programs and services.

Manistee County has curbside recycling available by subscription. There is limited participation in the curbside recycling. This low level of public sector involvement in solid waste management is common throughout most of the region. It is noted that there needs to be more incentives for residents to participate in recycling. Manistee County does offer eight recycling drop-off sites with limited hours of availability. Manistee County realizes the need to make these sites more convenient, with longer hours for better participation and convenience of use. Many of the eight recycling sites are only open two hours per month. The Thompsonville/Copemish recycling truck, supplied by Shoreline Disposal (formally Harland's Tucking and now owned by Allied Inc.) — if filled before the two hours the site is scheduled to be open — the recycling service ends and the truck does not return until the next month.

Paper recycling is a strong point for Manistee County. The County has an excellent paper recycling program set up by Manistee County Recyclers which is run through Lakeshore Enterprises and area schools then sold to PCA. Even with this program there needs to be more participation by businesses in cardboard recycling.

Overall recycling for other items has a major lack of participation and public education on waste reduction and recycling. This is a result of the loss of recycling processing that was being done at Harland's landfill prior to being bought out by United Waste and later by Waste Management Inc. (formerly USA Waste Inc.). Most all of the recycling processing equipment was moved, first to Traverse City and then to Muskegon. Without necessary processing facilities being available for recycling Manistee County will not be able to provide good recycling. Programs and will continue to have low participation in recycling.

Manistee County, like other counties in the region, lacks good implementation tools like ordinances, intergovernmental contacts, oversight committees, enforcement arrangements, hauler licensing and more. These

implementation tasks are complex enough that they require additional dedication or staff time. The administrative capability is limited because existing staff with ongoing planning or management responsibilities can not be expected to get these programs going without additional help. This also means attention from upper management in these same areas so implementation staff know they have the full support of governmental units.

Manistee County also lacks an adequate funding mechanisms. These funding issues must be worked out for these proposed and existing programs to be successful. There are many methods of funding these programs, many of them outside the tax based systems. The ground work for these systems exist in only a few places in the region.

The decision-making authority, responsibility and capability is unclear. It is recognized as a problem and there are solutions but it is unclear who is responsible for figuring out and then taking action. This must be figured out in order to proceed to implement solutions.

There are many regional system threats that exist that effect Manistee County which are worth noting. The following threats to the system are:

Regional Impacts for NWMICOG 10-County Planning Region ¹⁰

There are many regional system threats that exist that may affect Manistee County which are worth noting. The following threats to the system are:

Private Sector Actions: Because of the weaknesses in the region there may be private sector solid waste company decisions made over the years for the region that may not have any public input and which may result in service being reduced and prices increased. There are already examples of services being terminated, transfer stations being shut down, recycling programs being eliminated, and fees being hiked. This trend may accelerate and may include closure of landfills, price hikes in disposal fees, elimination of what few small haulers are left, risk of shut down of even more recycling programs, and others.

An Uncoordinated Public Sector Response: There could be a response from the public sector to the private sector actions above. The problem is that while the private sector decisions are being made by a few people, public sector response will be broken up into hundreds of reactive "fire fighting" decisions spread over time. Without help it will be unorganized, easy to manipulate, terribly inadequate and result in further erosion of programs and services which in the end will cause local citizens and businesses to lose out.

Failure to Delegate to Qualified Implementation Staff: There is an optimum amount of public sector involvement that should be found for the region. Not too much, not too little. It will take qualified implementation staff to figure this out and to work with the private sector and the community and businesses to put it in place. Then it will take this same qualified implementation staff, working together across the region, to keep up with the changes in this industry, to stay on top of trends, and to keep services high and costs low. The biggest threat to finding this balance is the failure to delegate this responsibility to qualified implementation staff.

Failure to Drop the Baggage of the Past: Intergovernmental cooperation, whether between cities, townships or counties, has a varied and storied past with both successes and failures. Solid waste management and recycling program management is not difficult. It doesn't take much, however, to take the simplest of these endeavors and complicate them with the baggage of the past and the lack of an open mind about how to work together in the future. For solid waste management in the region, the threat of inaction is high, not because goals can't be accomplished, but because they weren't given a fair chance.

Failure to Act and the Loss of Momentum: All the above said, it is still true that the biggest threat is the failure to act with the resultant loss of momentum from the solid waste planning process and the loss of the opportunity to positively impact service quality, price for solid waste management and recycling in the region

¹⁰Regional Issues part of this Chapter is adopted from a Resource Recycling Systems Inc. (RRSI) undated Project Memo on major conclusions and opportunities for action, written by Jim Frey, RRSI CEO with Cathy Semer and Kerry Sandford.

Chapter B6: Demographics

The following 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.

TABLE B.6.1 below shows the permanent population of Manistee County projected through the planning period. Additional adjustments for seasonal population change were made using a multiplier for each jurisdiction ranging from 1.1 (January) to 1.36 (August). Adjusted population totals were multiplied by a per capita generation rate.

B.6.1 Manistee County Permanent Population

MUNICIPALITY	1990	1998	2003	2008
Arcadia Township	553	609	617	625
Bear Lake Village	339	318	292	267
Balance of Bear Lake Township	1,080	1,190	1,206	1,221
Brown Township	588	648	657	665
Copemish Village	222	208	191	175
Balance of Cleon Township	491	541	548	555
Dickson Township	735	760	740	720
Filer Township	1,966	2,343	2,495	2,655
Manistee City	6,734	6,742	6,437	6,141
Eastlake Village	473	521	528	535
Balance of Manistee Township	2,479	2,955	3,146	3,347
Kaleva Village	484	454	417	382
Balance of Maple Grove Township	639	677	669	661
Marilla Township	268	273	263	253
Norman Township	1,189	1,417	1,509	1,606
Onekama Village	515	483	443	406
Balance of Onekama Township	751	895	953	1,014
Pleasanton Township	573	607	600	593
Springdale Township	498	549	556	563
Stronach Township	688	711	693	674
Manistee County Total	21,265	22,900	22,960	23,060

Chapter B7: 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.

THE summary of land development is based on the *Manistee County Land Use Plan* of 1997.¹¹ The following summarizes the land use/cover of Manistee County in 1978 and 1993/4:

SUMMARY OF NET LAND USE CHANGE IN STUDY AREA

(All of Manistee County except Cleon, Marilla and Dickson Townships)

LAND USE CODE	1978		1993		1978-93		Percent Net Change
	Total of land Acres	Percent area	Total of land Acres	Percent area	Net Change in acres	Percent Increase	
Urban	11,108.26	4.1948	14,109.18	5.3288	3,000.92	27.0158	1.1338
11 Residential (yellow)	7,614.61	2.8758	8,690.02	3.2818	1,075.41	14.1238	0.4068
12 Commercial (orange)	795.40	0.3008	957.01	0.3618	161.61	20.3188	0.0618
13 Industrial (red)	560.89	0.2128	619.39	0.2348	58.50	10.4308	0.0228
14 Transp. Commission. Utilities (black)	699.24	0.2648	1,488.52	0.5628	789.28	112.8778	0.2988
17 Extractive (brown)	515.99	0.1958	1,073.02	0.4058	557.03	107.9548	0.2108
19 Open and Other (purple)	922.13	0.3488	1,281.22	0.4848	359.09	38.9418	0.1368
2 Agricultural (light green)	29,326.07	11.0738	28,042.16	10.5888	(1,283.91)	-4.3788	-0.4858
3 Rangeland (white)	38,840.07	14.6668	37,150.34	14.0288	(1,689.73)	-4.3508	-0.6388
4 Forested (green)	140,326.98	52.9868	140,496.97	53.0518	169.99	0.1218	0.0648
5 Water (blue)	7,473.72	2.8228	7,491.00	2.8298	17.28	0.2318	0.0078
6 Wetland (light blue)	37,145.03	14.0268	36,962.52	13.9578	(182.51)	-0.4918	-0.0698
7 Barren (beige)	582.80	0.2208	583.67	0.2208	0.87	0.1498	0.0008
0 Unknown	33.24	0.0138	0.33	0.0008	(32.91)	-99.0078	-0.0128
TOTAL	264,836.17	100.0008	264,836.17	100.0008		100.0008	

From the above it is noteworthy to point out land used for residential purposes has expanded by a factor of 1.14, while the county's population remained stable or declined in the same time period. This is the same trend seen throughout Michigan. Residential is the largest single increase in land use in Manistee County in net acres change.

Commercial growth has also been significant, with an increase use of land by a factor of 1.2.

The second largest increase has been in extractive land use activities.

Losses have occurred, first, in "range land" (open or bushy fields). This has occurred, dominantly, in conversions to forest and agriculture.

Second, losses have been in net acres of agricultural lands. However looking at more detailed breakdown of the data, horticultural agricultural operations have increased the number of acres in production. The agricultural loss has been in row crop and pasture lands. This fits with an acknowledged trend toward specialty farming in an area which does not have a strong resource base for agricultural industry.

¹¹ Manistee County Planning Commission (Schindler, Kurt H.); *Manistee County Land Use Plan* (Volume I and II) of 1997; Manistee County Planning Department; Manistee, Michigan 1997.

The *Land Use Plan* is summarized here by reproducing the *Land Use Plan*'s summary.¹²

The *Land Use Plan* is divided into two volumes. Each volume is further divided into three and four basic parts. Volume II. The *Land Use Plan*'s Supporting Studies and Analysis; A. introductory material. B. background material and C. Appendixes. Volume I, Conclusions, Goals, Objectives of the *Land Use Plan*; D. introductory material. E. the *Plan*. F. Appendixes, G. Addendums. This executive summary is to briefly review the content of each part. This is for summary purposes, it is not a substitute for reviewing the entire *Land Use Plan*. In the process of abbreviating material for presentation here, detail has been lost. This summary does not completely convey the content or intent of this *Land Use Plan*.

The *Land Use Plan* is not a "no growth" or a "slow growth" plan. It is a "balanced" or "sustainable" growth plan to achieve growth, new jobs and protect the quality of life which contributes to people wanting to live here, employers wanting to relocate here, and tourists wanting to visit here.

Part A (Volume I)

THIS part includes introductory material, a prologue to emphasize the five main goals of the *Land Use Plan* (Chapter A1): (1) To have a thriving, sustainable, economy dependent on increased use of land without its depletion. (2) Preserve special and unique environments, farmlands, open spaces and forests, quality of life. (3) At the same time enhance and centralize commercial, industrial and residential development. (4) Manistee County (Planning Commission) takes a lead role to have coordinated and consistent zoning, land use planning and management.

Appendix C1 includes acknowledgments to the many people who volunteered to help put the *Land Use Plan* together; Land Use Plan Committee of the Manistee County Planning Commission and its subcommittees, the Manistee County Planning Commission, numerous experts and presenters, the planning department staff, the *Land Use Plan*'s author and the Manistee County Board of Commissioners.

Material about the *Land Use Plan* is also included (Chapter A3). It introduces the *Land Use Plan*'s underlying concept of "sustainable development," "integrated management" and the need for "coordinated resource based land use planning". The appendix sets the stage by introducing the concepts and equivalent federal policies which also introduced "integrated management" concepts. It continues along this line with Michigan's need for coordinated resource based land use planning and similar philosophy shared by the *Gaaching Ziibi Daawaa Anishnaabe* (Little River Band of Ottawa Indians) tribal *Ogema* (government). Finally, these concepts are introduced in the context of Manistee County's land use issues and concerns to provide an overview of the resource management and land use management issues of Manistee County. It sets out how natural land physical resources are best managed in an integrated way to promote sustainable management: Sustainable for the current and future generations; integrated by using a holistic, or ecosystem approach; coordinated between all various levels of government; and resource based for a rural area who's development in agriculture, tourism, forestry and extractive industries are dependent on the natural resources. Manistee County's major concern is economic development, to be encouraged through land use planning. Economic development depends on resources, and sustained resources depends on an economy which can afford the protection measures. The county must treat economic and environmental issues as mutually compatible --not two opposing or conflicting beliefs.

The Chapter also outlines the committee process and deliberation used to formulate the *Land Use Plan*. It explains in detail the organizational structure of the *Land Use Plan*.

The Chapter goes into detail about the legal authority of the *Land Use Plan*; county planning; the function and effect it has on municipal plans, zoning; capital improvements; infrastructure; and government purchase and sale of land. The *Land Use Plan* is intended to serve as a municipal plan if so desired. The *Land Use Plan* is also a lobbying tool. Finally it is a "plan", and intended to be flexible, by application, interpretation and amendment.

¹²Manistee County Planning Commission (Schindler, Kurt H.); *Manistee County Supporting Studies and Analysis for the Land Use Plan* Volume II; Manistee County Planning Department; Manistee, Michigan 1997; pages 5-11.

Part B (Volume I)

THIS part is the "plan" section. It reviews each topic and Plan Map Areas shown on Plan Map and topics the Land Use Committee prioritized as important for purposes of the *Land Use Plan*. The first chapter (B1) reviews the Plan Map and discusses zoning techniques such as transfer of development rights (currently not legal in Michigan), purchase of development rights, open space zoning and planned unit developments.

In a simplified form, the following process was used to compile the Plan Map (on page 43). Throughout, the materials reviewed in part B of the *Land Use Plan* were used as source material to do the following:

First, those areas of the county which have been designated Special and Unique Environments were used to draw the "special and unique" Plan Map Areas. Some special and unique areas are "written off" as having been already developed to the point of having lost the character which caused the area to be so designated.

The second step is to overlay information from the agricultural and prime forest mapped information. These areas are then added to the Land Use Plan Map as "resource development" Plan Map Areas. This is intended to show areas of the county where the land resources present suited conditions for agriculture and forestry practices.

Third, is to show areas with characteristics which limit development (e.g. wetland or areas where on-site sewage disposal systems are suspected not to work). These areas are on the Plan Map as "resource limitation" Plan Map Areas.

Fourth, information on residential use (mainly areas so designated in the 1988 (1990) Land Use Plan Map which reflects existing land uses, residential density, residential growth pattern, road patterns, existing zoning and so on) are overlaid on the map. From this series of overlays one is able to draw areas on the Plan Map labeled as "residential" Plan Map Areas. At this stage, boundaries between Residential, and Resource Limitation, Resource Development, Special and Unique areas overlapped. In most cases the residential Plan Map Areas --particularly where preexisting residential development existed-- took precedence.

Fifth, areas of commercial activities (mainly areas so designated in the 1988 (1990) Land Use Plan Map) were added to the map. The end product is seen on the Plan as "commercial" Plan Map Area. The county hinterland boundaries were used to identify trade centers and to place a commercial designation in each trade center.

Sixth, the same process used for commercial was repeated with industrial information. The result is shown as "industrial" Plan Map Areas.

Seventh, transition Plan Map Areas were drawn in to reflect the recommendations of the *Land Use Plan*.

Eighth, was to designate all the areas now left over as "rural residential" Plan Map Areas.

Last was to compare the Plan Map with existing township zoning. Where the correlation was close, or the township used a similar land use analysis, the boundaries on the Land Use Plan were made to duplicate existing zoning.

The following goals were established for the land use Plan Map, generally: (1) To have a thriving, sustainable, economy dependent on increased use of land without its depletion. (2) Preserve special and unique environments, farmlands, open spaces and forests, quality of life. (3) At the same time enhance and centralize commercial, industrial and residential development. (4) Manistee County (Planning Commission) takes a lead role to have coordinated and consistent zoning, land use planning and management.

[The goal to centralize commercial, industrial and residential development. The *County Land Use Plan Map* provides a picture of future proposed and present centers of solid waste generation. These locations can be seen on the Plan Map on page 43, shown as residential, commercial and industrial areas. Future and present centers of industrial solid waste generation are the Manistee Lake area, and Kaleva. Future and present commercial and residential centers include the Manistee Lake area, Kaleva, Arcadia, Copemish, Onekama/Portage Lake, Bear Lake, Brethren, and Wellston.]

For specific Plan Map Areas the following goals were established. For industry Plan Map Areas (chapter B2) they are: (1) Accommodate industrial land needs with short notice and a minimum review process. (2) Rehabilitate existing industrial facilities.

For commercial Plan Map Areas (chapter B3): (1) Accommodate commercial land needs with short notice and a minimum review process. (2) Development of Manistee area that results in a pleasant destination for tourism and for county residents. (3) Safe transportation by avoiding commercial strip development.

For residential Plan Map Areas (chapter B4): (1) Avoiding residential strip development. (2) Preserve land for resource management (farm, forestry, tourist, mining extraction). (3) Reduce amount of low-cost land and housing.

For rural residential Plan Map Areas (chapter B5): (1) Provide a mix of residential, farm and forest activities. (2) To provide for a separate zoning for transition purposes between rural residential and Resource Development. (3) To provide for a transition Plan Map Area for expansion of commercial activity south and north of Manistee. (4) Support agriculture and forest management activities.

For resource development Plan Map Areas (chapter B6): (1) Protect and enhance development of productive land based industries (farm, forestry, extraction of aggregates). (2) Keep heavier clay loam soils areas in large parcels for agricultural and timber development. (3) Keep nationally unique farmlands for agricultural and timber development. (4) Provide for a separate zoning for transition purposes between rural residential and Resource Development. (5) Support agriculture and forest management activities.

For resource limitation Plan Map Areas (chapter B7): (1) To appropriately develop land with limitations for development (wetlands, soil types).

For special and unique Plan Map Areas (chapter B8): (1) Sustain, enhance tourist based economic growth. (2) Protect natural, cultural, scenic, recreational features. (3) Improve quality of life for local residents. (4) Enhance the area for attracting potential new businesses. (5) Diversify tourism activities in different areas of the county. (6) Recognize, protect and enhance the use of cultural (historic, arts); cultural (built environment, education); environmental/nature; scenic/tour; based special and unique environments. (7) Recognize, protect and enhance the use of recreational activity based special and unique environments. (8) Recognize and protect resource harvesting (timber) based special and unique environments.

Various topical issues were also identified as needing attention in addition to the Plan Map Areas. A chapter for each of these issue was also prepared. The first was on the issue of a new Native American government in Manistee County which received federal recognition. The *Gaaching Ziibi Daawaa Anishnaabe* (Little River Band of Ottawa Indians) chapter (B9) presents the following goals: (1) Establish a positive working relationship between Manistee County and the Little River Band of Ottawa Indians. (2) Enhance the tribe's growth and development so it is positive for the county.

Goals for the topic of ground and surface water (chapter B10) are: (1) Clean, protected groundwater for today and future generations. (2) Clean, protected surface water for today and future generations.

Goals for the topic of air pollution, solid waste, soil erosion and land/water margins (chapter B11) are: (1) To have clean air. (2) To not have soil erosion. (3) To properly manage land/water margins.

Goals for the topic of oil and gas development (chapter B12) are: (1) State regulation of oil and gas activities with municipality formally involved in the communication process. (2) Direct involvement of Emergency Management Coordination in Hydrogen Sulphide (H₂S) issues. (3) Reduce the conflict between property owner and the oil and gas industry resulting from severed mineral rights.

Goals for the topic of coordination, economic development and process streamlining (chapter B13) are: (1) Provide an efficient, quick, easy, less expensive process to obtain approvals (permits, subdivision, etc.) (2) Maintain the maximum flexibility for development design and planned use. (3) Make it easier to understand how to and to comply with regulations. (4) The "special use permit" process should be used sparingly. (5) Have the "Planned Unit Development" process option available, as a special use permit, for innovative and cluster development.


MANISTEE COUNTY

1997 LAND USE PLAN MAP

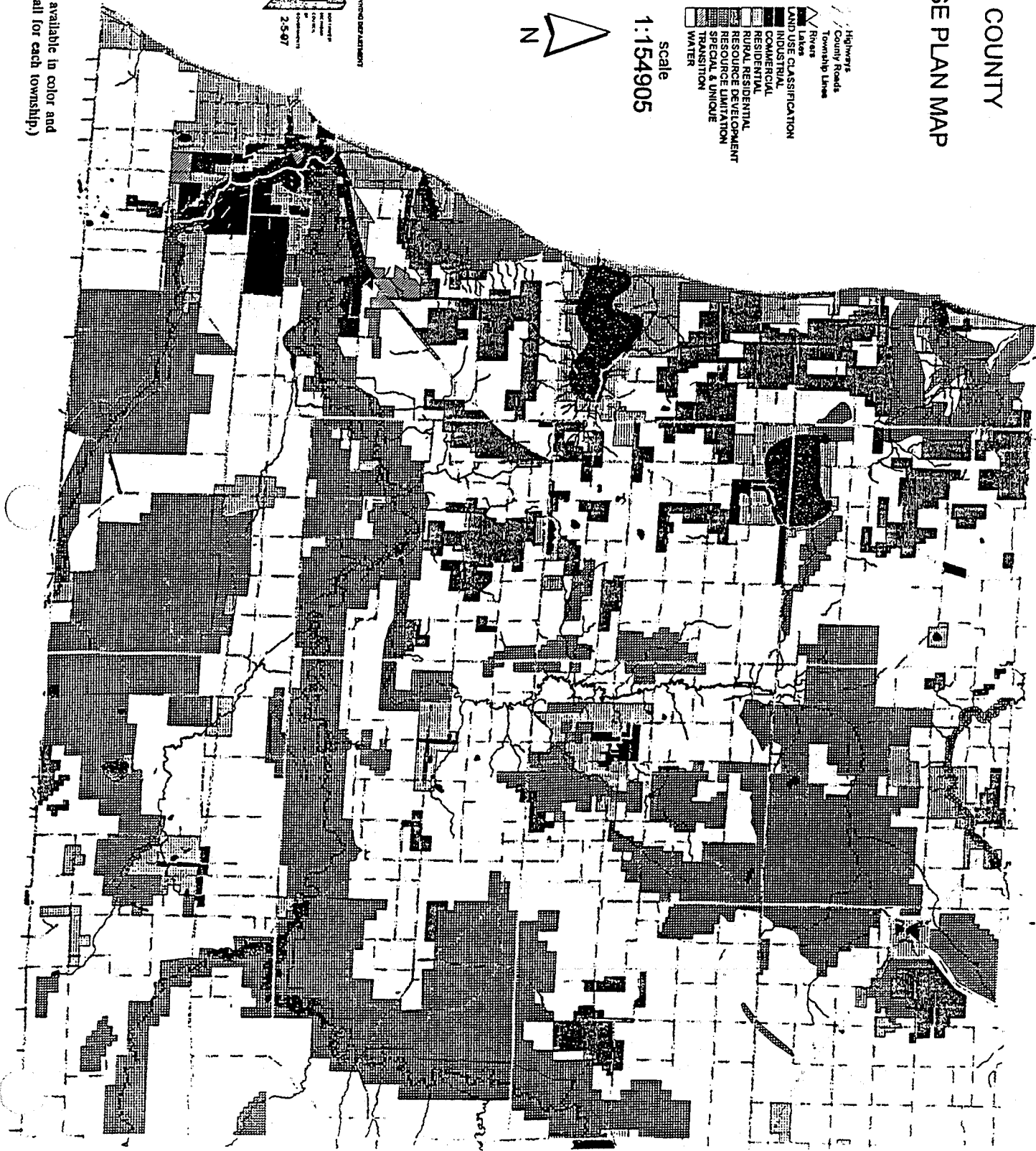
- Highways
- County Roads
- Township Lines
- Rivers
- Lakes
- LAND USE CLASSIFICATION
- INDUSTRIAL
- COMMERCIAL
- RESIDENTIAL
- RURAL RESIDENTIAL
- RESOURCE DEVELOPMENT
- RESOURCE LIMITATION
- SPECIAL USE
- TRANSITION
- WATER

scale
1:154905



Manistee County

 PLANNING DEPARTMENT

2597



(This map is also available in color and white detail for each township.)

Part E (Volume II)

THE FIRST part of volume II of the *Land Use Plan* includes introductory material (chapter E1). It includes acknowledgments to the many people who volunteered to help put the *Land Use Plan* together: Land Use Plan Committee of the Manistee County Planning Commission and its subcommittees, the Manistee County Planning Commission, numerous experts and presenters, the planning department staff, the *Land Use Plan's* author and the Manistee County Board of Commissioners.

Material about the *Land Use Plan* is included (chapter E3).

Part of developing the *Land Use Plan* included a public opinion survey of property owners over 21 years old in Manistee County. The survey was done by West Shore Community College Business and Industrial Development Institute. This section reviews the methodology for the survey. Results of the survey are reported throughout the *Land Use Plan* in conjunction with the respective topic.

Next a chapter (E4) reviews past land use planning in Manistee County. It briefly reviews each, and outlines some of the results of those efforts. The chapter starts with indicating a county plan was done in the 1930's, but copies can not be found today. It then reviews the 1946 *Land Use Planning Report, Manistee County*, a 1975 *Manistee County Sketch Plan*; a *Manistee County Land Use and Development Policy* of 1981; and the 1984 *Land Use Plan* (as amended to 1990). Key documents, which lead to a relatively quick turn-a-round for the 1984 plan were: the Michigan Resource Inventory Program (MiRIS), the *Northwest Michigan Prime Forest lands Inventory*, and *Manistee County Third Level Soils Association Report*, March 1982.

The *Land Use Plan* was influenced by major additional, or new materials also. (1) The start and use of the Manistee County Geographic Information System; (2) *Michigan's Trend Future Reports and Patterns on the Land: Our Choices—Our Future* by Michigan Society of Planning Officials, September 1995 (including eleven different *Trend Future Reports* working papers and summaries) and (3) the *Grand Traverse Bay Region Development Guidebook* by the Grand Traverse County Planning Department.

Part F (Volume II)

THE SECOND part presents background material on Manistee County. The first chapter (F1) covers the county's geography and geology. Manistee's landscape is basically a product of the most recent glacial period leaving moraines, lacustrine plains, outwash plains and kames. More recent geological formations include sand dunes along the Lake Michigan shore.

Next, the county's history is reviewed (chapter F2). The chapter briefly reviews the Native American occupation in the area, United States Government Land Office surveys of the county, homesteaded farms, extensive lumbering, depletion of the resource and subsequent economic collapse. In the early era, Manistee was a transportation hub (via rail and ship) and regional center. More recent history includes the industrial (paper, salt, chemical) activities and the multiple use management of the area's forests. With the advent of dominant auto and truck transportation, Manistee lost its regional hub status and is hindered by Lake Michigan to the west. Detail is provided on population and shifting political boundaries.

Chapter F3 reviews available data on the county's former land use. The attempt is to try to construct a picture of land use changes and trends over time. Discussion centers on residential, commercial, industrial, agricultural, open lands/parks, forests and rangelands (fields). Pre-European settlement vegetation, 1941 Recommended Land Use Map, 1980 generalized land uses are presented.

This section also introduces the concept of hinterlands and trade centers, as used in the *Land Use Plan* and previous land use plans. This section provides data to measure the relative economic impact that each land use --number of jobs, amount of property tax collected-- has to the county.

Detailed mapping and data is presented to compare land use/cover changes for 1978 and 1993/4. This shows an increase in residential land use (but little population growth), loss of farmland (but an increase in horticulture and specialty farms), major shifting between fallow (rangelands) fields and agriculture, and forest lands conversions into residential, agricultural and field. Most the data presented here is in tabular and map form, and requires careful study of maps.

A summary of the results of *Michigan's Trend Future Reports and Patterns on the Land: Our Choices--Our Future* project (Michigan Society of Planning Officials) is presented in chapter F4. The 10 key findings that may be most important in the *Michigan Trend Future Report* are:

1. Sprawl is the principal problem in Michigan, and will get worse if current trends continue. Three regions face the greatest risk, southeast Michigan, western Michigan (Grand Rapids, Holland, Muskegon), and the greater Grand Traverse Bay region [of which Manistee County is on the southern fringe].
2. Sprawl is difficult to observe in an early form, land fragmentation (if there were fences around the perimeter of every newly divided property you could see it). Fragmentation of resource lands (especially farmland, forest land and mineral lands) will result in steady declines in the relative significance of those industries and will have a negative impact on tourism.
3. We are nearly completely auto dependent and can expect significant increases in vehicle miles traveled, number of automobiles and trucks, and commute times, and continued decreases in car pooling, and mass transit.
4. There will be significant increases in infrastructure costs and declining ability to meet those costs. It appears that the principle reason costs are rising is because we are not following a "pay as we grow" principle.
5. There will be continued significant declines in population in older central cities and increases in families in poverty and in concentrations of racial minorities.
6. There will be continued decreases in biodiversity mostly as a result of many new forest openings and increased conflicts over multi-use of public lands.
7. The present institutional structure (for planning, land use, intergovernmental coordination) does not work and cannot work without reform. (The two top items which were revealed from the Michigan *Relative Risk Management Report* were the "lack of integrated and coordinated land use planning" and the "degradation of urban environment".)
8. The present mix of interest groups is not sufficient to resolve current structural defects.
9. There is a lot of attention on land use issues, but legislative efforts are for the most part premature--the necessary understanding and support base is not in place nor up to speed.
10. Current trends are creating myriad problems that will be laid at the feet of our children who will have fewer choices available to deal with them.

The chapter reviews in detail the Michigan trends starting with the first period (initial settlement 1840-1900); second period (industrialization/urbanization 1900-1960) and third period (post-industrial age 1960-present).

Finally it presents projections for the future if those trends continue: Continued shift of jobs from the industrial to service sectors; more low density housing; decentralized government services; auto dependency; infrastructure following (not leading) development; more rural residents wanting urban services; loss of a relationship between land use and land resource base; increased popular resistance to change (not in my back yard, last one in, attitudes); a major population change is expected in northern lower Michigan (growth) with a disproportionately larger amount of land to accommodate that growth than has occurred in the past; and employment gains expected in southern Michigan urban areas.

Next chapter F5 presents background on Manistee County's natural resources; surface water, ground water, soils, forestry, agriculture, septic limitations and natural resources. Maps for each topic are also presented.

All water in Manistee County is interconnected. There is no "magic" impermeable layer that protects an aquifer from contamination. (The closest one comes to that is in the Kaleva area for its deeper (100+ feet) wells, but it is known that is not completely impermeable.) Most lakes, streams, wetlands reflect the groundwater level. The need for a county-wide groundwater protection program is necessary. Products to help accomplish this include the *Manistee County Site Plan Review and Groundwater Protection* and *Manistee County Model Zoning Administrator Office Manual*.

Soils data (when compared to pre-European vegetation, agricultural lands, forest lands, etc.) correlates closely to land resources for development and land features which are limiting. Manistee County does not have any prime farmlands and farming is not a major economic activity. Nationally unique farm lands do exist (tart cherry indicator crop sites) where potential for orchard, horticulture and fruit growing may exist. Forestry is an important industry as well as being the dominant land cover in the county.

Aggregate extraction (sand, gravel, topsoil, clay mining) is a minor land use. Oil and gas extraction is significant --in dollar volume, though not proportionally important in number of jobs. Manistee County has been a major player in oil and particularly gas production. This trend may continue with development of Antrim gas reserves.

Manistee County's estimated 1996 population of 22,815 (chapter F6) expected to grow at rate of 4½ percent in the next ten years. In the past Manistee's population is estimated to have been growing from 1986 to present. A 1980 economic depression resulted in a population decline from 1979 to 1986. Seasonal (tourist, summer home owner) residents range from an additional 4%, January, to 34%, July, (with an annual average of 16%) over our permanent population (23,856 to 34,429 in 1986). This means about 700 jobs in the county are dependent on seasonal influx of visitors.

With a 4% population growth on top of the seasonal influx, the *Land Use Plan* more than accommodates the anticipated demand for new residential, commercial, industrial and infrastructure needs. Even with a population growth of 10 to 20 percent, the *Land Use Plan* does so.

People move to Manistee County for (1) employment reasons, (2) to retire, and (3) to get away from the city (not a desire to live in a rural area). Employment data for Manistee County's labor market area tends to support this. Employment in the county has grown 28% in the past ten years, mainly in retail and service sectors.

Existing infrastructure is covered in the next chapter (F7). It includes discussion on transportation, county drains, water and sewer utilities, electricity, telephone, natural gas, cable television, schools, postal service and emergency services. Maps for each topic are also presented.

If one is serious about economic growth along the lines of manufacturing and commercial development, then the investment in infrastructure must take place. The locations for these types of activities need to be where three-phase power, gas, public water, public sewer, year-round roads without weight restrictions exist, or where most exist. To simply zone a field, or woods, industrial or commercial is not productive, and may detract from areas where infrastructure investment has been made.

The ownership of land (chapter F8) in Manistee is also presented. Topics include a discussion on public lands and a major need for the county to actively coordinate with the two major land management agencies, the United States Forest Service (controlling 24½% of the land in the county) and Michigan DNR (6.96%). Considerable attention is directed toward the *Gaaching Ziibi Daawaa Anishnaabe* (Little River Band of Ottawa Indians) jurisdiction over their land holdings. Discussion on private land ownership centers on subdivisions and fractionalization of parcels impacts on resource recovery and development.

Existing Zoning is reviewed in chapter F9. Zoning is just one part of the planning and development system. Zoning, done alone, does not produce development. It must be accompanied by investment in infrastructure and other public services, incentives, land use policies, and land ownership. A major job in Manistee County is to match economic development (done most effectively at the same geographic scale as the labor market area (roughly Manistee County's political boundaries) and zoning done at a municipal level. Coordination and cooperation is paramount.

Existing zoning is set to accommodate 245,839 housing units and 602,307 total population. This is a result of a buildout analysis. That might be more than what residents in the county have in mind.

Chapter B8: Solid Waste Management Alternatives

The following briefly describes all solid waste management systems considered by the County and how each alternative will meet the needs of the County. The manner of evaluation and ranking of each alternative is also described. Details regarding the Selected Alternatives are located in the following section. Details regarding each non-selected alternative are located in Appendix E3, page 157.

THE county's Solid Waste Council and staff reviewed a set of solid waste management program strategies in the following eight areas:

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

The following six system options were then developed by pulling from the above programs and putting them together as complete solid waste management systems.

- 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 Systems

System name	Clean Community	Recycling Incentives	Drop-off Residential Recycling	Curbside Residential Recycling	Residential Yard Waste Composting	Commercial Recycling	Material Transfer & Processing	Disposal
System A: Basic Waste Collection & Disposal Program	- Solid Waste Collection - Illegal Dumping policing	- Basic Education on waste	- Encourage	None	- Back yard composting encouraged - One drop-off provided	- Encouraged	- Not specified	- Existing Landfills - In-County Disposal not a priority
System B: Level 1 Basic Clean Community & Drop-off Recycling	Same as A add - Spring Fall Cleanup days - Household Hazardous waste program	Same as A add - Basic Recycling Education - Basic Recycling Promotion	- Mobile drop-off sorted - One Permanent drop-off sorted	None	Same as A add - Fall Leaf Collection - Villages/Towns only	- One Permanent drop-off sorted	- Solid Waste drop-off sites - Recycling Processor added	Same as A add - Small drop-off solid waste
System C: Level 2 Expanded Clean Community & Drop-off Recycling	Same as B add - Agriculture Pesticides - Adopt a " " programs	Same as B add - Pay As You Throw - add more materials	- Permanent drop-off network - Sorted as baseline - Commingled if available	- Subscription Encouraged - Sorted as baseline - Commingled if available	Same as B add - Back yard bin distribution	Same as B add - Light use of other drop-offs - Commingled if available	Same as B add - Expand Processor Capacity	Same as B
System D: Level 3 Expanded Clean Community & Basic Curbside Recycling	Same as C add - Permanent Household Hazardous Waste Site	Same as C add - More Materials	Same as C add - All Commingled - One Site Bigger than rest	Same as C add - All Commingled - Contract for village/cities	Same as C add - Mulching mower Program - More Drop-off options	Same as C add - Expanded permanent drop-off - Commingled Subscription encouraged	Same as C add - Expanded Waste Transfer - More Commercial Recycling	Same as C add - More use of transfer - Choice of Landfills
System E: Level 4 Expanded Clean Community & Comprehensive Recycling	Same as D add - Expanded service scope - Small quantity generators	Same as D add - Material bans at landfills - More Materials - More Education	Same as D add - Reduce # of small sites	Same as D add - Establish curbside district - Pilot (wet/dry or co-collected) - Scale back waste collection	Same as D add - Curbside yard waste collection	Same as D add - Commercial Recycling collection - C&D recycling	Same as D add - Expanded MRF/transfer - C&D Processing - Pilot mixed waste processing	Same as D add
System F: Level 5 Expanded Advanced Recovery Systems	Same as E	Same as E	Same as E - Phase in new system - Scale back waste collection	Same as E add	Same as E	Same as E add - Expanded Programs (add business area)	Same as E add - Expanded mixed waste processing	Same as E

PAYT: Pay As You Throw D O : Drop-off C&D: Construction & Demolition Debris MRF: Materials Recovery Facility

Each of the six options were then examined based on their key features, advantages/disadvantages, overall performance and cost impact and applicability for the county.

Many alternatives will not be feasible for Manistee County due to cost and lack of funding. See table Solid Waste Management Alternatives Chapter B8 page 48.

Manistee County strengths are the City's compost yard, which is a facility that could be made to service the entire county; a strong paper recycling program with local industry, volunteers, and the schools; Allied's landfill (formerly Harland's Landfill) and associated services.

In surrounding counties other programs can benefit Manistee: Benzie County participation in the paper recycling and Manistee's non-paper recyclables are going to Muskegon for processing.

Manistee County currently has eight drop off sites for recycling for county-wide use and transfer station for garbage collection. Need to consider more drop off locations, or different locations for current recycling drop-off sites, or longer hours. Need to create more convenience for the users. Some curbside collection also exists and can be expanded in populated areas (if cost effective) and business and expansion of number of items recycled. Manistee County lacks a processing center for recycled goods other than paper. Manistee needs to establishing a processing center for a larger number of recycled items. Harland's does process and bail plastic. A 25% recycling rate is a reasonable percentage for Manistee County. Manistee County is on par with most other counties our size that have recycling programs. Emmet County is better than normal. The first alternative is continuing the status quo and includes increasing recovery options/locations. Second alternative, are drop-off sites in a number of locations and to also have a flagship site.

Solid Waste Disposal Programs will have little change in the current landfill operation. Manistee County has a solid waste landfill and should consider further Allied's landfill (formerly Harland's) as a regional landfill facility

(a landfill most likely is not economically feasible if servicing one county). The county still wants the option to explore a possible waste transfer capability to take materials to other landfills elsewhere. This creates the ability for competition to exist in the system. The recommended program builds off the current systems that already exist in Manistee County.

Clean community Program: Manistee County currently has residential & commercial solid waste collection at curb side and most areas have spring/fall clean up. Illegal dumping enforcement is the county's junk ordinance or the township's ordinance. Manistee County has "adopt a road program" through the Road Commission and MDOT. "Adopt a forest program" with the DNR and U.S. Forest Service. The City of Manistee had a hazardous waste collection day. In the past the Michigan Department of Agriculture used Clean Sweep grant money to sponsor a multi-county agricultural hazardous waste (pesticide) collection. Areas of consideration is implement a hazardous waste program and a spring/fall cleanup days (by municipalities and/or private sector) for the remainder, or all, of the county.

Recycling Incentive Programs: Lakeshore Enterprises provides some education for paper recycling and other recycling. The County Planning Department promoted recycling once with a county-wide mailing. The budget to do so again has not been approved. The City of Manistee and Filer Township use the pay-as-you-throw services. Direct mail is the only way to reach every house, because there is not a county-wide newspaper with enough subscriptions, or a broadcast medium, etc that reaches a high percentage of the residents. For clean sweep, the publicity was done for free, using MSU Cooperative Extension pre-prepared materials and volunteers. If one is a little creative, promotion does not have to be a budget buster. Currently Manistee County's recycling efforts have been cut in the number of different items that can be recycled. There is a ban on yard waste from being disposed of in the landfill. Manistee needs to reestablish the county wide mailing with recycling, hazardous waste, groundwater, 9-1-1 information, and clean sweep program. Work with Lakeshore Enterprises to implement educational programs in the schools and community. Implement a county-wide pay-as-you-throw service by municipalities and private sector. Try to find alternatives (i.e., working with other counties) to implement recycling of more items. Expand material bans (i.e., plastics, Styrofoam, metal, tin, or other recyclable materials.) Do not want to have mobile drop-offs for commingled recyclables. For quality control, do not want to trust residents sorting of recycled materials. A big problem with recycled materials is that it is not clean (washed). Isn't part of recycling to make jobs, to do the sorting and cleaning? Harland's has a means to recycle Styrofoam, but it is costly. It is a round trip to Lansing, and when delivered there is no value (pay to the recycler) to do so. Do not want to pursue mobile drop-off for co-mingled recyclables as an option for Manistee County. Permanent drop-offs for sorted recyclables should be considered further. In other counties un-staffed drop-offs do not work, but that has not been Manistee Recycler's experience with the paper recycling trailers. Should visit the landfill and see some of the mixture of stuff that comes in the recyclable good. Do not want to eliminate any of the recycling options. How can the county tell a hauler not to do commingled recycling, if that is what they want to do? Harland's offers curbside recycling now and currently has 50 costumers in the Manistee Lake Area at \$4 per month for twice a month pickup. Co-collection of solid waste and recyclables involves expensive equipment. The county should consider a co-collection of solid waste and recyclables, two or three wet/dry collection. Co-collection of "blue bag" recyclables and solid waste should not be considered further.

Diversion Incentive Programs like volume based (pay as you throw), recycle more, material bans, education, promotion should be considered for Manistee County. Schools are also doing many of the education and promotion items now. Pay as you throw is the only thing that makes any sense. Solid waste disposal should be based on the volume one throws away. This creates a financial incentive to recycle. Allied's Landfill has a pay-as-you throw service in some areas. It does work to reduce the volume collected from a municipality. Cost per bag is figured on the number of cubic yards in a bag and the cost to dispose of a cubic yard in a landfill. Increases in disposal cost increases waste being dumped in the woods. Pay as you throw can include pre-paid garbage bags, or bag limits with municipal collection, or graduated fees for level of service (City of Manistee). The city's approach is a mix between a tax-payer paid base level of service, with volume-based increases in service for fees. Pay-as-you-throw is a goal and there are a number of flexible ways to obtain this goal.

Expanded recycling drop-off sites is a goal to have roll-off recycling containers at the current eight recycling sites in the county. To run this program at the current costs would require a recycling processing facility in Manistee. It is not cost effective to service eight roll-off recycling containers when it must be hauled to Muskegon. There is about

2½ tons of recycled material per roll-off container. The processing center being talked about is a sorting line and high volume bailer. Locating a container at a grocery store or shopping mall is preferred and it should not be at the same site where solid waste is collected. Disposal of garbage in the recycling containers is solved by the container design Emmet County uses where the containers' holes are only large enough for the recycling items not a garbage bag. Mr. Harland would like to try a test site for a roll-off container. The City or Onkama would be a good test site. Lakeshore Enterprises does not have a collection system, that service already exists with Shoreline, Inc.. The question should be what is involved for Lakeshore Enterprises to become a recycling processing facility? Emmet County adopted a ½ mill for a two years period to pay the capital costs to build the transfer station. The tipping fees pay for operation, expansion, repair, maintenance, recycling and hazardous waste collection. For economic development of the area Manistee needs a landfill, and wants the landfill to last.

The odds are good that Manistee County will not do have a county wide curbside collection of solid waste. Spring/fall cleanup days are feasible for and being currently done in most of the county. Curb side recycling should be provided in the more populated areas. The City of Manistee and some of the Manistee Lake area are feasible for curb-side collection. Lack of participation in the Manistee lake area is due to the additional \$4 per month fee for the service and it has not been well advertized. In Ludington curb-side recycling is built into the city's contract. Allowing co-mingling of recycled materials will result in higher number of people participating in recycling. (Incineration should be the way to go. One has to use fuel to make electricity. Why not use waste (instead of new fuel) to make electricity? Seems that has to be less expensive.) The capital cost of building an incinerator is not always recovered by the user fees. If the volume of burnable trash is too low another fuel source may need to be used and can increase the cost. The super drop-off (flagship stations) recycling station is not something Manistee County will have unless there is a local processing center. Should say the processing center is needed first before having roll-off container recycling or super drop-off station, etc. Not necessarily, the roll-off containers can work without a local processing facility — through at a higher cost than what is being done today. Recycling processing station will come with demand, or increase population base. Placing roll-off containers should not be contingent on having a processing center. It is unknown if it is more costly on a per cubic yard or per ton basis. The problem with curbside recycling is the high cost. Not sure this alternative is feasible for Manistee County. Curbside recycling, sorted and commingled should be considered and co-collection of solid waste and recyclables, two or three wet/dry collection. Co-collection of "blue bag" recyclables and solid waste should not be considered further. Curbside recycling (subscription and contracted): There are currently 40 customers in the Manistee area which have subscription curbside recycling. There is a responsibility to look at everything, not just cost, like groundwater. Need to look at costs effectiveness. Support curbside recycling, expanded drop-off sites, but can not project what is most feasible. The super drop-off station and household hazardous waste collection may not be feasible. Each should have the funding disclaimer.

Yard waste is a simple expansion of the existing city compost yard for county wide use, yard waste collection at two recycling stations, and fall leaf collection in populated areas, make available composting bins and mulching mower blades. Need to encourage back-yard composting and continued use of the city's compost yard and drop reference to the remainder of these projects. In an area like Manistee County with rural residents low-tech composting is already being done. Some areas already have a fall leaf collection, and yard waste collection system. The City of Manistee has a curb side yard waste collection. Manistee and Filer Townships have a drop-off. Yard waste collection is needed in the out-county. Approach the City to work in cooperation with offering the City's composting yard to the whole county. Educate residents on back yard composting. All alternatives in Yard Waste-Collection programs should be considered further.

Commercial recycling programs of paper products exist with a fair number of businesses in the county. Areas of consideration is to provide waste assessments services to commercial establishments for better participation in recycling of more materials and determining types of programs to establish for the county. The question here would be who would perform the service and who would pay for this service? Commercial Recycling for corrugated cardboard routes does exist at this time. Old corrugated cardboard (OCC) commercial recycling should be expanded through educational efforts. Business people understand numbers, need to include cost savings for cardboard recycling. Expansion of recycling service follows the education effort. Construction and demolition (C&D) would be proposing a facility to receive and process or transfer the C&D material. Those costs should be part of the contractor's costs for

demolition of the house. Commercial recycling should stay in, but for C&D processing should be done by private enterprise, or others. Intent is the county would not C&D processing equipment but would rent or contract out the equipment needed.

Recyclables Processing proposal is to expand Lakeshore Enterprises recycling facility. *The Solid Waste Plan* should not specifically say "Lakeshore Enterprises," but rather should be left open so any existing facility could become a recycling facility. There needs to be a source of money to pay to put together a recycling facility to do all the processing. It could be possible for six counties to get together and hire one broker to get the best price for sale of recycled materials.

Do not feel that is realistic for Manistee County to have four hazardous waste clean-up days. Recommend at least a once a year hazardous waste clean up for the entire county for the first five years. In the past only the city has had a hazardous waste collection because it was part of the garbage contract that was signed when USA Waste owned the landfill and Northern A-1 (which actually does the hazardous waste clean up). The entire county has had only pesticide collections. The goal is by the second phase the county would have a twice a year hazardous waste collection. Many do not realize what household hazardous waste is, and it gets thrown on the ground or into the landfill. Alternatives for funding resource recovery programs include P.A. 7 ACT 138 funding, or a county general fund allocation, or working jointly with Benzie County, for example. Really do not want to reduce the number of times hazardous waste collection is done. Should have at least one hazardous waste collection a year, and then maybe have smaller collections for a limited number of items (pesticide, tires, etc.) Other times of the year. An advantage Emmet County has is providing oil and battery collection at any time, not just on hazardous waste clean up days. Once adopted a *Solid Waste Plan* has force of law. Any local ordinance, rule, resolution, regulation, that contravenes the *Solid Waste Plan* is a violation of the solid waste management act. Be careful on making commitments to do something in the plan and committing budget expenditures. May want to consider a statement along the lines of "This project is assuming funding is available. This *Plan* does not require government (municipal and county) funding. If funding is not available, that does not contravene this *Plan*." If the *Plan* says once a year, then one can still do it more. This leaves a number of people who find a once a year hazardous waste clean-up inconvenient. This also leaves a certain amount of hazardous waste which does not get collected. If it is done annually, people can plan ahead and if they are unable to participate in the collection the first year, they can the second year. One is never going to get everything anyway. Farmers try not to carry pesticides waste over the winter. But if the container has been opened, it cannot be returned to the retailer. Hazardous waste accumulation is an ongoing process, with more hazardous waste being accumulated each year. If the county goes to the second phase, and can provide a full-time staff person, then it would have to be done in conjunction with another program — such as Lakeshore Enterprises or with Benzie County. Do not think there would be a private business that would want a daily hazardous collection system. It is an outstanding goal to work toward a permanent hazardous waste collection site which is open regularly. Most people will not hold on to batteries, anti-freeze, oil, etc. for a one day collection. If it is one day per year, most hazardous waste material would be tossed on the ground or into the landfill. County need to work towards having a permanent collection site with the budget disclaimer for the second phase of the *Plan*.

The following best fit Manistee County: Alternative 1, which is an expanded clean community and drop-off recycling program. Also alternative 2 which is an expanded clean community with curbside recycling program plus a "flagship recycling drop-off site, curbside recycling collection programs for cities, villages and towns to increase convenience, commercial recycling, recycling processing capabilities and expanded yard waste drop-off opportunities.

At this stage in the selection process, some options were discarded as unsuitable for the county based on discussion and evaluation 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.

As part of this process, the overall plan goals and objectives were considered as were other sources of planning data described in the balance of this Section II. The process also included surveying of the views of those involved in the planning process, some surveying of citizen's to determine their issues and interests and surveying of others considered to be critical to implementation of the plan - primarily local government officials.

Two of these system options were then further developed into system alternatives. More details for these two system alternatives were then discussed and developed, including possible approaches to system management roles/responsibilities as well as the overall fit to the county. This project is assuming funding is available. This *Plan* does not require government (municipal and county) funding. If funding is not available, that does not contravene this *Plan*.

The following two system alternatives and their program elements were evaluated for Manistee County:

MANISTEE COUNTY SYSTEM ALTERNATIVE 1:

Expanded Clean Community & Drop-Off Recycling Program is adapted from System Option C. **Key features include a Clean Community program that operates at highly effective levels.** Incentives for recycling to boost program performance, increasing tons and lowering unit costs. Expanded recycling drop-off capabilities are made available throughout the County at permanent sites open for longer periods of time each week. Arrangements are made for processing of recyclables that allows complete or partial commingling of paper products (commingled fibers) and complete or partial commingling of containers (commingled containers), increasing the types of materials that can be recovered and further increasing overall convenience. Direct haul of collected solid waste to regional landfills would remain as the standard practice although more options for local drop-off by residents would become available.

MANISTEE COUNTY SYSTEM ALTERNATIVE 2:

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 one or more flagship sites increase options for recovering more materials. Curbside programs for cities, villages and towns are developed to increase convenience for large sectors of the population. Arrangements for commingled recycling processing capabilities as well as commercial recycling services are further developed to increase diversion. C&D recovery services are more closely coordinated with area service providers. Organic management options exist throughout the year with the addition of drop-offs for yard waste generated in the County. Direct haul of collected solid waste to regional landfills would remain as the standard practice. A network of drop-off sites for solid waste would be available including a flagship site that took other types of waste (bulky, C&D, etc.) with this system preferably located at same sites as recycling drop-offs. The County collaborates with nearby counties on a ban on certain materials being landfilled targeted for 5 years away and coordinated between the regional disposal facilities.

Part C: Selected Solid Waste Management System

The Selected Solid Waste Management System (Selected System) is a comprehensive approach to managing the 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. Proposed disposal areas 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 E3, page 147. Following is an overall description of the Selected System:

BASED on the evaluation process outlined in the previous chapter, the following system alternative was selected:

Years one through three of Planning Period

MANISTEE COUNTY SYSTEM ALTERNATIVE 1:

Years four through 10 of Planning Period

MANISTEE COUNTY SYSTEM ALTERNATIVE 2:

The selected system alternative which is a combination of both alternatives, modified to tailor the program specifics to the County's needs and phased in to allow system development to take place over time. All projects in this chapter is assuming funding is available. This *Plan* does not require government (municipal and county) funding. If funding is not available and the planned proposal does not take place, that does not contravene this *Plan*.

Details regarding the selected alternative are provided in the following section. Appendix E2 , page 147 and E3, page 157 contain further background on the analysis of the selected and non-selected alternatives and detailed information on implementation of the selected system.

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

Manistee County System Alternative 1:

Expanded Clean Community & Drop-Off Recycling Program is adapted from System Option C, **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 are made available throughout the County at permanent sites open for longer periods of time each week. Arrangements are made for processing of recyclables that allows complete or partial commingling of paper products (commingled fibers) and complete or partial commingling of containers (commingled containers), increasing the types of materials that can be recovered and further increasing overall convenience. Direct haul of collected solid waste to regional landfills would remain as the standard practice although more options for local drop-off by residents would become available.

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

Manistee County Selected System Alternative Phase I 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, lake shores, parks and forests.

Recycling Incentives:

Pro-active 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 drop-offs would add more materials to encourage overall participation in program by more citizens and businesses.

Drop-Off Residential Recycling:

The existing network of drop-off sites for recycling would be upgraded and expanded to be open at convenient hours most days of the week. Ideally, material would be collected in a commingled form to make use of the facilities easier. A wide variety of recyclable materials would be collected at each of the drop-off sites. This includes adding containers and other recyclables to the existing fiber-only collection sites.

Curbside Residential Recycling:

Subscription curbside recycling would be available for residents that were willing to make their own arrangements for the service with area haulers.

Residential Yard Waste Composting:

Fall leaf collection would be provided in all villages/town/cities. Backyard composting would be encouraged through distribution of backyard bins at discount rates. At least one and possibly more permanent drop-off options for yard waste would be provided throughout the County.

Commercial Recycling:

Businesses would be encouraged to use the drop-off recycling network for smaller volumes of commingled paper and commingled containers. Arrangements would be made for larger volumes to be delivered to a site capable of handling compacted or loose loads of commercial recyclables. Businesses would be encouraged to contract with their hauler for collection of cardboard and other high volume recyclable materials.

An expansion of the Lakeshore site or at the landfill would be necessary to handle larger volumes of commercially-generated corrugated cardboard and office paper.

Material Transfer and Processing:

Arrangements would be made to provide access to a material recovery facility (MRF) to service all recycling collectors in the system. These arrangements would include guarantees that sufficient capacity was available to meet the County's needs over the long term and that the facility would be able to process commingled containers and commingled fibers as well as pre-sorted recyclables like old corrugated cardboard (OCC).

Upgrade of the Lakeshore site or at the landfill would improve material handling and marketing options, allowing more materials to be collected at county drop-offs and through curbside collection.

Disposal:

The existing landfill in the county would be used with direct haul by compacting collection vehicles being the primary method of transportation to the landfill. A network of drop-off facilities for solid waste would be available in smaller communities.

During Years 4 through 10 of the Planning Period the County will phase in System Alternative 2 as follows:

Manistee County System Alternative 2:

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 one or more flagship sites increase options for recovering more materials. Curbside programs for cities, villages and towns are developed to increase convenience for large sectors of the population. Arrangements for commingled recycling processing capabilities as well as commercial recycling services are further developed to increase diversion. Construction and Demolition (C&D) recovery services are more closely coordinated with area service providers. Organic management options exist throughout year with addition of drop-offs for yard waste generated in the County. Direct haul of collected solid waste to regional landfills would remain as the standard practice. A network of drop-off sites for solid waste would be available including a flagship site that took other types of waste (bulky, C&D, etc.) with this system preferably located at same sites as recycling drop-offs. The County collaborates with nearby counties on a ban on certain materials being landfilled targeted for 5 years away and coordinated between the regional disposal facilities.

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

**Manistee County Selected System Alternative Phase II
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 agricultural pesticides and herbicides -- all coordinated from a single permanent drop-off site. Adopt a "____" programs would be organized with volunteers and business/service group sponsorship for periodic cleaning of roadsides, streambanks, lake shores, parks and forests.

Recycling Incentives:

Pro-active 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 as well as drop-offs would add more materials to encourage overall participation in program by more citizens and businesses. A ban on landfilling of certain materials (cardboard and newspaper as examples) would be targeted for an effective date 3 to 5 years in the future.

Drop-Off Residential Recycling:

A permanent network of drop-off sites for recycling would be located in the County, open at convenient hours most days of the week. Material would be collected in a commingled form to make use of the facilities easier. One "flagship" drop-off site in or near the City of Manistee would be larger than the rest, be staffed, have an educational component, and collect the largest number of different types of materials.

Curbside Residential Recycling:

Two stream commingled curbside recycling would be provided to all residents in an designated curbside service district that included most villages/towns/cities as well as other densely populated areas. Subscription service outside this district would be strongly encouraged.

Residential Yard Waste Composting:

Fall leaf collection would be provided in all villages/town/cities. 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 throughout the County with at least one "flagship" site taking all types of yard waste and providing finished compost for distribution to residents.

Commercial Recycling:

A permanent site would be provided for businesses to drop-off a wide variety of recyclables including commingled containers and commingled paper. 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:

A material recovery facility (MRF) would be made available to all recycling collectors in the system. The facility would be able to process commingled containers and commingled fibers as well as pre-sorted 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. Some capability would be provided to remove contaminants and small quantities of solid waste from loads of recyclables. An upgrade of the existing Lakeshore facility or at the landfill is recommended.

Disposal:

The existing landfill in the region would be used with direct haul by compacting collection vehicles being the primary method of transportation to the landfill. A network of drop-off facilities for solid waste would be available including a "flagship" site that took other types of waste (bulky, C&D, etc.) for recovery and disposal with this system preferably located at same sites as recycling drop-offs. A waste transfer facility would be planned should direct haul options for landfilling no longer be available or be cost prohibitive.

Manistee County will review possible funding mechanism for *Plan* implementation, but not limited to:

- ▶ P.A. 7 of extra session of 1967 as amended (in particular by P.A. 138 of 1989), (being the Urban Cooperation Act, M.C.L. 124.501 *et seq*);
- ▶ Bonding;
- ▶ Millage;
- ▶ Tipping fee surcharge at a solid waste facility;
- ▶ Grants;
- ▶ User fees;
- ▶ Gifts and
- ▶ Donations.

This project list is assuming funding is available. This *Plan* does not require government (municipal and county) funding. If funding is not available, that does not contravene this *Plan*, and not pursuing implementation of a project in absence of funding does not contravene this *Plan*.

Chapter C1: Import/Export Authorizations

The Selected Solid Waste Management System (Selected System) is a comprehensive approach to managing the 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. Proposed disposal areas 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 E2, page 147. Following is an overall description of the Selected System:

THIS *Plan's* intent is to have two types of agreements with other counties for import and export of solid waste. First is a "day-to-day reciprocal agreement" and the second is an "emergency back-up agreement." The specifics for both these agreements can be found in the Appendix E5, Attachments, page 188.

In addition to the counties listed in the tables, it is possible for day-to-day reciprocal agreements to be created with adjacent counties: Benzie, Grand Traverse, Lake, Mason and Wexford.

The Solid Waste Council, under special conditions, may also consider possible "day-to-day conditional reciprocal agreements" with the following counties in the northwest Michigan ten county region: Leelanau, Missaukee, Kalkaska, Antrim, Charlevoix, and Emmet.

In addition to the counties listed in the following tables, it is possible for emergency back-up agreements to be created with the following counties: Emmet, Cheboygan, Presque Isle, Charlevoix, Antrim, Otsego, Montmorency, Alpena, Leelanau, Benzie, Grand Traverse, Kalkaska, Crawford, Oscoda, Alcona, Wexford, Missaukee, Roscommon, Ogemaw, Iosco, Mason, Lake, Osceola, Clare, Gladwin and Arenac.

Any existing agreements, any future agreements, and actions to rescind agreements, shall be forwarded to the DEQ within 30 days of being executed by the two counties and shall be attached to this *Plan*.

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 this table:

Current Import Volume Authorization of Solid Waste Table

IMPORTING COUNTY	EXPORTING COUNTY	FACILITY NAME ¹³	AUTHORIZED QUANTITY/ DAILY	AUTHORIZED QUANTITY/ ANNUAL	AUTHORIZED CONDITIONS ¹⁴
Manistee	Benzie	Manistee County Landfill, Inc.	up to 100%	up to 100%	Primary disposal which is a day-to-day reciprocal agreement (see page 188)
Manistee	Grand Traverse	Manistee County Landfill, Inc.	up to 100%	up to 100%	Primary disposal which is a day-to-day reciprocal agreement (see page 188)
Manistee	Lake	Manistee County Landfill, Inc.	up to 25%	up to 25%	Primary disposal which is a day-to-day reciprocal agreement (see page 188)
Manistee	Mason	Manistee County Landfill, Inc.	up to 100%	up to 100%	Primary disposal which is a day-to-day reciprocal agreement (see page 188)
Manistee	Charlevoix	Manistee County Landfill, Inc.	up to 33%	up to 33%	Contingency which is an emergency back-up agreement (see page 188)
Manistee	Leelanau	Manistee County Landfill, Inc.	up to 33%	up to 33%	Contingency which is an emergency back-up agreement (see page 188)
Manistee	Wexford	Manistee County Landfill, Inc.	up to 33%	up to 33%	Contingency which is an emergency back-up agreement (see page 188)

Additional authorizations and the above information for those authorizations are attached on page 188.

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¹³Facilities are only listed if the exporting county is restricted to using specific facilities within the importing county.

¹⁴Authorization indicated by P = Primary Disposal; C = Contingency Disposal; * = Other conditions exist and detailed explanation is included in the Attachment Section.

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 the following Table:

Future Import Volume Authorization of Solid Waste Contingent on New Facilities Being Sited Table

EXPORTING COUNTY	IMPORTING COUNTY	FACILITY NAME ¹⁵	AUTHORIZED QUANTITY/ DAILY	AUTHORIZED QUANTITY/ ANNUAL	AUTHORIZED CONDITIONS
Manistee	Benzie	Manistee County Landfill, Inc	up to 100%	up to 100%	Primary disposal which is a day-to-day reciprocal agreement (see page 188)
Manistee	Grand Traverse	Manistee County Landfill, Inc	up to 100%	up to 100%	Primary disposal which is a reciprocal agreement (see page 188)
Manistee	Lake	Manistee County Landfill, Inc			disposal which is a reciprocal agreement (see page 188)
Manistee	Mason	Manistee County Landfill, Inc			disposal which is a reciprocal agreement (see page 188)
Manistee	Wexford	Manistee County Landfill, Inc			disposal which is a reciprocal agreement (see page 188)
Manistee	Emmet	Manistee County Landfill, Inc			emergency back-up agreement (see page 188) or disposal
Manistee	Antrim	Manistee County Landfill, Inc			disposal which is a conditional reciprocal agreement (see contingency which is an emergency agreement (see page 188)
Manistee	Missaukee	Manistee County Landfill, Inc			disposal which is a conditional reciprocal agreement (see contingency which is an emergency agreement (see page 188)
Manistee	Charlevoix	Manistee County Landfill, Inc			disposal which is a conditional reciprocal agreement (see contingency which is an emergency agreement (see page 188) or disposal which is a day-to-day reciprocal agreement (see page 188?)
Manistee	Leelanau	Manistee County Landfill, Inc	up to 100%	formula (p 188) up to 100%	Contingency which is an emergency back-up agreement (see page 188) or Primary disposal which is a day-to-day conditional reciprocal agreement (see page 188)
Manistee	Crawford	Manistee County Landfill, Inc	formula (p 188)	formula (p 188)	Contingency which is an emergency back-up agreement (see page 188)
Manistee	Osceola	Manistee County Landfill, Inc	formula (p 188)	formula (p 188)	Contingency which is an emergency back-up agreement (see page 188)
Manistee	Clare	Manistee County Landfill, Inc	formula (p 188)	formula (p 188)	Contingency which is an emergency back-up agreement (see page 188)
Manistee	Montmorency	Manistee County Landfill, Inc	formula (p 188)	formula (p 188)	Contingency which is an emergency back-up agreement (see page 188)
Manistee	Presque Isle	Manistee County Landfill, Inc	formula (p 188)	formula (p 188)	Contingency which is an emergency back-up agreement (see page 188)
Manistee	Cheboygan	Manistee County Landfill, Inc	formula (p 188)	formula (p 188)	Contingency which is an emergency back-up agreement (see page 188)
Manistee	Otsego	Manistee County Landfill, Inc	formula (p 188)	formula (p 188)	Contingency which is an emergency back-up agreement (see page 188)

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¹⁵Facilities are only listed if the exporting county is restricted to using specific facilities within the importing county

EXPORTING COUNTY	IMPORTING COUNTY	FACILITY NAME ¹⁶	AUTHORIZED QUANTITY/ DAILY	AUTHORIZED QUANTITY/ ANNUAL	AUTHORIZED CONDITIONS
Manistee	Alpena	Manistee County Landfill, Inc	formula (p 188)	formula (p 188)	Contingency which is an emergency back-up agreement (see page 188)
Manistee	Kalkaska	Manistee County Landfill, Inc	formula (p 188)	formula (p 188)	Contingency which is an emergency back-up agreement (see page 188)
Manistee	Oscoda	Manistee County Landfill, Inc.	formula (p 188)	formula (p 188)	Contingency which is an emergency back-up agreement (see page 188)
Manistee	Alcona	Manistee County Landfill, Inc	formula (p 188)	formula (p 188)	Contingency which is an emergency back-up agreement (see page 188)
Manistee	Roscommon	Manistee County Landfill, Inc	formula (p 188)	formula (p 188)	Contingency which is an emergency back-up agreement (see page 188)
Manistee	Ogemaw	Manistee County Landfill, Inc	formula (p 188) up to 100%	formula (p 188) up to 100%	Contingency which is an emergency back-up agreement (see page 188)
Manistee	Gladwin	Manistee County Landfill, Inc.	formula (p 188) up to 100%	formula (p 188) up to 100%	Contingency which is an emergency back-up agreement (see page 188)
Manistee	Arenac	Manistee County Landfill, Inc	formula (p 188) up to 100%	formula (p 188) up to 100%	Contingency which is an emergency back-up agreement (see page 188)
Manistee	Iosco	Manistee County Landfill, Inc	formula (p 188) up to 100%	formula (p 188) up to 100%	Contingency which is an emergency back-up agreement (see page 188)

Additional authorizations and the above information for those authorizations are listed on an attached page 188.

¹⁶Facilities are only listed if the exporting county is restricted to using specific facilities within the importing county.

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 the following table if authorized for import in the approved Solid Waste Management Plan of the receiving County.

Current Export Volume Authorization of Solid Waste Table

EXPORTING COUNTY	IMPORTING COUNTY	FACILITY NAME ¹⁷	AUTHORIZED QUANTITY/ DAILY	AUTHORIZED QUANTITY/ ANNUAL	AUTHORIZED CONDITIONS
Manistee	Charlevoix	Cedar Ridge (CMS)	up to 33%	up to 33%	Contingency which is an emergency back-up agreement (see page 188)
Manistee	Leelanau	Glens Landfill (USA)	up to 33%	up to 33%	Contingency which is an emergency back-up agreement (see page 188)
Manistee	Wexford	Wexford County Landfill	up to 33%	up to 33%	Contingency which is an emergency back-up agreement (see page 188)

Additional authorizations and the above information for those authorizations are listed on an attached page 188.

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¹⁷Facilities are only listed if the exporting county is restricted to using specific facilities within the importing county.

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

Future Export Volume Authorization of Solid Waste Contingent on New Facilities Being Sited Table

EXPORTING COUNTY	IMPORTING COUNTY	FACILITY NAME ¹⁸	AUTHORIZED QUANTITY/ DAILY	AUTHORIZED QUANTITY/ ANNUAL	AUTHORIZED CONDITIONS ¹⁹
Manistee	Benzie	any future facility	up to 100%	up to 100%	Primary disposal which is a day-to-day reciprocal agreement (see page 188)
Manistee	Grand Traverse	KPS type III and any future facility	up to 100%	up to 100%	Primary disposal which is a day-to-day reciprocal agreement (see page 188)
Manistee	Lake	any future facility	up to 100%	up to 100%	Primary disposal which is a day-to-day reciprocal agreement (see page 188)
Manistee	Mason	any future facility	up to 100%	up to 100%	Primary disposal which is a day-to-day reciprocal agreement (see page 188)
Manistee	Emmet	any future facility	up to 100%	up to 100%	Primary disposal which is a day-to-day conditional reciprocal agreement (see page 188) Contingency which is an emergency back-up agreement (see page 188)
Manistee	Antrim	any future facility	up to 100%	up to 100%	Primary disposal which is a day-to-day conditional reciprocal agreement (see page 188) Contingency which is an emergency back-up agreement (see page 188)
Manistee	Missaukee	any future facility	up to 100%	up to 100%	Primary disposal which is a day-to-day conditional reciprocal agreement (see page 188) Contingency which is an emergency back-up agreement (see page 188)

¹⁸Facilities are only listed if the exporting county is restricted to using specific facilities within the importing county.

¹⁹Would be approved for export/import if an agreement is entered into pursuant to this Plan. This Plan authorized that possibility here.

Future Export Volume Authorization of Solid Waste Contingent on New Facilities Being Sited Table. Continued.

EXPORTING COUNTY	IMPORTING COUNTY	FACILITY NAME ²⁰	AUTHORIZED QUANTITY/ DAILY	AUTHORIZED QUANTITY/ ANNUAL	AUTHORIZED CONDITIONS ²¹
Manistee	Charlevoix	City Management Serv. and any future facility	up to 100%	up to 100%	Primary disposal which is a day-to-day conditional reciprocal agreement (see page 188) OR Contingency which is an emergency back-up agreement (see page 188)
Manistee	Kalkaska	any future facility	up to 100%	up to 100%	Primary disposal which is a day-to-day conditional reciprocal agreement (see page 188) OR Contingency which is an emergency back-up agreement (see page 188)
Manistee	Leelanau	Glens Landfill and any future facility	formula (p. 188)	formula (p. 188)	Primary disposal which is a day-to-day conditional reciprocal agreement (see page 188) or Contingency which is an emergency back-up agreement (see page 188)
Manistee	Wexford	Wexford County Landfill and any future facility	formula (p. 188)	formula (p. 188)	Contingency which is an emergency back-up agreement (see page 188) or Primary disposal which is a day-to-day conditional reciprocal agreement (see page 188)
Manistee	Crawford	CES of Waters Landfill and any future facility	formula (p. 188)	formula (p. 188)	Contingency which is an emergency back-up agreement (see page 188)
Manistee	Osceola	? Landfill and any future facility	formula (p. 188)	formula (p. 188)	Contingency which is an emergency back-up agreement (see page 188)
Manistee	Clare	Northern Oaks Landfill and any future facility	formula (p. 188)	formula (p. 188)	Contingency which is an emergency back-up agreement (see page 188)
Manistee	Montmorency	Montmorency/Oscoda Landfill and any future facility	formula (p. 188)	formula (p. 188)	Contingency which is an emergency back-up agreement (see page 188)
Manistee	Presque Isle	Elk Run Landfill And any future facility	formula (p. 188)	formula (p. 188)	Contingency which is an emergency back-up agreement (see page 188)

Additional authorizations and the above information for those authorizations are listed on an attached page 188.

²⁰Facilities are only listed if the exporting county is restricted to using specific facilities within the importing county.

²¹Would be approved for export/import if an agreement is entered into pursuant to this Plan. This Plan authorized that possibility here.

Chapter C2: 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 the County for the next five years and, if possible, the next ten years. Starting on pages 20, 70, 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.

Type II Landfill:

Manistee County Landfill Inc. (Formerly Harland's Landfill, Inc.)

Cedar Ridge Landfill

Glen's Landfill

Wexford County Landfill

Type III Landfill:

Packaging Corporation of America (PCA) Type III Landfill

Tondu Energy Systems Type III Landfill

Incinerator:

Packaging Corporation of America (PCA)

Waste-to-Energy Incinerator:

Type A Transfer Facility:

Type B Transfer Facility:

Dickson Township Transfer Station

Maple Grove Township Transfer Station

Processing Plant:

Waste Piles:

Other:

Additional facilities are listed on an attached page 184. Letters from or agreements with the listed disposal areas owners/operators stating their facility capacity and willingness to accept the County's solid waste are in the Attachments Section, page 185.

Chapter C3: Facility Descriptions

The Selected Solid Waste Management System (Selected System) is a comprehensive approach to managing the 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. Proposed disposal areas 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 E2, page 147. Following is an overall description of the Selected System:

THIS *Plan's* intent is to have two types of agreements with other counties for import and export of solid waste. First is a "day-to-day reciprocal agreement" and the second is an "emergency back-up agreement." Details on these agreements can be found in Chapter C1, page 59, with more specifics for the agreements in Appendix E5, Attachments, page 188.

This *Plan* authorized the County Board to exercise its power to develop or acquire sites a which are named in this *Plan* as a possible future solid waste facility.

Facility Description for Manistee County Landfill, Inc.

Facility Type: Type II Landfill

Facility Name: Manistee County Landfill, Inc., owned by Allied (formerly Harland's Landfill Inc., formerly owned by USA Waste, United Waste, West Michigan Disposal, Keith and Annette (White) Harland (formerly White's Landfill owned by Loren "John" T. White and Annette White)).

Manistee County: Location: Section 32 of Town 21 North, Range 16 West, in Stronach Municipal Township.

Map identifying location included in Appendix E5 (Attachments) on page 183: 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 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, flyash, Paper mill Sludge

Site Size:

Total area of facility property:	160 acres
Total area sited for use:	120 acres
Total area permitted:	40 acres
Operating:	5 acres
Not excavated:	20 acres

Current capacity:	5,100,000 cubic yards
Estimated lifetime:	88 years if expansion approved.
Estimated days open per year:	250 days
Estimated yearly disposal volume:	2,000,000 +/- cubic yards

(if applicable)

Annual energy production:	
Landfill gas recovery projects:	0 megawatts
Waste-to-energy incinerators:	0 megawatts

Facility Description for Fischer Landfill site

Facility Type: Landfill

Facility Name: Fischer Landfill

Manistee County: Location: 13 & 14 Section of Town 21 North, Range 13 West, in Norman Municipal Township.

Map identifying location included in Appendix E5 (Attachments) on page 29: 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: Walter Fischer, heirs

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: 400 acres
 Total area sited for use: N/A
 Total area permitted: 0
 Operating: 0
 Not excavated: 0

Current capacity: tons or cubic yards: unknown
 Estimated lifetime: unknown
 Estimated days open per year: zero
 Estimated yearly disposal volume: tons or cubic yards: unknown

(if applicable)

Annual energy production:
 Landfill gas recovery projects: 0 megawatts
 Waste-to-energy incinerators: 0 megawatts

* This site offers a major potential for future landfill

Facility Description for Packaging Corporation of America Landfill

Facility Type: Type III Industrial monofill landfill

Facility Name: PCA Landfill

Manistee County: Location: 17 Section of Town 21 North, Range 17 West, in Stronach Municipal Township.

Map identifying location included in Appendix E5 (Attachments) on page 183: 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: Packaging Corporation of America, a Madison Dearborn Partners Inc. company (formerly Tenneco Packaging Inc., and Packaging Corporation of America, a Tenneco company) (PCA) Tenneco Packaging Inc.

Operating Status (check)	Waste Types Received (check all that apply)
<input type="checkbox"/> open	<input type="checkbox"/> residential
<input type="checkbox"/> closed	<input type="checkbox"/> commercial
<input type="checkbox"/> licensed	<input type="checkbox"/> industrial
<input checked="" type="checkbox"/> unlicensed	<input type="checkbox"/> construction & demolition
<input type="checkbox"/> construction permit	<input type="checkbox"/> contaminated soils
<input type="checkbox"/> open, but closure	<input checked="" type="checkbox"/> special wastes *
<input type="checkbox"/> pending	<input type="checkbox"/> other: _

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

Proposed coal ash, secondary sludge, primary clarifier sludge, primary clarifier grit, sand-bark-fines mix, general trash, and recycled paper refuse only from the PCA Filer City mill operations.

Site Size:

Total area of facility property:	640 acres
Total area sited for use:	20 acres
Total area permitted:	0 acres
Operating:	0 acres
Not excavated:	N/A acres

Current capacity:	3,700,000 cubic yards of air space
Estimated lifetime:	20 years
Estimated days open per year:	0 days
Estimated yearly disposal volume:	<input type="checkbox"/> tons or <input type="checkbox"/> cubic yards

(if applicable)

Annual energy production:	
Landfill gas recovery projects:	0 megawatts
Waste-to-energy incinerators:	0 megawatts

Facility Description for Tondu Energy Systems, Inc. Landfill

Facility Type: Co-generation facility ash monofill landfill

Facility Name: Tondu Energy Systems, Inc. Landfill

Manistee County: Location: Section 15 of Town 21 North, Range 16 West, in Stronach, Township.

Map identifying location included in Appendix E5 (Attachments) on page 183: 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: Disposal of ash is being used at the PCA Superfund site till July 1998.

Public Private Owner: Tondu Energy Systems

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:
Proposed coal and wood ash monofill only from the TES Filer City Station.

Site Size:

Total area of facility property: 60 acres
 Total area sited for use: 60 acres
 Total area permitted: 0 acres
 Operating: 0 acres
 Not excavated: N/A acres

Current capacity: tons or cubic yards
 Estimated lifetime: 20 - 30 years
 Estimated days open per year: 0 days
 Estimated yearly disposal volume: tons or cubic yards

(if applicable)

Annual energy production:
 Landfill gas recovery projects: 0 megawatts
 Waste-to-energy incinerators: 0 megawatts

Facility Description for Dickson Township Transfer Station

Facility Type: Type B Transfer Station

Facility Name: Dickson Township Transfer Station

Manistee County: Location: Section 16 of Town 22 North, Range 14 West, in Dickson Township

Map identifying location included in Appendix E5 (Attachments) on page 183: 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: Manistee County Landfill, Inc.

Public Private Owner: Dickson Township

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

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

Site Size:

Total area of facility property:	31.8 acres
Total area sited for use:	Not avail. acres
Total area permitted:	n/a
Operating:	n/a
Not excavated:	n/a

Current capacity:	<input type="checkbox"/> tons or <input type="checkbox"/> cubic yards
Estimated lifetime:	indefinite
Estimated days open per year:	52 days
Estimated yearly disposal volume:	1,500 loose cubic yards

(if applicable)

Annual energy production:	
Landfill gas recovery projects:	0 megawatts
Waste-to-energy incinerators:	0 megawatts

Facility Description for Maple Grove Township Transfer Station

Facility Type: Type B Transfer Station

Facility Name: Maple Grove Township Transfer Station

Manistee County: Location: Section of Town 23 North, Range 14 West, in Maple Grove Township.

Map identifying location included in Appendix E5 (Attachments) on page 183: 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: Manistee County Landfill, Inc.

Public Private

Owner: Maple Grove Township

Operating Status (check)

- open
- closed
- licensed
- N/A 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: 80 acres
 Total area sited for use: not avail acres
 Total area permitted: n/a
 Operating: n/a
 Not excavated: n/a

Current capacity: tons or cubic yards
 Estimated lifetime: indefinite
 Estimated days open per year: 21 - 30 days
 Estimated yearly disposal volume: 1,000 compacted cubic yards

(if applicable)

Annual energy production:
 Landfill gas recovery projects: 0 megawatts
 Waste-to-energy incinerators: 0 megawatts

Facility Description for Wexford County Landfill

Facility Type: Type II Landfill

Facility Name: Wexford County Landfill

Wexford County: Location: Section 33 & 34 of Town 23 North, Range 09 West.

Map identifying location included in Appendix E5 (Attachments) on page 184: 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)

- 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:	146 acres
Total area sited for use:	51 acres
Total area permitted:	51 acres
Operating:	4 acres
Not excavated:	0 acres

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

(if applicable)

Annual energy production:	
Landfill gas recovery projects:	0 megawatts
Waste-to-energy incinerators:	0 megawatts

Facility Description for Glen's Sanitary Landfill

Facility Type: Type II Landfill

Facility Name: Glen's Sanitary Landfill

Leelanau County: Location: Section 35 of Town 28 North, Range 13 West.

Map identifying location included in Appendix E5 (Attachments) on page 184: 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. (formerly USA Waste 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:	310 days
Estimated yearly disposal volume:	3,000,000 gate cubic yards

(if applicable)

Annual energy production:	
Landfill gas recovery projects:	0 megawatts
Waste-to-energy incinerators:	0 megawatts

Facility Description for Cedar Ridge Landfill

Facility Type: Type II Landfill

Facility Name: Cedar Ridge Landfill

Charlevoix County: Location: Section 19 of Town 33 North, Range 07 West

Map identifying location included in Appendix E5 (Attachments) on page 184: Yes No

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

Public Private Owner: Waste Management of Michigan (USA Waste)

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:

Foundry sand and flyash from East Jordan Iron Works.

Site Size:

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

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

(if applicable)

Annual energy production:
 Landfill gas recovery projects: 0 megawatts
 Waste-to-energy incinerators: 0 megawatts

Facility Description for Packaging Corporation of America Incinerator

Facility Type: Door-Oliver Fluid Bed Incinerator

Facility Name: Packaging Corporation of America Incinerator (as the secondary waste treatment plant)

Manistee County: Location: Section 19 of Town 21 North, Range 16 West, Filer Township.

Map identifying location included in Appendix E5 (Attachments) on page 183: 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: Manistee County Landfill, Inc. or the PCA Private Landfill when/if constructed.

Public Private Owner: Packaging Corporation of America, a Madison Dearborn Partners Inc. company (formerly Tenneco Packaging Inc., and Packaging Corporation of America, a Tenneco company) (PCA)

Operating Status (check)	Waste Types Received (check all that apply)
<input checked="" type="checkbox"/> open	<input type="checkbox"/> residential
<input type="checkbox"/> closed	<input type="checkbox"/> commercial
<input checked="" type="checkbox"/> licensed	<input checked="" type="checkbox"/> industrial
<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	<input checked="" type="checkbox"/> special wastes *
<input type="checkbox"/> pending	<input type="checkbox"/> other: _

* Explanation of special wastes, including a specific list and/or conditions:
Incineration of PCA paper mill sludge.

Site Size:

Total area of facility property:	320 acres
Total area sited for use:	20 acres
Total area permitted:	N/A acres
Operating:	N/A acres
Not excavated:	N/A acres
Current capacity:	10 tons per day (dry wt.) Of 10% sludge
Estimated lifetime:	N/A years
Estimated days open per year:	365 days
Estimated yearly disposal volume:	16 tons per day (dry wt.) Of 10% sludge

(if applicable)

Annual energy production:	
Landfill gas recovery projects:	N/A megawatts
Waste-to-energy incinerators:	N/A megawatts

Facility Description for Elk Run Sanitary Landfill

Facility Type: Type II Landfill

Facility Name: Elk Run Sanitary Landfill

Presque Isle County: Location: NE ¼ Section 5 of Town 33 North, Range 2 East.

Map identifying location included in Appendix E5 (Attachments) on page 184: 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. (formerly USA Waste 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: tons or cubic yards
 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: 0 megawatts
 Waste-to-energy incinerators: 0 megawatts

Facility Description for Montmorency-Oscoda Joint Landfill

Facility Type: Type II Landfill

Facility Name: Montmorency-Oscoda Joint Sanitary Landfill

Montmorency County: Location: proposed; site unknown

Map identifying location included in Appendix E5 (Attachments) on page 184: 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 Owners: Montmorency/Oscoda/Alpena Counties

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: acres
 Total area sited for use: acres
 Total area permitted: acres
 Operating: acres
 Not excavated: acres

Current capacity: tons or cubic yards
 Estimated lifetime: years
 Estimated days open per year: days
 Estimated yearly disposal volume: 80,000 gate cubic yards

(if applicable)

Annual energy production:
 Landfill gas recovery projects: 0 megawatts
 Waste-to-energy incinerators: 0 megawatts

Facility Description for Crawford-Otsego Landfill

Facility Type: Type II Landfill

Facility Name: City Environment Services Inc. of Waters (Crawford -Otsego Landfill)

Crawford County: Location: Section 4 of Town 28 North, Range 8 East.

Map identifying location included in Appendix E5 (Attachments) on page 184: 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. (formerly USA Waste 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: 252.2 acres
 Total area sited for use: 252.2 acres
 Total area permitted: 79.07 acres
 Operating: 9.7 acres
 Not excavated: 64.87 acres

Current capacity: tons or cubic yards
 Estimated lifetime: > 20 years
 Estimated days open per year: 313 days
 Estimated yearly disposal volume: 340,000 gate cubic yards

(if applicable)

Annual energy production:
 Landfill gas recovery projects: 0 megawatts
 Waste-to-energy incinerators: 0 megawatts

Facility Description for Northern Oaks Disposal Facility

Facility Type: Type II Landfill

Facility Name: Northern Oaks Disposal Facility

Clare County: Location: [[[Section _ of Town _ North, Range _ West, in _ Municipal Township west of Harrison In Clare County.

Map identifying location included in Appendix E5 (Attachments) on page 184: Yes No

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

Public Private Owner: Waste Management of Michigan (USA Waste)

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 *
- Water Treatment Filter Cake

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

Site Size:

Total area of facility property: 320 acres
 Total area sited for use: 76 acres
 Total area permitted: 76 acres
 Operating: 19 acres
 Not excavated: 57 acres

Current capacity: tons or cubic yards
 Estimated lifetime: >20 years
 Estimated days open per year: 260 days
 Estimated yearly disposal volume: 270,000 gate cubic yards

(if applicable)

Annual energy production:
 Landfill gas recovery projects: 0 megawatts
 Waste-to-energy incinerators: 0 megawatts

Chapter C4: Solid Waste Collection Services and Transportation

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

IN Phase I of the Selected System Alternative comprehensive solid waste collection services would be made available to all households and businesses in the County. 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 would include services to collect small quantities of agricultural pesticides and herbicides. Adopt a "____" programs²² would be organized with volunteers and business/service group sponsorship for periodic cleaning of roadsides, streambanks, lake shores, parks and forests.

Existing landfills in the region would be used with direct haul by compacting collection vehicles being the primary method of transportation to the landfills. A network of drop-off locations for solid waste would be available in smaller communities, preferably coordinated with the recycling drop-off site locations.

Compacting collection vehicles would continue to direct haul to the area landfills. Solid waste drop-off facilities for solid waste would continue to be available with the addition of a more comprehensive "flagship" site, probably located near Manistee that would take other types of waste (bulky, C&D, etc.) as well as recyclables. A waste transfer facility would only be planned should direct haul options for landfilling no longer be available or be cost prohibitive. Near Manistee, again, would be the preferred site for this service.

²² Adopt a "____" program consists of the words "road", "forest", "highway", or "park" used to fill in the blank.)

Chapter C5: 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.

Effort Description	Est. Diversion Tons/Yr		
	Current	5th yr	10th yr
Recycling Drop-off	900	1,115	1,370
Curbside recycling	10	60	780
Commercial recycling	600	1,445	2,400
Yard Waste Collection	850	1,100	1,100
Household Hazardous Waste Collection		2	4
Total	2,360	3,722	5,654

Additional efforts and the above information for those efforts are listed on an attached page 137.

Chapter C6: Waste Reduction, Recycling, & Composting Programs

Volume Reduction Techniques

The following describes the techniques utilized and proposed to be used throughout the County which reduces the volume of solid waste requiring disposal. The annual amount of landfill air space not used as a result of each of these techniques is estimated. Since volume reduction is practiced voluntarily and because technologies change and equipment may need replacing, it is not this *Plan* 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. All projects in this chapter is assuming funding is available. This *Plan* does not require government (municipal and county) funding. If funding is not available and the planned proposal does not take place, that does not contravene this *Plan*. Documentation explaining achievements of implemented programs or expected results of proposed programs is attached.

Technique Description	Est. Air Space Conserved Cu. Yds/year		
	Current	5th yr	10thyr
Compaction	72,702	72,621	72,672
Shredding	0	0	0
Incineration	0	0	0
Total	72,702	72,621	72,672

Compaction is done by private contractor. The number of cubic yards compacted is assuming 500 lbs. per cubic yard and waste at the curb is compacted to 50% of cubic volume in the truck which is compacted by 50% cubic volume again at the landfill. This is using the total quantity of solid waste generated, excluding the special waste stream which is not compactable. Incineration is sometimes done by PCA to reduce part of the special waste stream.

Overview of Resource Recovery 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.

Effort Description	Est. Air Space Conserved Cu. Yds/year		
	Current	5th yr	10thyr
Recycling Drop-off	2,700	3,345	4,110
Curbside Recycling	30	180	2,320
Commercial Recycling	1,800	4,335	7,200
Yard Waste Collection	2,556	3,300	3,300
Household Hazardous Waste Collection		6	12
Total	7,086	11,166	16,942

Additional efforts and the above information for those efforts are listed on an attached page 137.

TOTAL waste generation for Manistee County was calculated using pounds per person per day (residential) and pounds per employee per day (commercial and industrial) models. These numbers were compared with actual disposal and recovery data to determine a final generation number. Using population projected out over the planning period, 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 (14+ percent for 2003 and 25+ 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. Following the written analysis the tables starting on page 93 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 starting on page 95 list the recycling, composting, and source separation of hazardous materials programs that are proposed in the future for the County. It is not this *Plan* update's intent to prohibit additional programs or expansions of current programs to be implemented beyond those listed.

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:

In Phase I of the Selected Alternative the following recycling systems would be developed:

Recycling Incentives:

Pro-active 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 and heavily promoted. Recycling drop-offs would add more materials to encourage overall participation in the

program by more citizens and businesses. An outreach and education program would promote all aspects of the expanded system and improvements.

Drop-Off Residential Recycling:

The existing network of drop-off sites for recycling would be upgraded and expanded to be open at convenient hours most days of the week. Ideally, material would be collected in a commingled form to make use of the facilities easier. A wide variety of recyclable materials would be collected at each of the drop-off sites. This includes adding containers and other recyclables to the existing fiber-only collection sites.

Curbside Residential Recycling:

Subscription curbside recycling would be available for residents that were willing to make their own arrangements for the service with area haulers.

Commercial Recycling:

Businesses would be encouraged to use the drop-off recycling network for smaller volumes of commingled paper and commingled containers. Arrangements would be made for larger volumes to be delivered to a site capable of handling compacted or loose loads of commercial recyclables. Businesses would be encouraged to contract with their hauler for collection of cardboard and other high volume recyclable materials. An expansion of the Lakeshore processing facility site or a new processing facility at the landfill would be necessary to handle larger volumes of commercially-generated corrugated cardboard and office paper.

Material Transfer and Processing:

Arrangements would be made to provide access to a material recovery facility (MRF) to service all recycling collectors in the system. These arrangements would ideally include guarantees that sufficient capacity was available to meet the County's needs over the long term. Ideally the facility would be able to process commingled containers and commingled fibers as well as handle pre-sorted recyclables like Old Corrugated Cardboard (OCC). Upgrade of the Lakeshore Enterprises facility or at the landfill would improve material handling and marketing options, allowing more materials to be collected at county drop-offs and through curbside collection.

In Phase II of the Selected Alternative the recycling systems would be further developed:

Recycling Incentives:

Pro-active education and promotion strategies would continue to encourage responsible solid waste management and strong reduce/reuse/recycle behavior. Pay As You Throw (PAYT) programs would be further developed throughout the County in all solid waste collection arrangements. Recycling collection programs as well as drop-offs would continue to add more materials to encourage overall participation in the program by more citizens and businesses. A ban on landfilling of certain materials (cardboard and newspaper as examples) would be targeted for an effective date 3 to 5 years in the future. This will provide a further incentive for increased adoption and participation in recovery programs.

Drop-Off Residential Recycling:

A permanent network of drop-off sites for recycling would be located in the County, open at convenient hours most days of the week. Arrangements for processing of material would be made to allow recyclables to be collected in a commingled form to make use of the drop-offs easier. One "flagship" drop-off site in or near the City of Manistee would be larger than the rest, be staffed, have an educational component, and collect the largest number of different types of materials.

Curbside Residential Recycling:

Two stream commingled curbside recycling would be provided to all residents in a designated curbside service

district that included most villages/towns/cities as well as other densely populated areas. Subscription service outside this district would be strongly encouraged.

Commercial Recycling:

Arrangements would be made for a permanent site for businesses to drop-off a wide variety of recyclables including commingled containers and commingled paper. 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:

A MRF would be available to all recycling collectors in the system. The facility would be able to process commingled containers and commingled fibers as well as pre-sorted 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. Some capability would be provided to remove contaminants and small quantities of solid waste from loads of recyclables. An upgrade of the existing Lakeshore recycling facility or a facility located at the landfill is recommended.

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:

In Phase I of the Selected Alternative the following composting systems would be developed:

Residential Yard Waste Composting:

Fall leaf collection would be provided in all villages/town/cities. Backyard composting would be encouraged through distribution of backyard bins at discount rates. At least one and possibly more permanent drop-off options for yard waste would be provided throughout the County. Manistee City's existing yard waste composting site would be a likely location for a permanent collection site for seasonal yard waste.

In Phase II of the Selected Alternative the following composting systems would be further developed:

Residential Yard Waste Composting:

Fall leaf collection would continue to be provided in all villages/town/cities. Backyard composting would be encouraged through distribution of backyard bins at discount rates. A similar mulching mower program would encourage grass recycling. Permanent drop-off options for yard waste would be provided throughout the County with at least one "flagship" site (the Manistee yard waste composting site) taking all types of yard waste and providing finished compost for distribution to residents.

Programs for source separation of potentially hazardous materials are feasible and details are included on the following page 147.

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:

In Phase I of the Selected Alternative the following household hazardous waste collection systems would be developed:

Clean Community:

Household hazardous waste collection services would be provided and expanded to include collection of small quantities of agricultural pesticides and herbicides.

In Phase II of the Selected Alternative the following household hazardous waste collection systems would be further developed:

Clean Community:

Household hazardous waste collection services would be provided including collection of agricultural pesticides and herbicides -- all coordinated from a single permanent drop-off site.

Recycling Table

<u>Program Name</u>	<u>Service Area</u> ²⁴	<u>Public or Private</u>	<u>Collection Point</u>	<u>Collection Frequency</u>	<u>Materials Collected</u>	<u>Program Management Responsibilities</u> ²³		
						<u>Level</u>	<u>Operation</u>	<u>Evaluation</u>
8-station drop off	County-wide	Private	drop-off	Monthly	Plastics, Newspaper Corrugated Containers, Other paper, Total glass	Private	Private	DPA
6-station drop-off	County-wide	Private	drop-off	Daily	Newspaper, Other paper, Corrugated Containers	Other	Other	Other
Subscription curbside	Limited	Private	curbside	Weekly	Plastics, Newspaper Corrugated Containers, Other paper, Total glass Grass & leaves	Private	Private	Private

Additional programs and the above information for those programs are listed on an attached page 147.

²³Identified by 1 = Designated Planning Agency; 2 = County Board of Commissioners; 3 = Department of Public Works; 4 = Environmental Group (Identified on page ??); 5 = Private Owner/Operator; 6 = Other (Identified on page ??).

²⁴Identified by where the program will be offered. If throughout the planning area, then listed by planning area; if only in specific counties, then listed by county; if only in specific municipalities, then listed by its name and respective county.

Composting Table

<u>Program Name</u>	<u>Service Area</u> ²⁶	<u>Public or Private</u>	<u>Collection Point</u>	<u>Collection Frequency</u>	<u>Materials Collected</u>	<u>Program Management Responsibilities</u> ²⁵		
						<u>Level</u>	<u>Operation</u>	<u>Evaluation</u>
City of Manistee	City of Manistee and Others	Public	Curbside	Fall	Leaves, Brush, Grass Clippings, Wood	DPW	DPW	DPW
Yard waste drop-off	Municipality (contract)	Public	drop-off	Seasonal	Leaves, Brush Wood	Public	Public	Public

Additional programs and the above information for those programs are listed on an attached page 147.

Source Separation of Potentially Hazardous Materials Table:

Since improper disposal of non-regulated 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.

<u>Program Name</u>	<u>Service Area</u> ²⁸	<u>Public or Private</u>	<u>Collection Point</u>	<u>Collection Frequency</u>	<u>Materials Collected</u>	<u>Program Management Responsibilities</u> ²⁷		
						<u>Level</u>	<u>Operation</u>	<u>Evaluation</u>
County Clean Sweep Program	County-wide	Public	drop-off	1 time per year	Pesticides & Herbicides	Other	Other	Other

Additional programs and the above information for those programs are listed on an attached page 147.

²⁵Identified by 1 = Designated Planning Agency; 2 = County Board of Commissioners; 3 = Department of Public Works; 4 = Environmental Group (Identified on page 97); 5 = Private Owner/Operator; 6 = Other (Identified on page 97).

²⁶Identified by where the program will be offered. If throughout the planning area, then listed by planning area; if only in specific counties, then listed by county; if only in specific municipalities, then listed by its name and respective county.

²⁷Identified by 1 = Designated Planning Agency; 2 = County Board of Commissioners; 3 = Department of Public Works; 4 = Environmental Group (Identified on page 97); 5 = Private Owner/Operator; 6 = Other (Identified on page 97).

²⁸Identified by where the program will be offered. If throughout the planning area, then listed by planning area; if only in specific counties, then listed by county; if only in specific municipalities, then listed by its name and respective county.

Proposed Recycling Table

Program Name	Service Area ²⁹	Public or Private	Collection Point	Collection Frequency	Materials Collected	Program Management Responsibilities ²⁹		
						Level	Operation	Evaluation
8-station drop off	County-wide	Private	drop-off	monthly	Plastics, Newspaper Corrugated Containers, Other paper, Total glass Grass & leaves, Total Metals	Private	Private	DPA
6-station drop-off	County-wide	Private	drop-off	Daily	Newspaper, Other paper, Corrugated Containers	Other	Other	DPA
Subscription curbside (years 1-5)	Limited	Private	curbside	weekly	Plastics, Newspaper Corrugated Containers, Other paper, Total glass Grass & leaves, Total Metals	Private	Private	DPA
Contract curbside (years 1-5)	Urban areas	Private	curbside	weekly	Plastics, Newspaper Corrugated Containers, Other paper, Total glass Grass & leaves, Total Metals	Private	Private	DPA
Expanded commercial collection	Business Dist	Public/ private	onsite	weekly bi-weekly Monthly	Newspaper Corrugated Containers,, Other paper Other material, wood, Total metals	Private	Private	DPA

Additional programs and the above information for those programs are listed on an attached page 147.

²⁹Identified by 1 = Designated Planning Agency; 2 = County Board of Commissioners; 3 = Department of Public Works; 4 = Environmental Group (Identified on page 97); 5 = Private Owner/Operator; 6 = Other (Identified on page 97).

³⁰Identified by where the program will be offered. If throughout the planning area, then listed by planning area; if only in specific counties, then listed by county; if only in specific municipalities, then listed by its name and respective county.

Proposed Composting Table:

<u>Program Name</u>	<u>Service Area</u> ³²	<u>Public or Private</u>	<u>Collection Point</u>	<u>Collection Frequency</u>	<u>Materials Collected</u>	<u>Program Management Responsibilities</u> ³¹		
						<u>Level</u>	<u>Operation</u>	<u>Evaluation</u>
City of Manistee	City of Manistee	Public	curbside	Fall	Leaves, Wood Brush, Grass Clippings	DPW	DPW	DPA
Fall leaf pickup	Urban areas	Public/ Private	curbside	Fall	Leaves, Brush Grass Clippings, Wood	Public	Public	Public/ Private
Yard waste	County-wide	Public	drop-off	daily	Leaves, Brush Wood, Grass Clippings	Public	Public	Public

Additional programs and the above information for those programs are listed on an attached page 147.

³¹Identified by 1 = Designated Planning Agency; 2 = County Board of Commissioners; 3 = Department of Public Works; 4 = Environmental Group (Identified on page 97); 5 = Private Owner/Operator; 6 = Other (Identified on page 97).

³²Identified by where the program will be offered. If throughout the planning area, then listed by planning area; if only in specific counties, then listed by county; if only in specific municipalities, then listed by its name and respective county.

Proposed Source Separation of Potentially Hazardous Materials Table:

Since improper disposal of non-regulated 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 ³⁴	Public or Private	Collection Point	Collection Frequency	Materials Collected	Program Management Responsibilities ³³		
						Level	Operation	Evaluation
Manistee County Household Hazardous Waste Collection Program	County-wide	Public	drop-off	1 or more Times per year(s)	Antifreeze, Automotive products (Except used Oil, Oil Filters), Paints & Solvents, Pesticides & Herbicides, Personal Health products, Other Materials identified	County	County	DPA
Battery Collection	County-wide	Public	drop-off	daily	Household batteries	County	County	DPA

Additional programs and the above information for those programs are listed on an attached page 147.

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.

PRIVATE:

Manistee County Landfill, Inc. & Shoreline Disposal

Eight County drop-off recycling sites and Corrugated Cardboard routes, solid waste collection and curbside recycling.

Waste Reduction Systems

Solid waste collection and curbside and drop-off recycling.

OTHER:

Lakeshore Enterprises

Processing recycled paper products collected at area high schools and other haulers.

MSU Extension/Farm Bureau/Conservation District/Growers Services Inc.

Clean Sweep program for pesticides.

Manistee County Recyclers

A coalition of Lakeshore Enterprises, area schools, and Seng Trucking Inc. to provide paper collection, sorting, processing and transportation services.

³³Identified by 1 = Designated Planning Agency; 2 = County Board of Commissioners; 3 = Department of Public Works; 4 = Environmental Group (Identified on page 97); 5 = Private Owner/Operator; 6 = Other (Identified on page 97).

³⁴Identified by where the program will be offered. If throughout the planning area, then listed by planning area; if only in specific counties, then listed by county; if only in specific municipalities, then listed by its name and respective county.

PUBLIC:

Maple Grove Township Transfer Station

Solid waste collection and recycling

Dickson Township Transfer Station

Solid waste collection and recycling

Manistee City DPW

City of Manistee's Compost Yard and curbside yard waste collection.

Filer Township & Stronach Township

Yard Waste Drop-off

County

Household Hazardous Waste Collection program & Battery Collection Program

Municipalities

All Municipalities in the county may or may not provide contracted curbside or drop-off collection.

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.

Collected Material:	<u>Projected Annual Tons Diverted:</u>		
	<u>Current</u>	<u>5th Yr</u>	<u>10th Yr</u>
A. TOTAL PLASTICS:	35	53	86
B. NEWSPAPER:	352	526	860
C. CORRUGATED CONTAINERS:	757	1,130	1,849
D. TOTAL OTHER PAPER:	334	500	817
E. TOTAL GLASS:	141	210	344
F. OTHER MATERIALS:	123	184	301
G. GRASS AND LEAVES:	850	1,100	1,100
H. TOTAL WOOD WASTE:			
I. CONSTRUCTION AND DEMOLITION:	0	0	1,500
J. FOOD AND FOOD PROCESSING			
K. TIRES:			
L. TOTAL METALS:	53	79	129

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.

Manistee County does not market product it is done by private sector. Currently PCA is taking all processed paper in the Manistee area. The City of Manistee runs a compost yard for city residents and two drop-off locations in Filer and Stronach Township. Other items are processed out of county and added with other counties material and those number were not available.

	Collected Material:	In-State Markets	Out-of-State Markets
A.	TOTAL PLASTICS:	?	?
B.	NEWSPAPER:	100%	0%
C.	CORRUGATED CONTAINERS:	100%	0%
D.	TOTAL OTHER PAPER:	100%	0%
E.	TOTAL GLASS:	?	?
F.	OTHER MATERIALS:	?	?
G.	GRASS AND LEAVES:	100%	0%
H.	TOTAL WOOD WASTE:	?	?
I.	CONSTRUCTION AND DEMOLITION:	?	?
J.	FOOD AND FOOD PROCESSING	?	?
K.	TIRES:	N/A	N/A
L.	TOTAL METALS:	?	?

Chapter C7: 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 this County.

<u>Program Topic</u>	<u>Delivery Medium</u>	<u>Targeted Audience</u>	<u>Program Provider</u>
Recycling (all paper products)	Flyers, newspaper, radio, television	general public	all area schools and Manistee County Recyclers, Lakeshore Enterprise, PCA.
Pesticide clean up	Flyers, radio, mailing	general public	MSU Extension, Farm Bureau, Manistee County Conservation District (formerly Soil Conservation District) and Growers Service Inc.
Recycling & volume reduction	Flyers	general public	County/Municipalities

Additional efforts and the above information for those efforts are listed in Appendix E2 page 147.

The Manistee office of the Michigan State University Extension is responsible for coordination of educational and promotional programs. The primary provider of these programs is intended to be the service provider for that respective activity.

Chapter C8: Timetable for Implementation

This timetable is a guideline to implement components of the Selected System. The Time line gives a range of time in which the component will be implemented such as "1995-1999" or "On-going." Time lines may be adjusted later, if necessary.

Timetable Table

Management Components	Time line
Phase I: Clean Community	1998 - 2003
Phase I: Recycling Incentives	1998 - 2003
Phase I: Drop-off Recycling	1998 - 2003
Phase I: Curbside Residential Recycling	1998 - 2003
Phase I: Residential Yard Waste Composting	1998 - 2003
Phase I: Commercial Recycling	1998 - 2003
Phase I: Material Transfer and Processing	1998 - 2003
Phase I: Disposal	1998 - 2003
Phase II: Clean Community	2003 - 2007
Phase II: Recycling Incentives	2003 - 2007
Phase II: Drop-off Recycling	2003 - 2007
Phase II: Curbside Residential Recycling	2003 - 2007
Phase II: Residential Yard Waste Composting	2003 - 2007
Phase II: Commercial Recycling	2003 - 2007
Phase II: Material Transfer and Processing	2003 - 2007
Phase II: Disposal	2003 - 2007

For Phase I, see Manistee County system alternatives 1, page 54 .

For Phase II, see Manistee County system alternatives 2, page 56 .

Projects listed in the timetable assume funding is available. This *Plan* does not require government (municipal and county) funding. If funding is not available and the planned proposal does not take place, that does not contravene this *Plan*.

Chapter C9: Siting Review Procedures

Authorized Disposal Area Types

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

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**. State statute requires the following:

1. If there is less than 66 months capacity, then the *Plan* (A) shall have a siting mechanism and (B) shall have an "annual process to certify capacity."
2. If there is between 66 months and 10 years capacity, then the *Plan* shall have a siting mechanism, but it can be turned "off."
3. If there is more than 10 years capacity, then the county has the option not to have a siting mechanism.

Authorized Disposal Area Types

PER the requirements of Section 11533 of SW NREPA, this *Plan* includes an Enforceable Program and process that assures that the nonhazardous solid 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 Department of Environmental Quality (formerly known as Department of Natural Resources) (DEQ) governing the location, design and operation of the disposal areas.

As provided for in Section 11537(a) of SW NREPA, this *Plan* demonstrates 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 Section 11538(4) of SW NREPA.

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

A: Facilities Included in this Plan:

This *Plan*'s Enforceable Program and process, per the requirements of Section 11533 of SW 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 and Type III Landfill Disposal Area: Type II and Type III Landfill disposal areas as described in the Plan's Enforceable Program are included in the Plan for the following sites.

Name of Facility	Address	Area Approved for Which Siting is Not Required
Manistee County Landfill, Inc. owned by Allied (Formerly Harland's Landfill)	3890 Camp Road	1: The southeast one quarter (SE¼) of the southeast one quarter (SE¼) of Section twenty nine (29) of T.21N.-R.16W, Stronach Township, Manistee County, Michigan, hereinafter known as the former Type II landfill and landfill accessory buildings area. 2: The northwest one quarter (NW¼) of the northeast one quarter (NE¼) and the northeast one quarter (NE¼) of the northeast one quarter (NE¼) and the north half (N½) of the south half (S½) of the northeast one quarter (NE¼), all of Section thirty two (32) of T.21N.-R.16W, known as the second Type II landfill expansion. Both subject to the terms and conditions of the Plan Compliance Agreement with Manistee County and restrictions placed on future use of the land by the SW NREPA and subsequent state licences.
Fisher Landfill Site	23075 Caberfae Highway	The west one half (W½) of the northwest one half (NW½) and the northwest one half (NW½) of the southwest one quarter (SW¼), both of Section thirteen (13); and the northeast one quarter (NE¼) of the northeast one quarter (NE¼) and the south one half (S½) of the northeast one quarter (NE¼) and the north one half (N½) of the southeast one quarter (SE¼), all three of Section fourteen (14); both of T21NR13W in Norman Township, Manistee County, Michigan, 320 acres m/l.
PCA Landfill	Not addressed, at the corner of Steinberg and Franklin Roads	A maximum of a 40 acre landfill within 86.88 m/l acre parcel being part of the east one half (E½) beginning at the southeast (SE) corner of Section 17, T21NR16W: thence along the centerline of Steinberg Road and the south line of said Section N 86° 50'43"W 977.17 feet to the east line of a Consumers Power Fee Strip, thence along the east line of said Fee Strip the following two courses: N 00° 08'27"W 3,002.15 feet, thence N 12° 44'54"E 975.97 feet to the south (S) line of the northeast one quarter (NE¼) of the northeast one quarter (NE¼) of said Section, thence S 87° 04'02"E 768.83 feet along said South line of the northeast one quarter (NE¼) of the northeast one quarter (NE¼) to the east (E) line of said Section and the centerline of Franklin Road, thence along said east (E) line of said Section S 00° 00'19"W 1,322.73 feet to the east one quarter (E¼) of said Section, thence continuing along said east (E) line of the Section and centerline of Franklin Road South 2,645.70 feet to the point of beginning, all subject to the right-of-ways of Steinberg and Franklin Roads; Stronach Township, Manistee County, Michigan. Subject to the terms and conditions of the Plan Compliance Agreement with Manistee County and restrictions placed on future use of the land by the SW NREPA and subsequent state licences.
Tondu Ash Monofill Landfill	Not addressed, on Stronach Rd. ½ mile NW of Steinberg Road	Parcel 1: The south (S) 60 acres of the east half (E½) of the southeast one quarter (SE¼) of Section Fifteen (15), Township Twenty-one (21) north (N), Range Sixteen (16) west (W). Parcel 2: The south (S) 212 feet, ore or less, according to survey, lying east (E) of County Road 591, of the north one half (N½) of the northeast one quarter (NE¼) of the southeast one quarter (SE¼) of Section Fifteen (15), Township Twenty-One (21) north (N), Range Sixteen (16) west (W) Both subject to the terms and conditions of the Plan Compliance Agreement with Manistee County and restrictions placed on future use of the land by the SW NREPA and subsequent state licences.

These sites have been set aside for use as Type II or Type III Landfill disposal areas and are automatically included in the Plan and do not have to be processed through the Plan's siting mechanism. Any other Solid Waste Type II or Type III Landfill disposal area or areas, as described in the Plan's Enforceable Program, is included in the Plan.

A.1.a: If, as provided for in Section 11537(a) of SW NREPA, the planning area has in excess of 66 months of available disposal capacity at the time of disposal area application submittal, then the County may refuse to operate the siting mechanism contained herein unless the disposal area application is stated as intending to meet both the Minimum Primary Siting Criteria and the Minimum Secondary Siting Criteria contained in

this *Plan's* siting mechanism. Under these circumstances, a disposal area that does not meet these two sets of Minimum Siting Criteria is not part of the *Plan's* Enforceable Program, is not included in the *Plan* and cannot be found to be consistent with the *Plan*.

A.1.b: If, as provided for in Section 11537(a) of SW NREPA, the planning area has 66 months or less of available disposal capacity at the time of disposal area application submittal, then the County must operate the siting mechanism contained herein applying only the Minimum Primary Siting Criteria with the Minimum Secondary Siting Criteria applied only at the Applicant's discretion.

A.2: **Solid Waste Transfer Station Disposal Area:** A Solid Waste Transfer Station 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 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 Solid Waste Transfer Station disposal area or areas will be sited following the *Plan's* siting mechanisms using only the Minimum Primary Siting Criteria 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*.

A.3: **Solid Waste Incinerator Disposal Area:** A Solid Waste Incinerator disposal area as described in the *Plan's* Enforceable Program is included in the *Plan* for the following site.

Name of Facility	Address	Area Approved for Which Siting is Not Required
PCA Packaging Wastewater Treatment Plant Incinerator	505 Stronach Road	An incinerator, located inside a building within a parcel of land described as the east one half (E½) of the northeast one quarter (NE¼) of the northeast one quarter (NE¼) of the southwest one quarter (SW¼) of Section 19 of T21N R16W in Filer Charter Township, Manistee County, Michigan, 5 acres m/l.

This site has been set aside for use as an incinerator for wastewater treatment plant sludge and is automatically included in the *Plan* and does not have to be processed through the *Plan's* siting mechanism.

B: Exempt Facilities:

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

B.1: **Solid Waste Transfer Facility Disposal Area:** SW 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 un-compacted 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 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*.

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 Application Fee to the Designated Solid Waste Planning Agency (Planning Department):

Manistee County Planning Department
 Courthouse - 415 Third Street
 Manistee, MI 49660
 616 723-6041

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 "Planning Department."

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:

4. staff time spent on the Siting Review Procedures and related tasks,
5. costs of required public meetings and related services,
6. costs for publication and mailing of notices and printing of documents, and
7. 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 this Siting Review Process to apply the minimum siting criteria as provided for in Section 11538(3) of SW 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)
- 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 8½ by 11 inch, or 8½ 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 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.
 - vi) 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 8½ by 11 inch, or 8½ by 14 inch, paper. Such site plan shall be designed and prepared by a registered professional architect, landscape architect, engineer, land surveyor, or community planner. The site plan shall include the following information:

- a) The parcel(s), identified by parcel lines and location including dimensions, angles and size, correlated with the legal description of said parcel(s).
- b) The scale, north point, boundary dimensions, existing topography (at least two (2) feet contour intervals), and existing natural features including woodlots, streams, rivers, ponds, lakes, wetlands, high risk erosion areas, slopes over 25%, beach, sand dunes, drainage and similar features, including:

- i) One hundred year flood plains (as identified by DNR flood plain maps and as defined in the SW NREPA 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 one to another and to any existing structures on the site, the height of all buildings and square footage of floor space, finished floor and grade line elevations;
 - 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;
 - 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 or storage or monitor wells permit(s),
 - viii) Sand dune mining permit,
 - ix) Permit to cut forest products,
 - x) Forestry use or special use permit,
 - xi) Easements for utilities and public agencies (on state or federal lands),
 - xii) Dam construction permit,
 - xiii) Certificate of Public Convenience and necessity for pipelines,
 - xiv) Air quality installation permit, operating permit,
 - xv) National Pollutant Discharge Elimination System permit,
 - xvi) Groundwater discharge permit,
 - xvii) Wastewater collection and treatment facilities construction permit,
 - xviii) Great Lakes Shorelands permit,
 - xix) Inland Lakes and Streams permit, and
 - xx) Wetlands permit.
- e) An inventory of public services (fire protection, sewer, water, sanitation, emergency services/response, quasi-public utility companies (gas, electric, telephone)) showing:
 - i) Public services which are required by the solid waste facility,
 - ii) Public services which exist to service the site of the solid waste facility.

- f) Statements relative to the impact of the proposed development on soil erosion, shoreline protection, wildlife habitat, air pollution, water pollution (ground and surface), noise and the scale of development in terms of the surrounding environment.
- g) Other narrative statements necessary which specifically address the siting standards listed in part two of this chapter.
- h) Other narrative statements necessary regarding design and operation of the proposed facility in response to applicable requirements of County and local ordinances and rules/regulations.

D: Step One: Application Review - Administratively Complete Finding: Upon receipt of an application the Planning Department shall review the application and determine if the application is complete. The Planning Department 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 Planning Department does not make a finding 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 Planning Department shall notify the County Board of Commissioners (County Board) who shall appoint the Solid Waste Facility Siting Committee (Siting Committee) as described below. In the absence of an appointed Siting Committee the Solid Waste Council shall serve as the Siting Committee. In the absence of an active Solid Waste Council the County Planning Commission shall serve as the Siting Committee.

The Siting Committee will consist of membership defined as the County's current Solid Waste Council without members with conflicts of interest and with additional representation (i.g. the host municipality) as deemed necessary by the County Board to respond to the Application. The Planning Department shall call for the first meeting of the Siting Committee and, upon election of the Chairperson, the Chair shall officially convene each meeting of the Siting Committee. The Siting Committee will be dissolved when either the Application is deemed inconsistent with this Plan, or the DEQ has issued the facility an Operating License (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 Siting Committee will then review the Application as guided by this Permit Review Process and the Minimum Primary Siting Criteria contained in Attachment A to this Siting Review Process.

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

- a) The agenda shall be mailed to the routine list of recipients of County Solid Waste Council agendas as well as:
 - i) The applicant;
 - ii) The owners of the property for which approval is being considered;
 - iii) the owners of the 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 Siting Committee;
 - 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 SW 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 Siting Committee 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 Siting Committee Meeting: Within 30 days of the determination of an administratively complete application, the Siting Committee shall hold its first meeting.

- a) The Siting Committee 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 Planning Department shall distribute the Application to the Siting Committee along with documentation of it being administratively complete.
- c) The Siting Committee shall make an initial discussion of the Application.
- d) The Planning Department shall then communicate its work plan for background review of the Application and preliminary scoring against the Minimum Primary Siting Criteria and Minimum Secondary Siting Criteria (if applicable).
- e) The Siting Committee 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 - Planning Department Evaluation of Application: Within 80 days of the first Siting Committee meeting, the Planning Department 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 Primary Siting Criteria" in the Appendix E6 (page 191) to this Plan and "Minimum Secondary Siting Criteria" provided in the Appendix E6 (page 194) to this Plan (if applicable).

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

- a) The agenda shall be mailed to the routine list of recipients of County Solid Waste Council agendas as well as the list specified in F(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 Siting Committee meeting for formal consideration of the Application;
 - iv) The order of business for the meeting with action items identified; and

- 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 Planning Department's written review of the Application, including preliminary findings and scoring of the Application against the Minimum Primary Siting Criteria and Minimum Secondary Siting Criteria (if applicable), 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 the 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 Siting Committee; and
 - vii) Any individuals that have made a request in writing to the Planning Department 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 Planning Department shall present its findings resulting from completing the work plan for background review of the Application and preliminary scoring against the Minimum Primary Siting Criteria and Minimum Secondary Siting Criteria (if applicable).
- g) The Siting Committee shall then complete a discussion of the findings of the Planning Department in their review of the Application and preliminary scoring against the Minimum Primary Siting Criteria and Minimum Secondary Siting Criteria (if applicable). The result of these discussions will be a vote (eight positive votes) by the Siting Committee on the final scoring of the Application against the Minimum Primary Siting Criteria and Minimum Secondary Siting Criteria (if applicable).
- h) Applications that do not meet the Minimum Primary Siting Criteria and Minimum Secondary Siting Criteria (if applicable) will be determined inconsistent with and not in compliance with the *Plan* and will not undergo further evaluation. Applications that do meet the Minimum Primary Siting Criteria and Minimum Secondary Siting Criteria (if applicable) 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 Siting Committee meeting to consider the Application, the Planning Department shall release information on the final

consistency determination. If an Application is found to be consistent with the *Plan*, formal notice will be forwarded to the 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, as provided for in SW NREPA, as part of its review of the Construction Permit application.

K: Step Eight: Application Review - Follow-up: The Siting Committee shall receive formal written notice from the County Planning Department 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 Siting Committee 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 DEQ).

Chapter C10: Solid Waste Management Components³⁵

The following identifies the management responsibilities and institutional arrangements necessary for the implementation of the Selected Waste Management System. Also included is a description of the technical, administrative, financial and legal capabilities of each identified existing structure of persons, municipalities, counties and state and federal agencies responsible for solid waste management including planning, implementation, and enforcement.

Existing gaps and problem areas in the management system is the lack of funding for expansion of existing programs like recycling, hazardous waste cleanup. The current attitude of the county is no new tax to pay for expanded services. Parts of this *Plan* will be implemented as new funding is secured.

State of Michigan Department of Environmental Quality

The Michigan Department of Environmental Quality, Waste Management Division, is responsible for enforcing all state and federal regulations and, in part, for ensuring compliance with this *Plan* as pertaining to the collection, processing, and disposal of solid waste in Manistee County and the State of Michigan. As part of this responsibility, the DEQ will be called upon to perform (or assist in) the following related functions:

- Will be responsible for the permitting, licensing, and monitoring of all solid waste processing and disposal facilities in Manistee County as outlined in the *Act Plan*.
- Assist in making studies exploring the potential for the mass movement of solid waste to regional recycling or resource recovery centers.
- Inform Manistee County of changes in the handling of disposal of all types of solid waste legislation, regulatory rulings, information programs, financial aid programs from the national or state level available to the county and technical assistance from the DEQ staff.
- Enforcement of violations for illegal dumping and flow of solid waste.

Northwest Michigan Council of Governments.

The NWMICOG being the designated regional solid waste management planning agency will have the following responsibilities. The regional planning agency will participate in and conduct periodic studies and updates exploring the following:

- Potential markets, locations, and feasibility for energy recovery facilities throughout the region.
- The potential for mass movement of solid waste to regional recycling or resource recovery centers.
- Assist in developing opportunities for collaboration and coordination with neighboring communities and counties in the region. This effort will focus on opportunities for disposal capacity, recycling and composting processing capabilities, residential and commercial solid waste and recycling collection programs, household hazardous waste programs, enforcement, education and outreach.

³⁵Components or subcomponents may be added to this table.

The region may assist in the development and maintenance of a multi-county solid waste agency.

The region will report all findings and make recommendations to Manistee County regarding issues related to and affecting solid waste management in Manistee County.

The regional planning agency will assist in educational efforts designed to inform industry, business and the general public of solid waste management issues.

Manistee County Board of Commissioners

The Manistee County Board of Commissioners will be responsible for ensuring that this *Plan* is carried out to the fullest extent practicable. Fulfillment of this responsibility will require assurances that all methods, practices and policies associated with solid waste management comply with the *Plan* and are fully reviewed to ensure that the health and welfare of citizens and the natural environment of Manistee County are not compromised.

In pursuit of this, the County Board of Commissioners will perform the following functions:

- Authorize and establish a mechanism which provides adequate funding for *Plan* implementation.
- Authorize the necessary administrative framework for *Plan* implementation.
- Authorize participation in a multi-county solid waste council.
- Authorize participation in regional solid waste management programs.
- Continue, when economically feasible, to increase purchases of recycled paper and reusable items and encourage other government units to do so through central purchasing arrangements or other.
- Authorize funding mechanism for *Plan* implementation, but not limited to, P.A. 7 of extra session of 1967 as amended (in particular by P.A. 138 of 1989), (being the Urban Cooperation Act, M.C.L. 124.501 *et seq*); bonding; millage; tipping fee surcharge at a solid waste facility; grants; user fees; gifts and donations.
- Support and assist in implementing educational programs on recycling and household hazardous waste.

The Manistee County Board of Commissioners is faced with the responsibility for funding each of the local agencies participating in the *Plan*. These include the Solid Waste Council, Planning Commission/Department, District #10 Health Department, MSU Cooperative Extension Service, Manistee County conservation District, County Sheriff, and the Regional Planning Agency.

Manistee County Solid Waste Council

The Manistee County Solid Waste Council, having been created pursuant to the Act shall be maintained and serve in the following capacities:

- Assisting in the review, amending and the updating of the *Plan*.
- Prepare the budget and staffing requirements for *Plan* implementation.
- Act in a solid waste management advisory capacity.
- Stay abreast of research on the possible potential for energy markets for possible improvements in technology, energy, price changes, landfilling costs, with an eye towards waste-to-energy facility development.
- Stay abreast of research on the possibility of markets with technology for the reuse of solid waste materials (i.e., tires)
- Review for approval or disapproval all applications for licensing under the Act to ensure compliance with this *Plan* and all other applicable local land use and environmental related regulations and policies. This review process will be in accordance with the procedures set forth in this *Plan*.

- Review and evaluate all solid waste facilities and collection systems quarterly and annual reports. Council is responsible for ensuring compliance with the *Plan* and determining actions needed to ensure programs are successful and meeting the goals of the *Plan*.
- Monitor all solid waste management activities to determine if in compliance with the provisions of this *Plan* insofar as practical and reasonable.
- Hear the recommendations and concerns of citizens, the solid waste industry, planning agencies, local units of government and other interested parties or agencies to ensure that solid waste management issues and needs are being adequately addressed.
- Assist the county's Extension Service in developing the training and educational programs necessary to implement the various components of the *Plan*.
- Inform the regional solid waste planning agency and the multi-county solid waste agency of all decisions and actions which may affect or relate to regional solid waste management activities.
- Coordinate efforts between the solid waste industry and adjacent counties for the deposition of out-of-county waste in Manistee County.
- Make recommendations regarding solid waste management to the County Board when applicable for review and consideration.
- Assist municipalities and solid waste industry in the up grading of drop-off sites and containers.
- Explore the possibilities of creating a material recovery facility (MRF) with Lakeshore Enterprise or another agency.
- Coordinate efforts to develop and promote a household hazardous waste collection program and site.
- Assist and coordinate the implementation of a volume-based price system for solid waste disposal.

Funding for the Council will be derived from two principal sources: permit fees generated by the development of new solid waste facilities and general fund appropriations by the Manistee County Board of Commissioners.

Manistee County Planning Commission/Department

The Manistee County Planning Commission and its staff acting as the Designated County Solid Waste Planning Agency shall in general, coordinate and participate in all matters related to the administration and implementation of the *Plan*.

More specifically, its responsibilities will include, but not be limited to, the following:

- Provide staff to the Solid Waste Planning Council.
- Monitor solid waste activities in the county.
- Serve as liaison between the county and other agencies involved in matters related to solid waste management.
- Serve as a depository for solid waste information and legislation.
- Assist local units of government in solid waste matters.
- Carry out or assist in the in-depth investigation which may be needed prior to the implementation of the various resource recovery and recycling programs indicated in the *Plan*.
- Assist the MSU Extension Service in developing the public education and promotion programs necessary for implementing various components of the *Plan*.
- Develop and monitor local solid waste management legislation.
- Assist municipalities, Solid Waste Council and solid waste industry in the up grading of drop-off sites and containers.
- Assist in exploring the possibilities of creating a MRF with Lakeshore Enterprise or another Agency.

- Assist in coordinating efforts to develop and promote a household hazardous waste collection program and site.
- Assist and coordinate the implementation of a volume-base price system for solid waste disposal.

The Manistee County Planning Commission is funded by the County Board and has a full-time staff consisting of a county planner and an assistant planner. Offices are located in the County Building. Most of the Commission's solid waste functions would be handled by staff as part of regular programming efforts.

Manistee County Road Commission

The Manistee County Road Commission will be relied upon to maintain the county roads and highways in a manner which facilitates the safe and efficient transport of solid waste throughout the county.

The Road Commission will also provide advisory analysis to solid waste planning agencies and councils on matters relating to the transport of solid waste and for the siting of new facilities.

The Road Commission will maintain surface streets in a manner which facilitates the safe and efficient transport of solid waste and serve in an advisory capacity to the solid waste council on matters regarding solid waste transport and the siting of new facilities.

- Operations and maintenance of "Adopt a Road" program.
- Pick up of litter and solid waste along county road right-of-ways.

This element will be completed as part of the Road Commission's regular work program and is not expected to require additional funding.

Manistee County MSU Extension Service

The Manistee County MSU Extension Service will be utilized to do the following with assistance from other agencies:

- Develop public education and promotion programs necessary for implementing various components of the *Plan*.
- Coordinate and perform efforts to encourage local units of government, businesses, schools, etc. to participate in or expand recycling and resource recovery methods and programs.
- Provide a county-wide education program to point out the importance of keeping household and commercial hazardous wastes out of landfills.
- Develop and disseminate information and literature designed to inform the public on matters related to recycling, resource recovery, and conservation.
- Encourage and provide technical assistance to the solid waste industry and private and civic organizations to implement methods of recycling and resource recovery.
- Assist in organizing and operating the Clean Sweep pesticide disposal program.

The MSU Extension Service may work in conjunction with the County Conservation District and Planning Commission in each of the above elements.

Manistee County Sheriff Department

Local county law enforcement agencies will be responsible for enforcing county regulations and ordinances relating to the handling, collection and disposal of solid waste in Manistee County that are not part of the Michigan Department of Environmental Quality's jurisdiction.

This element will be integrated into the regular work programs of the above agencies.

District #10 Health Department

The District #10 Health Department (formerly the Manistee-Mason District Health Department) will be responsible for enforcing provisions of the local Sanitary Code as they relate to solid waste management.

This element will be integrated into the regular work programs of the above agencies.

Municipalities

Individual municipalities are responsible for ensuring local solid waste collection needs are met. The mechanisms utilized to meet these needs may be in the form of direct or indirect involvement. Direct involvement includes municipal collection crews and equipment, municipal contracts with private haulers, the creation, financing and operation of transfer stations and other direct financing mechanisms. An indirect mechanism is the allowance for individual contracts between residents and private waste haulers. The following solid waste collection needs should include, but not be limited to, spring/fall clean up, drop-off recycling, curbside recycling, composting and volume-based pricing.

- Municipalities will be responsible for enforcing municipal regulations and ordinances which are authorized by this *Plan*.
- Municipalities shall institute a Pay As You Throw (PAYT) — volume based charges — direct to the user as soon as possible.

Local units of government will make recommendations to the Manistee County Planning Commission and County Solid Waste Council regarding solid waste issues.

Municipal street authorities will strive to maintain surface streets in a manner which facilitates the safe and efficient transport of solid waste and serve in an advisory capacity to the solid waste council on matters regarding solid waste transport and the siting of new facilities.

To the extent which it is economically feasible and generally practical, local units of government will be expected to encourage and participate in programs instituted for the recycling and recovery of material and energy.

Private Solid Waste Industry

To the extent practical, Manistee County will rely on private industry to provide the land, facilities, manpower, equipment, and capital necessary for the collection, transport, processing and disposal of solid waste material.

- Private industry will also be relied upon to establish, as conditions warrant, a system for the collection, transport, processing and sale of recovered materials and energy.
- The solid waste industry will be expected to operate in a manner that ensures the economic viability and efficiency of the solid waste management system and concurrently avoid the unnecessary burdening of users and taxpayers.
- With respect to the general public's health and welfare and the natural environment, private industry will be expected to comply with all federal, state and local ordinances, regulations and contracts concerning the handling, transport, storage and disposal of solid waste material in accordance with the Act and the *Plan*.

The solid waste industry will be expected to adhere to the recommendations of the County Solid Waste Council.

Private industry funding will be generated through Charges for their services - volume based - either collected directly from individual residents or through municipal contracts which should include the following, but not limited to, spring/fall clean up, drop-off recycling, curbside recycling, composting, volume-based pricing. Capital cost requirements have been previously addressed.

Manistee County Recyclers/Lakeshore Enterprise

Lakeshore Enterprise will be utilized to continue all paper product recycling.

- Provide and promote educational programs for all paper recycling.
- Provide and promote educational programs for commercial paper recycling.
- To explore the possibility of developing a MRF.
- To explore the possibility of developing and operating a "Flagship" drop-off recycling site.
- Explore possibility of providing a permanent collection site for household hazardous waste cleanup program.

Michigan Department of Transportation

The Michigan Department of Transportation (MDOT) will be relied upon to maintain the State highway in accordance to ACT 51, published 1951 M.C.L. 247.651 *et seq.*

United States Forest Service

- Operation and Maintenance of the Adopt a Forest program.
- Pick up of litter and solid waste on forest lands.

City of Manistee

The City of Manistee will be relied upon to operate, maintain and continue development of the City's Compost Yard.

- Explore the possibility of providing construction and demolition processing.
- Work with county municipalities to provide contracted use of the City's compost yard.

Identification of Responsible Parties

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

THE following is a list of entities responsible for the management of solid waste in Manistee County. Documentation of acceptance of responsibility from all entities that will be performing a role in the *Solid Waste Management Plan* is included in appendix E5, page 185.

Michigan Department of Environmental Quality

Director of Solid Waste Management Division
P.O. Box 30241
Lansing, Michigan 48909-7741

Northwest Michigan Council of Governments

Solid Waste Regional Planning Coordinator
P.O. Box 506
Traverse City, Michigan 49689-0506

Manistee County Board of Commissioners

County Board Chair
% County Controller/Administrator
415 Third Street — Courthouse
Manistee, Michigan 49660-1606

Manistee County Solid Waste Council

Solid Waste Council Chair
% Manistee County Planning Department
415 Third Street — Courthouse
Manistee, Michigan 49660-1606

Manistee County Solid Waste Management Plan

Selected System, Management Components, Ch. C10

Manistee County Planning Commission/Department

Planning Commission Chair
% Manistee County Planning Department
415 Third Street — Courthouse
Manistee, Michigan 49660-1606

Manistee County Road Commission

425 W. Parkdale Avenue
Manistee, Michigan 49660

Manistee County MSU Cooperative Extension Service

Extension Director
6433 Eight Mile Road
Bear Lake, Michigan 49614

District #10 Health Department

385 Third Street
Manistee, Michigan 49660

County Sheriff Dept.

Sheriff
1525 E. Parkdale Avenue
Manistee, Michigan 49660

Manistee County Recyclers/Lakeshore Enterprises

100 South Glocheski Drive
Manistee, Michigan 49660

Michigan Department of Transportation

Transportation Building
425 West Ottawa
P.O. Box 30050
Lansing, Michigan 48909

U. S. Forest Service

Senior Ranger Manistee Forest
412 Red Apple Road
Manistee, Michigan 49660

Private Solid Waste Industry:

Manistee County Landfill, Inc. &
Shoreline Disposal (Haulers)
3890 Camp Road
Manistee, Michigan 49660

Waste Reduction systems
5848 North Stiles road
Ludington, Michigan 49431

Local Units of Government

City of Manistee, City Manager
70 Maple Street
Manistee, Michigan 49660

Bear Lake Village, President
7727 Lake Street
Bear Lake, Michigan 49614

Copemish Village, President
16798 First Street
Copemish, Michigan 49625

Eastlake Village, President
175 Main Street
Eastlake, Michigan 49626

Manistee County Solid Waste Management Plan

Selected System; Management Components; Ch. C10

Kaleva Village, President
9219 Aura Street
Kaleva, Michigan 49645

Arcadia Township, Supervisor
3422 Lake Street
Arcadia, Michigan 49613

Brown Township, Supervisor
8233 Coates Highway
Manistee, Michigan 49660

Dickson Township, Supervisor
14270 Coates Highway
Brethren, Michigan 49619

Manistee Township, Supervisor
410 Holden Street
Manistee, Michigan 49660

Marilla Township, Supervisor
9991 Marilla Road
Copemish, Michigan 49625

Onkama Township, Supervisor
5435 Main Street — (M-22)
Onkama, Michigan 49675

Springdale Township, Supervisor
14992 Glovers Lake Road
Bear Lake Michigan 49614

Onkama Village, President
5283 Main Street
Onkama, Michigan 49675

Bear Lake Township, Supervisor
7771 Lake Street
Bear Lake, Michigan 49614

Cleon Township, Supervisor
18826 Maple Street
Copemish, Michigan 49625

Charter Township of Filer, Supervisor
2505 Filer City Road
Manistee, Michigan 49660

Maple Grove Township, Supervisor
9213 Aura Street
Kaleva, Michigan 49645

Norman Township, Supervisor
17201 Sixth Street
Wellston, Michigan 49689

Pleasanton Township, Supervisor
8958 Lumley Road
Bear Lake, Michigan 49614

Stronach Township, Supervisor
2471 Main Street, P.O. Box 356
Manistee, Michigan 49660

Resource Conservation:

Source or Waste Reduction:	None.
Product Reuse:	None.
Reduced Material Volume:	Shoreline trucking Compaction trucks and Manistee County Landfill, Inc. landfill compaction
Increased Product Lifetime:	None.
Decreased Consumption:	None.

Manistee County does not have a county wide program for any of the above Resource Conservation programs. It is the responsibility of individual consumer to reduce waste, reuse products, increase product lifetime, and decrease consumption.

Resource Recovery Programs:

Composting:	City of Manistee, Filer Township, Stronach Township, Onekama Village.
Recycling:	Manistee County, Local Units of Government, Manistee County Landfill, Inc., Manistee County Recyclers/Lakeshore Enterprise,
Energy Production:	N/A

Volume Reduction Techniques:

MANISTEE County will continue current volume reduction techniques and intends to appoint a committee to research possible new volume reduction techniques feasible for Manistee County.

Collection Processes:

MANISTEE County municipalities will continue to use private waste haulers and municipal crews for waste collection.

Transportation:

MANISTEE County municipalities will continue to use private waste haulers and municipal crews for transportation of solid waste.

Disposal Areas

Processing Plants:	Manistee County Landfill, Inc.(formerly Harland's Landfill), Lakeshore Enterprises.
Incineration:	PCA Incinerator
Transfer Stations:	Maple Grove Township & Dickson Township
Sanitary Landfills:	Manistee County Landfill, Inc.(formerly Harland's landfill), PCA ash mono fill, TES Landfill, Fischer Landfill Site.

Ultimate Disposal Area Uses

THE Maple Grove Township and Dickson Township transfer stations will continue to be available for solid waste disposal and recycling by their respective municipality residents. Manistee County Landfill, Inc. will remain the primary landfilling and recycling processing except for paper products. The PCA Type III landfill if constructed will only be available for the PCA's paper mill sludge and ash. The TES Type II landfill if constructed will only be available for TES's ash. The PCA Fluid incinerator is available for only for PCA's sludge.

Local Responsibility for *Plan* Update Monitoring & Enforcement

MANISTEE County Solid Waste Council is responsible for monitoring the *Solid Waste Plan*. For criminal matters, the agencies responsible for enforcement would be the county's prosecutor and the DEQ. For civil matters the agency responsible would be the county's corporate counsel. This *Plan* cannot override the prosecutor's autonomy in deciding which cases will be pursued or not, nor which cases he requires the DEQ (rather than local agencies) to provide investigation services for. Any unit of government may hire a monitor of law enforcement officer to oversee the operation of any solid waste facility in Manistee county to respond to and investigate complaints. If funding is not available, and the monitor is not hired, that does not contravene this *Plan*.

Educational and Informational Programs

EDUCATIONAL programs will be a cooperative effort for Manistee County. The county will utilize many existing governmental bodies and organizations to implement educational programs. The following is a list of those entities, but not limited to, that will play a role in educational programs for Manistee County: Manistee County Board of Commissioners; Manistee County Solid Waste Council; Solid waste council appointed committee to research recycling programs for the county; Manistee County Planning Commission/Department; Manistee county MSU Extension Service; Local Units of Government; Private Waste Industry; Manistee County Recyclers/Lakeshore enterprises.

Documentation of acceptance of responsibilities is contained in Appendix E5, page 167.

Chapter C11: Local Ordinances and Regulations Affecting Solid Waste Disposal

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

SECTION 11538.(8) of SW NREPA and rule 710 (3) 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.

This *Plan* is adopted under authority of SW NREPA.

Local (County) Ordinances

The following are local regulations and ordinances intended to be part of this *Plan*:

1. Geographic area/Unit of government: Manistee County.

Type of disposal area affected: All.



Ordinance or other legal basis: Manistee County Solid Waste Facility Ordinance of 1990 and "Plan Compliance Agreements" consummated pursuant to the Ordinance.

Requirement/restriction: This ordinance is authorized to require the county and solid waste facility to enter into "Plan Compliance Agreements" which deal with design and operations issues not regulated by SW NREPA (but not siting of solid waste facilities): hours of operation, perimeter signs, landscaping, recycling service provided, dust control, setbacks, vegetation belt, buffer, service access area, protection cushion areas, isolation distance, noise, geographic service area.

In administering regulations under this *Plan* the county shall also require compliance with certain municipal zoning requirements, being yard setbacks, minimum building size, minimum parcel size, maximum building height, groundwater protection site plan review design standards (but not to approve or deny a site for a solid waste facility or determining if it is a permitted, or special use in any zoning district). Groundwater zoning establishes a zoning overlay district which reflects the wellhead protection zone and prohibits certain land uses in the immediate vicinity of the well and prohibits a smaller list of land uses within the 5 year time of travel of the well and prohibits an even smaller list of land uses in the 10 year time of travel of the well, except that under certain design and site plan considerations, a prohibited land use might be permitted. The zoning is intended to be one part of a wellhead protection program.

As part of the implementation of this *Plan*, the Manistee County Solid Waste Facility Ordinance of 1990 should be amended, or annotated, to:

- reflect the establishment of the DEQ and include reference to SW NREPA,
- delete the first sentence of section 102,
- clarify language in section 109.A.,
- to indicate the "Plan Compliance Agreement" is only to deal with design and operations of a solid waste facility, after siting has been approved.

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Letter](#)

- Section 110 should specifically define that inspection authority is only to enforce provisions of this *Plan*, the Solid Waste Facility Ordinance and Plan Compliance Agreement, but not other provisions of SW NREPA.
- 2. Geographic area/Unit of government: Manistee County.
Type of disposal area affected: All.
Ordinance or other legal basis: Michigan Land Division Act; Manistee County Subdivision and Site-
Condominium Control Ordinance.
Requirement/restriction: As it relates to standards for dividing land, access, and plat review.
- 3. Geographic area/Unit of government: Manistee County.
Type of disposal area affected: All.
Ordinance or other legal basis: Manistee County Health Code
Requirement/restriction: As it applies to siting, drilling and operating water wells; siting, drilling and maintenance of on site sewage disposal facilities (septic and drain fields) at solid waste facilities that is under jurisdiction of a district or local health department.
- 4. Geographic area/Unit of government: Manistee County.
Type of disposal area affected: All.
Ordinance or other legal basis: Manistee County Nuisance Ordinance
Requirement/restriction: As it applies to noise and nuisance operation issues at solid waste facilities.
- 5. Geographic area/Unit of government: Manistee County.
Type of disposal area affected: All.
Ordinance or other legal basis: Manistee County Junk Ordinance
Requirement/restriction: As it applies to screening, buffering, handling, and operation of junk yards, junk storage, in conjunction with or on the same parcel as a solid waste facility.

Other state statutes which may be applicable, and that a solid waste facility in Manistee County must be designed to comply with are the Michigan Construction Code (design and construction of buildings); Soil Erosion and Sedimentation Control Act (soil erosion prevention plans) and applicable state air and water pollution standards.

Municipal Zoning Ordinances

This *Plan* recognizes and incorporates as enforceable the following specific provisions based on existing zoning ordinances:

1. Geographic area/Unit of government: Each respective municipality in Manistee County.
Type of disposal area affected: The following is a list of all the solid waste facilities authorized by this *Plan* which may be subject to siting and regulation through municipal ordinance, if such ordinance exists and such ordinance and regulations does not have the effect of totally prohibiting the facility from anywhere in the municipality.³⁶
 - A. Type B transfer stations and transfer stations of any size which are owned by the respective municipality.

³⁶Requirement/Restrictions: This *Plan* is to require certain activities are to be part of the process for siting as required in this *Plan*, and not subject to local zoning. The following, but not a complete list, of what is included under zoning jurisdiction are (a) permanent and temporary recycling drop-off facilities, type II or smaller in size; (b) permanent hazardous waste drop-off facilities; (c) junk yards, (d) compost yards of yard waste and are not subject to solid waste plan jurisdiction.

Ordinance or other legal basis: Zoning ordinance, as amended, currently in effect or will be in effect, in each respective municipality in Manistee County.

Requirement/restriction: The following, but not a complete list, of solid waste facilities are only subject to siting and regulation through this *Plan* (thus, not subject to municipal zoning or other forms of regulation):

- A. Landfills of any type.
- B. Solid waste incinerators.
- C. Waste to energy facilities.
- D. State licensed solid waste transfer stations and any transfer station not owned by the respective municipality.
- E. Temporary hazardous waste drop-off facilities.
- F. State licensed compost yards of solid waste (not including composting of yard waste and not including an individual's or farmer's compost of only their materials).
- G. Any other solid waste facility not named as authorized for municipal regulation.

Part D: Capacity Certification

Chapter D1: Capacity Certification Process

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*.

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 exporting arrangements made. Appendix E5: Attachments, Listed Capacity, page 166 includes letters from Manistee County Landfill, Inc. (Owned by Allied) and Glen's Sanitary Landfill (Owned by Waste Management Systems), that indicates that Manistee County is supplied with 10 years capacity.

Identified Disposal area capacity	Available Air Space (gate CY)	Gate CY Delivered 1995/1996	Landfill life (in years) based on 1995/1996 delivery rates	Landfill Life (in years) based on 1995/1996 rates w/2% growth
Manistee County Landfill Inc.	7,000,000	151,083	74	60
Glen's Sanitary Landfill	22,000,000	278,469	126	102
Cedar Ridge Landfill	370,000	279,593	2	2
Wexford County Landfill	2,000,000	215,027	15	12

The calculations of the landfill life assumes 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 Recourse Recycling System, Inc. Available air space for Manistee County Landfill (owned by Allied) was estimated based on the site that is currently approved in the County's *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.

The SW NREPA requires the following:

1. If there is less than 66 months capacity, then the *Plan* (A) shall have a siting mechanism and (B) shall have an "annual process to certify capacity."
2. If there is between 66 months and 10 years capacity, then the *Plan* shall have a siting mechanism, but it can be turned "off."
3. If there is more than 10 years capacity, then the county has the option not to have a siting mechanism.

In the event ten years of disposal capacity no longer exists the County will annually submit capacity certifications to the DEQ by June 30 of each year on the form provided by DEQ.

For purposes of this *Plan* and for purposes of establishing if 66 months, or 10 years capacity exists for Manistee County, capacity is figured for:

1. Capacity is the area of a landfill which has DEQ permit(s), and Manistee County has legal access to that landfill (if the landfill is outside the county, the county needs a letter from the landfill owner saying they will accept our waste); and
2. Capacity is any area which is included in the *Manistee Plan* as a landfill or incinerator site even if it does not have DEQ permit(s) yet. Also the county needs to have legal access to the site (agreement by the landowner, or site being sold to a solid waste developer to include the county, etc.).

Further, to calculate capacity this *Plan* requires: capacity shall be the sum of each solid waste facility identified in this *Plan*, or subsequently sited by the County by use of DEQ construction permit approved engineered design drawings and site plans, when available, with a 2:1 compaction rate and volume of solid waste coming into the landfill is that volume which in fact is generated in the county and goes to facilities in the county, plus solid waste imported to facilities in the county in the past year. If DEQ construction permit approved engineering design is not available then the assumptions are:

1. The number of acres usable in the total parcel can not include any required setbacks, buffers, isolation distances, greenbelts, service roads based on "typical" existing landfill designs in Manistee County.
2. The volume of solid waste coming into the landfill is that volume which in fact is generated in the county and goes to facilities in the county, plus solid waste imported to facilities in the county in the past year.
3. A 2:1 compaction rate.
4. A square quarter-quarter shaped sequence of development, with the following cell pattern within the 40± acre quarter-quarter:
5. Cells recess in the ground with a side slope at the maximum allowed by DEQ Administrative rule; and (1) to the maximum depth practical by design or (2) to the depth where the bottom is the DEQ Administrative rule distance above the groundwater table, whichever is less.
6. The area above the ground is with a side slope at the maximum allowed by DEQ Administrative rule and covers the all the in ground cells and areas between the in ground cells within a 40± acre quarter-quarter or larger area.
7. Fifteen percent of the area in a landfill is occupied by daily cover, and internal roads. The 15% of total cubic area calculated from the above assumptions is subtracted to provide the capacity.

All landfill sites named in this *Plan* -- Manistee County Landfill, Fischer Landfill site, PCA, and Tondu -- may be used to determine capacity if the owner is willing to sell to a solid waste facility developer, will develop the site himself or the assumption can reasonably be made the County Board may acquire those sites for such use if the owners do not wish to develop solid waste facilities.

E: APPENDIXES

Appendix E1: Waste Generation Projection Details

Commercial/Industrial Waste Generation, 1995: Tabulation of Michigan Job Center (MJC)/Employment Service Agency, Labor Market Analysis by SIC Code Data was used to project waste generation for each SIC sector. The number of employees within an SIC code range is multiplied by a "pounds per person per day" waste generation rate typical (based on RRSI experience) for that sector.

Commercial/Industrial Waste Generation Projections: Projections for 1998, 2003, and 2008 are then developed from the 1995 waste generation estimates, based on the assumption that the commercial/industrial waste will change proportionally to population. Population projections are interpolated from January 1996 projections obtained from the Office of the State Demographer, Michigan Department of Management and Budget.

Manistee County Commercial/Industrial Waste Generation Projections				
Year	1995	1998	2003	2008
Population Projections	22,900	22,900	22,960	23,060
Employee Projections	5,643	5,643	5,658	5,682
Commercial Waste Gen., tons/per year	5,854	5,854	5,869	5,895
Industrial Waste Gen., tons/per year	3,809	3,809	3,819	3,835
Commission. + Ind. Waste Gen., tons/per year	9,662	9,662	9,688	9,730
Note: Projections are based on projected population changes given by Office of the State Demographer, 1/96				

County Residential Waste Projections Summary: This table is essentially the same as Table B1.1 in this *Plan* (page 12, 138). The numbers are derived from detailed tables following.

Manistee County Residential Waste Projections Summary			
Municipality	1998	2003	2008
Arcadia Township	267	271	274
Bear Lake Village	140	128	117
Balance of Bear Lake Township	522	529	536
Brown Township	264	288	292
Copemish Village	91	84	77
Balance of Cleon Township	237	240	244
Dickson Township	333	325	316
Filer Township	1,336	1,422	1,513
Manistee City	5,174	4,940	4,713
Eastlake Village	228	232	235
Balance of Manistee Township	1,296	1,360	1,468
Kaleva Village	199	183	167
Balance of Maple Grove Township	297	293	290
Marilla Township	120	115	111
Norman Township	621	662	704
Onkama Village	212	194	178
Balance of Onkama Township	393	418	445
Pleasanton Township	266	263	260
Springdale Township	241	244	247
Stronach Township	405	395	384
Manistee County Total	12,662	12,605	12,571
*All figures are in tons per year			

Permanent Population of County: This table provides projections for populations of each municipality within the county for the years 1998, 2003, and 2008. A list of municipalities within the county was obtained from Northwest Michigan Council of Governments (NWMiCOG), with source population data from the U.S. Census Bureau and Michigan Office of the State Demographer. Population data for each municipality are given for 1990, and estimates for each municipality are given for 1996. Relative growth rates for each municipality are calculated from these numbers, and the resulting population projections are given in the columns "1998 linear," "2003 linear" and "2008 linear." The calculated county total from this linear projection is compared with the Demographers projections for the county as a whole. An adjusted population projection for each municipality is then calculated by multiplying the "linear" projection for that municipality by the ratio of "linear" to "Demographer" populations for the county.

Permanent Population of Manistee County										
Municipality	1990 pop.	90-96 change	96/90 ratio	annual growth	1998 linear	2003 linear	2006 linear	1998 projected	2003 projected	2008 projected
Arcadia Township	553	92	1.1664	1.02493	599	629	661	609	617	625
Bear Lake Village	339	33	1.0973	1.01497	313	297	283	318	292	267
Balance of Bear Lake Township	1,080	179	1.1657	1.02484	1,169	1,229	1,292	1,190	1,206	1,221
Brown Township	588	96	1.1633	1.02449	637	669	703	648	657	665
Copemish Village	222	25	1.1126	1.01722	205	195	185	208	191	175
Balance of Cleon Township	491	81	1.1650	1.02479	532	559	587	541	548	555
Dickson Township	735	-13	0.9823	0.99715	747	754	762	760	740	720
Filer Township	1,966	325	1.1653	1.02478	2,303	2543	2,808	2,343	2,495	2,655
Manistee City	6,734	-341	0.9494	0.99172	6,627	6,561	6,496	6,742	6,437	6,141
Eastlake Village	473	-18	0.9619	0.99381	512	538	566	521	528	535
Balance of Manistee Township	2,479	936	1.3776	1.05259	2,905	3,207	3,541	2,955	3,146	3,347
Kaleva Village	484	-24	0.9504	0.99190	447	425	404	454	417	382
Balance of Maple Grove Township	639	106	1.1659	1.02486	665	682	699	677	669	661
Marilla Township	268	44	1.1642	1.02462	268	268	268	273	263	253
Norman Township	1,189	-54	0.9546	0.99259	1,393	1,538	1,698	1,417	1,509	1,606
Onkama Village	515	44	1.0854	1.01320	475	452	430	483	443	406
Balance of Onkama Township	751	120	1.1598	1.02400	880	971	1,073	895	953	1,014
Pleasanton Township	573	-27	0.9529	0.99291	596	611	627	607	600	593
Springdale Township	498	8	1.0161	1.00255	539	567	596	549	556	563
Stronach Township	688	25	1.0363	1.00573	699	706	713	711	693	674
Manistee County Total	21,266	1,637	1.0770	1.01190	22,511	23,403	24,391	22,900	22,960	23,059
Michigan DMV Population Projection Estimates					22,900	22,960	23,060			

1998 Estimated Seasonal Population: Population in each municipality is considered to be a sum of the permanent population, calculated from Item 4 above, and the seasonal population. Based on data in the "Northwest Michigan Seasonal Population Model" (July 1996) produced for the NWMiCOG, an estimate for the percent of additional population over and above the permanent population for each month of the year was obtained, and a "Seasonal Multiplier" was calculated as $(1 + \% \text{seasonal pop.})$. The percentage of seasonal population, for the most part, is higher in the summer than in the winter months. The total (permanent plus seasonal) population during a given month for a given municipality is then obtained by multiplying the permanent population of that municipality by the "Seasonal Multiplier". Averages for the year and totals for the county are also calculated.

1998 Estimated Seasonal Population													
	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
Seasonal Multiplier	1.11	1.12	1.13	1.11	1.16	1.37	1.38	1.39	1.18	1.17	1.15	1.14	1.20
Arcadia Township	676	682	688	676	707	835	841	847	719	713	701	694	732
Bear Lake Village	353	356	362	353	371	436	439	442	375	372	366	363	382
Balance of Bear Lake Township	1,321	1,332	1,344	1,321	1,380	1,630	1,642	1,654	1,404	1,392	1,368	1,356	1,429
Brown Township	719	725	732	719	751	887	894	900	764	758	745	738	778
Copemish Village	231	233	235	231	242	285	288	290	246	244	240	238	250
Balance of Cleon Township	600	606	611	600	627	741	746	752	638	633	622	617	649
Dickson Township	843	851	859	843	881	1,041	1,048	1,056	897	889	874	866	912
Filer Township	2,601	2,624	2,648	2,601	2,718	3,210	3,234	3,257	2,765	2,742	2,695	2,671	2,814
Manistee City	7,483	7,551	7,618	7,483	7,819	9,236	9,303	9,371	7,955	7,888	7,753	7,685	8,095
Eastlake Village	578	584	589	578	604	714	719	724	615	610	599	594	626
Balance of Manistee Township	3,280	3,309	3,339	3,280	3,427	4,048	4,078	4,107	3,487	3,457	3,398	3,368	3,548
Kaleva Village	504	509	513	504	527	622	627	632	536	532	522	518	546
Balance of Maple Grove Township	751	758	764	751	785	927	934	940	798	792	778	771	812
Marilla Township	303	305	308	303	315	374	376	379	322	317	314	311	327
Norman Township	1,573	1,587	1,601	1,573	1,644	1,942	1,956	1,970	1,672	1,658	1,630	1,616	1,702
Onekama Village	537	541	546	537	561	662	667	672	570	566	556	551	581
Balance of Onekama Township	994	1,003	1,011	994	1,038	1,226	1,235	1,244	1,056	1,047	1,029	1,020	1,075
Pleasanton Township	673	679	685	673	704	831	837	843	716	710	698	692	728
Springdale Township	609	614	620	609	636	752	757	763	647	642	631	625	659
Stronach Township	789	797	804	789	825	974	981	989	839	832	818	811	854
Manistee County Total	25,418	25,646	25,877	25,418	26,562	31,373	31,602	31,832	27,021	26,794	26,337	26,105	27,499

1998 Estimate Waste Generation, tons: Waste generation for each month for a given municipality is calculated as the product of the total population of the municipality for that month and the "Waste Generation Multiplier" for that municipality. For most municipalities, a value of the "Waste Generation Multiplier" of 2.0 pound per person per day is used. This is a typical number for rural population based on survey results of Michigan counties. For larger cities and resort areas, waste generation is expected to be higher, and a value of 3.6 pounds per person per day is used for these. For denser urban areas, waste generation is expected to be higher, and a value of 2.6 pounds per person per day is used for these. Total waste generation for the year is calculated for each municipality, as are monthly totals for the county. The rightmost column in this table becomes the left most column in the summary table and in Table B1.1 (page 12, 138).

1998 Estimated Waste Generation, tons														
	mult.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total, tpy
Arcadia Township	2.0	21	19	21	20	22	25	26	26	22	22	21	22	267
Bear Lake Village	2.0	11	10	11	11	11	13	14	14	11	12	11	11	140
Balance of Bear Lake Township	2.0	41	37	42	40	43	49	51	51	42	43	41	42	522
Brown Township	2.0	22	20	23	22	23	27	28	28	23	23	22	23	284
Copemish Village	2.0	7	7	7	7	7	9	9	9	7	6	7	7	91
Balance of Cleon Township	2.0	19	17	19	18	19	22	23	23	19	20	19	19	237
Dickson Township	2.0	26	24	27	25	27	31	32	33	27	28	26	27	358
Filer Township	2.6	105	96	107	101	110	125	130	131	108	110	105	108	1,336
Manistee City	3.5	406	370	413	393	424	485	505	508	418	428	407	417	5,174
Eastlake Village	2.0	18	16	18	17	21	21	22	22	18	19	18	18	228
Balance of Manistee Township	2.0	102	93	104	98	106	121	126	127	105	107	102	104	1,296
Kaleva Village	2.0	16	14	16	15	16	19	19	20	16	16	16	16	199
Balance of Maple Grove Township	2.0	23	21	24	23	24	28	29	29	24	25	23	24	297
Marilla Township	2.0	9	9	10	9	10	11	12	12	10	10	9	10	120
Norman Township	2.0	49	44	50	47	51	58	61	61	50	51	49	50	621
Onekama Village	2.0	17	15	17	16	17	20	21	21	17	18	17	17	212
Balance of Onekama Township	2.0	31	28	31	30	32	37	38	39	32	32	31	32	393
Pleasanton Township	2.0	21	19	21	20	22	25	26	26	21	22	21	21	266
Springdale Township	2.0	19	17	19	18	20	23	23	24	19	20	19	19	241
Stronach Township	2.6	32	29	32	31	33	38	40	40	33	34	32	33	405
Manistee County Total	2.14	995	905	1,012	961	1,038	1,187	1,235	1,244	1,022	1,048	996	1,020	12,662

2003 Estimated Seasonal Population: 1998 Estimated Seasonal Population, except population data for 2003 is used.

2003 Estimated Seasonal Population													
	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
Arcadia Township	685	692	698	685	716	846	852	858	729	722	710	704	741
Bear Lake Village	324	327	330	324	339	400	403	406	344	341	336	333	351
Balance of Bear Lake Township	1,339	1,351	1,363	1,339	1,399	1,652	1,664	1,676	1,423	1,411	1,387	1,375	1,448
Brown Township	729	735	742	729	762	899	906	913	775	768	755	748	788
Copemish Village	212	214	216	212	222	262	264	266	226	224	220	218	230
Balance of Cleon Township	609	614	619	609	636	751	757	762	647	641	630	625	658
Dickson Township	821	829	836	821	858	1,014	1,021	1,029	873	866	851	844	889
Filer Township	2,770	2,795	2,819	2,770	2,894	3,418	3,443	3,468	2,944	2,919	2,869	2,844	2,996
Manistee City	7,145	7,209	7,274	7,145	7,467	8,818	8,883	8,947	7,595	7,531	7,402	7,338	7,730
Eastlake Village	586	592	597	586	613	724	729	734	623	618	607	602	634
Balance of Manistee Township	3,492	3,524	3,555	3,492	3,650	4,310	4,342	4,373	3,712	3,681	3,618	3,587	3,778
Kaleva Village	463	467	471	463	483	571	575	579	492	488	479	474	500
Balance of Maple Grove Township	742	749	756	742	776	916	923	930	789	783	769	763	803
Marilla Township	292	294	297	292	305	360	363	365	310	308	302	300	316
Norman Township	1,675	1,690	1,705	1,675	1,750	2,067	2,082	2,098	1,781	1,766	1,735	1,720	1,812
Onekama Village	492	497	501	492	514	607	612	616	523	519	510	505	532
Balance of Onekama Township	1,058	1,067	1,077	1,058	1,106	1,306	1,315	1,325	1,125	1,115	1,096	1,087	1,145
Pleasanton Township	666	672	678	666	696	822	828	834	708	701	690	684	720
Springdale Township	617	623	628	617	645	762	767	773	656	651	639	634	668
Stronach Township	769	776	783	769	804	949	956	963	817	811	797	790	832
Manistee County Total	25,486	25,717	25,945	25,486	26,635	31,454	31,685	31,915	27,092	26,864	26,402	26,175	27,571

2003 Estimate Waste Generation, tons: 1998 Estimated Generation, tons, except population data from Item 7 is used. The rightmost column in this table becomes the middle column in the summary table and in Table B1.1 (page 12, 138).

2003 Estimate Waste Generation, tons													
	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total, tpy
Arcadia Township	21	19	22	21	22	25	26	27	22	22	21	22	271
Bear Lake Village	10	9	10	10	10	12	12	13	10	11	10	10	127
Balance of Bear Lake Township	41	38	41	40	43	50	52	52	43	44	42	43	529
Brown Township	23	21	23	21	24	27	28	28	23	24	23	23	288
Copemish Village	7	6	7	5	7	8	8	8	7	7	7	7	84
Balance of Cleon Township	19	17	19	18	20	23	23	24	19	20	19	19	240
Dickson Township	25	23	26	25	27	30	32	32	26	27	26	26	325
Filer Township	112	102	114	108	117	133	139	140	115	118	112	115	1,425
Manistee City	388	353	395	375	405	463	481	485	399	409	389	398	4,940
Eastlake Village	18	17	19	18	19	22	23	21	19	19	18	19	232
Balance of Manistee Township	108	99	110	105	113	129	135	136	111	114	109	111	1,380
Kaleva Village	14	13	15	14	15	17	18	18	15	15	14	15	183
Balance of Maple Grove Township	23	21	23	22	24	27	29	29	24	24	23	24	293
Marilla Township	9	8	9	9	9	11	11	11	9	10	9	9	114
Norman Township	52	47	53	50	54	62	65	65	53	55	52	53	661
Onekama Village	15	14	16	15	16	18	19	19	16	16	14	16	194
Balance of Onekama Township	33	30	33	32	34	39	40	41	34	35	33	34	418
Pleasanton Township	21	19	21	20	22	25	26	26	21	20	21	21	263
Springdale Township	19	17	19	19	20	23	24	24	20	20	19	20	244
Stronach Township	31	28	32	30	32	37	39	39	32	33	31	31	395
Manistee County Total	989	901	1,007	957	1,033	1,181	1,230	1,238	1,018	1,043	992	1,016	12,605

*Waste Gen. Multiplier is presently 2.0 pounds per person per day(ppppd) for rural areas, 2.6 ppppd for urban areas. EXCEPT CITY OF MANISTEE

2008 Estimated Seasonal Population: 1998 Estimated Seasonal Population, except population data for 2008 is used.

Manistee County 2008 Estimated Seasonal Population													
	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
Arcadia Township	694	700	707	694	725	857	863	869	738	732	719	713	751
Bear Lake Village	297	300	302	297	310	366	369	372	316	313	308	305	321
Balance of Bear Lake Township	1,356	1,368	1,380	1,356	1,417	1,673	1,685	1,698	1,441	1,429	1,405	1,392	1,467
Brown Township	738	745	751	737	771	911	918	924	785	778	765	758	798
Copemish Village	194	196	198	194	204	240	242	243	207	205	201	200	210
Balance of Cleon Township	616	622	627	616	644	761	766	772	655	650	639	633	667
Dickson Township	800	807	814	800	836	987	994	1,001	850	843	828	821	865
Filer Township	2,947	2,973	3,000	2,947	3,079	3,637	3,663	3,690	3,133	3,106	3,053	3,026	3,188
Manistee City	6,817	6,878	6,939	6,817	7,124	8,412	8,475	8,536	7,247	7,185	7,062	7,001	7,374
Eastlake Village	594	599	604	594	620	733	738	744	631	626	615	610	642
Balance of Manistee Township	3,716	3,749	3,783	3,716	3,883	4,586	4,619	4,653	3,950	3,916	3,849	3,816	4,020
Kaleva Village	424	428	432	424	443	523	527	531	451	447	439	435	459
Balance of Maple Grove Township	734	740	747	734	767	905	912	919	780	773	760	753	794
Marilla Township	281	284	286	281	294	347	350	352	299	297	292	289	304
Norman Township	1,782	1,798	1,814	1,782	1,862	2,200	2,216	2,232	1,894	1,878	1,846	1,830	1,928
Onekama Village	451	455	459	451	471	557	561	565	479	475	467	463	488
Balance of Onekama Township	1,126	1,136	1,146	1,126	1,176	1,389	1,399	1,410	1,197	1,186	1,166	1,156	1,218
Pleasanton Township	658	664	670	658	687	812	818	824	699	693	682	676	712
Springdale Township	625	631	636	625	653	772	777	783	665	659	648	642	676
Stronach Township	748	755	762	748	782	924	930	937	794	789	775	769	809
Manistee County Total	25,598	25,828	26,057	25,597	26,748	31,592	31,822	32,055	27,211	26,980	26,519	26,288	27,691

2008 Estimate Waste Generation, tons: 1998 Estimated Generation, tons, except population data from Item 9 is used. The rightmost column in this table becomes the rightmost column in the summary table (Item 3) and in Table B1.1 (page 12, 138).

Manistee County													
2008 Estimated Waste Generation, Tons													
	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total, TPY
Arcadia Township	22	20	22	21	22	26	27	27	22	23	22	22	276
Bear Lake Village	9	8	9	9	10	11	11	12	10	10	9	9	117
Balance of Bear Lake Township	42	38	43	41	44	50	52	53	44	44	42	43	536
Brown Township	23	21	23	22	24	27	28	29	24	24	23	23	291
Copemish Village	6	5	6	6	6	7	9	8	6	6	6	6	77
Balance of Cleon Township	19	17	19	18	20	23	24	24	20	20	19	20	243
Dickson Township	25	23	25	24	26	30	31	31	25	26	25	25	316
Filer Township	119	108	121	115	124	142	148	149	122	125	119	122	1,514
Manistee City	370	337	376	358	386	442	460	463	380	390	371	380	4,713
Eastlake Village	18	17	19	18	19	22	23	23	19	19	18	19	234
Balance of Manistee Township	115	105	117	111	120	138	143	144	118	123	115	118	1,467
Kaleva Village	13	12	13	13	14	16	16	16	14	14	13	13	167
Balance of Maple Grove Township	23	21	23	22	24	27	28	28	23	24	23	23	289
Marilla Township	9	8	9	8	9	10	11	11	9	9	9	9	111
Norman Township	55	50	56	53	58	66	69	69	57	58	56	57	704
Onekama Village	14	13	14	14	15	17	17	18	14	15	14	14	179
Balance of Onekama Township	35	32	36	34	36	42	43	44	36	37	35	36	446
Pleasanton Township	20	19	21	20	22	24	25	26	21	21	20	21	260
Springdale Township	19	18	21	19	20	23	24	24	20	20	19	20	247
Stronach Township	30	27	31	29	32	36	37	38	31	32	30	31	384
Manistee County Total	966	899	1,004	955	1,031	1,179	1,226	1,237	1,015	1,040	988	1,011	12,571

* Waste Generated Multiplier is presently 2.0 ppppd for rural areas, 2.6 ppppd for urban areas.

Appendix E2: Additional Information Regarding the Selected System

Evaluation of Recycling

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

Manistee County's volume of materials being reused and recycled are at the levels they are due to the strong paper recycling program set up by Manistee County Recyclers, run by Lakeshore Enterprises and area schools. Also it is due to the City of Manistee's Composting yard and the county-required eight recycling drop-off sites.

PCA buys the recycled paper from Lakeshore Enterprise as part of a grant program they participated in a few years ago. PCA Inc. Filer City Mill is an older paper mill and could close due to high operation costs. Another concern is the paper market which could effect the amount of recycled paper Lakeshore will be able to sell in the future. Currently the City of Manistee's Composting yard will take material from any municipality willing to contract a hauler to bring the yard waste to the facility — not drop off by individuals.

Other recycled product volumes are lacking participation due to lack of convenience drop-off locations and hours. Discussion during the plan update process has focused on the possibility of making Lakeshore enterprise a MRF with site separated material and source separated material processing capabilities.

Detailed Features of Recycling and Composting Programs:

List below the types and volumes of material available for recycling or composting.

	Percent of total municipal solid waste generated in Manistee County
TOTAL PLASTICS:	11.15%
NEWSPAPER:	6.30%
CORRUGATED CONTAINERS:	13.58%
TOTAL OTHER PAPER:	34.41%
TOTAL GLASS:	6.41%
OTHER MATERIALS:(not all recyclable)	11.15%
GRASS AND LEAVES:	12.83%
TOTAL WOOD WASTE:	4.24%
CONSTRUCTION AND DEMOLITION:	13.94%
FOOD AND FOOD PROCESSING	2.67%
TOTAL METALS	8.97%

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

In the 1970's White's Landfill (owned by Loran "John" T. White) was constructed. As part of a divorce settlement in the early 1980s Mr. White's wife, Annette, received the landfill. The Landfill's name was changed to "Harland's Landfill," and "Harland's Trucking" was incorporated as a separate company. Both were owned by Keith and Annette Harland. During this period recycling did not occur.

In Manistee County previous Solid Waste Plans use a landfill siting mechanism to require a landfill to provide "full scope of service". That means the landfill must provide recycling services in the county in addition to operation of a landfill. Upon approval for expansion, in the late 1980s, Harland's Landfill Inc. (now Manistee County Landfill Inc.) agreed to provide eight recycling drop off recycling sites, with collection provided with a marked recycling truck. This is part of the Plan Compliance Agreement with Manistee County and Harland's Landfill Inc., its heirs, assigns and successors. Each of the eight sites have a minimum number of hours they are to be open each month and are available for use by anyone in the county. The equipment used, the day-to-day management, and similar aspects of the recycling drop-off program are left to the landfill operator to do as he sees fit.

Part of the rationale was that there would be multiple locations, and varying hours, so there would be a recycling drop-off site in each part of the county (for geographic convenience) and varied hours so a site would be open for use somewhere in the county most times (for schedule convenience).

In reality Harland's Landfill Inc. operated up to 16 recycling drop off sites. When Harland's Landfill and Trucking was purchased by West Michigan Disposal this service and philosophy continued. When Harland's Landfill and Trucking was purchased by United Waste Systems, Inc. the new owner reviewed the Plan Compliance Agreement and announced they would only operate eight recycling drop-off sites. United Waste selected eight out of the 16 sites which were closest to the Landfill (Manistee Lake Area). This resulted in complaints which lead United Waste to ask the county to tell them which sites they would run. The Manistee County Planning Department (designated Solid Waste Planning Agency) held a joint meeting with each township supervisor. The results of that meeting was a letter of understanding between the townships, county and United Waste indicating eight locations would be in the following communities: Bear Lake, Arcadia, Onkama, Copemish, Wellston, two in the City of Manistee and a site at the landfill. Intentionally, the specific site in each community was not specified, so that would be left up to the landfill owner and respective municipality and property owner. In addition United Waste would operate additional recycling drop-off locations in those municipalities which wished to pay for the additional service. Two municipalities, Brown and Maple Grove Townships do so. Both those sites are for the exclusive use of their residents. At the time of adoption of this Plan this is still the agreed upon system, and herein made a part of this Plan.

At the same time that United Waste was purchasing Harland's Landfill Packaging Corporation of America, a Madison Dearborn Partners Inc. company (formerly Tenneco Packaging Inc., and Packaging Corporation of America, a Tenneco company) (PCA) started to work with the Manistee-Benzie Community Mental Health to start cardboard and paper recycling. The result of this effort was the formation of Manistee County Recyclers to work with the Mental Health's employment program for clients, Lakeshore Enterprises, Inc., to process (bail) paper and cardboard for sale to PCA. Collection of cardboard and paper is done through the six high schools in the county. A school group takes on the responsibility to collect the paper which is taken to Lakeshore Enterprises, bailed, and sold to PCA. PCA pays an above market price (to reflect a sharing of the avoided costs of hauling the bails to Manistee from other communities). The additional money is a means to use paper collection as a revenue source for school groups. This program is still ongoing. This Plan may create the forum to expand this program into other counties and move toward a regional recycling processing center (possibly at Lakeshore Enterprises). At the time of adoption of this Plan this is still the agreed upon system, and herein made a part of this Plan.

Harland's and West Michigan Disposal also provided limited recycling processing, of paper and other materials, at the Harland Landfill location. This was phased out when United Waste System, Inc. purchased the operation. United Waste centralized recycling processing in Traverse City.

Then United Waste, including Harland's, was purchased by USA Waste. Shortly after USA Waste acquired Harland's, the company divested some of its holdings to Allied Waste Systems of Michigan, Inc. Thus Harland's is now owned by Allied. Allied changed the name from "Harland's Landfill Company" to "Manistee County Landfill Inc." "Harland's Trucking" was renamed to "Shoreline Disposal Inc." Allied also shifted its recycling processing to Allied's facility in the Muskegon area. There is the possibility Manistee County Landfill Inc. will be shifted back to USA Waste ownership within a year which could again change where, and if, recycling processing takes place.

The selected system will continue to have recycling locations at the same eight locations. However drop-off facilities will be unmanned roll-off containers, available all the time rather than a manned service only during specific hours.

Equipment Selection:

Existing Programs:

EIGHT drop-off recycling sites run and operated by Shoreline Disposal. The six paper recycling drop-off sites run and operated by Lakeshore Enterprise and area schools. Many of the municipalities have contracts for solid waste disposal. Maple Grove and Dickson Township transfer stations are available for their respective residents. The City of Manistee's Composting yard is available for all city residents and any municipality by contract for hauling.

Proposed Programs:

THE present system of recycling will continue to be utilized in Manistee County. Locations of drop-off sites and operating hours will be periodically evaluated to maximize participation by the Solid Waste Council. Other programs possibilities will be researched by an appointed committee of the Solid Waste Council to implement recycling and education programs.

Site Availability & Selection

EXISTING Programs: The eight general locations are not anticipated to change, but will be continually monitored and evaluated. Sites within each of the eight communities may be changed from time to time.

Proposed Programs: The Solid Waste Council will appoint a committee to research the possible expansion and changes to the current recycling programs

Composting Operating Parameters:

The following identifies some of the operating parameters which are to be used or are planned to be used to monitor the composting programs.

EXISTING Programs: The City of Manistee currently owns and operates the existing composting yard. The city monitors and evaluates its own facility.

Proposed Programs: The Solid Waste Council intends to monitor and evaluate program volume and availability throughout the county.

Coordination Efforts:

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

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

THE Manistee County Board of Commissioners is responsible for implementation of this Plan. The County Board of Commissioners has charged the County Planning Commission/Department and the Solid Waste Council to be cognizant of this Plan. This Plan is coordinated with other planning efforts of Manistee County. The Land Use Plan contains supporting data for ordinances, approved land use plan, and wellhead protection. If this Plan is not intended to contradict the Land Use Plan, on comprehensive planning issues: The County's Land Use Plan has specific chapters on public health and the quality of the air, water, and land.

Costs & Funding & Evaluation Summary of the Selected System:

The following estimates the necessary management, capital, and operational and maintenance requirements for each applicable component of the solid waste management system. In addition, potential funding sources have been identified to support those components.

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

TWO system alternatives have been combined into a single system recommendation which is described in the following material. This recommendation is suggested by RRSI based on discussions with County staff, our contacts with others in the County and a general evaluation of current conditions in Manistee County. In developing program recommendations and time lines for implementation, the following program goals are assumed:

System Performance Goals

1997 Current System: 12% Overall Recovery Rate

Residential

Total Waste Generation Tons/yr: 12,662
 Tons Recycled: 910
 Tons Composted: 850
 Total Recovery: 1,760
 Recovery Rate: 14%
 Total Tons Disposed: 10,902

Combined C/I

Total Waste Generation Tons/yr: 11,527
 Tons Recycled: 850
 Tons Composted: -
 Total Recovery: 850
 Recovery Rate: 8.8%
 Total Tons Disposed: 10,677

Total

Total Waste Generation Tons/yr: 24,189
Tons Recycled: 1,760
Tons Composted: 850
Total Recovery: 2,610
Recovery Rate: 11.7%
Total Tons Disposed: 21,579

Special Waste Generation 1998

Generator/Material: PCA Secondary Sludge

Total Waste Tons/yr: 58,000
Total Tons Disposed: 58,000

Future Disposition: Material has been land applied in past; currently being landfilled as land application is re-evaluated.

Generator/Material: PCA Coal Ash

Total Waste Tons/yr: 0
Total Tons Disposed: 0

Future Disposition: May generate as much a 100,000 cubic yards/ year in the future

Generator/Material: PCA primary sludge, grit, bark, recycle residue

Total Waste Tons/yr: 38,000
Total Tons Disposed: 38,000

Future Disposition: Manistee County Landfill

Generator/Material: Tondu fly ash

Total Waste Tons/yr: 80,000
Total Tons Disposed: 80,000

Future Disposition: May in future be disposed at Type III private facility

Year 2003: 17% Recovery Rate

Residential

Total Waste Generation Tons/yr: 12,605
Tons Recycled: 1,175
Tons Composted: 1,100
Total Recovery: 2,275
Recovery Rate: 18%
Total Tons Disposed: 10,330

Combined C/I

Total Waste Generation Tons/yr: 11,602
Tons Recycled: 1,740
Tons Composted: --
Total Recovery: 1,740
Recovery Rate: 15%
Total Tons Disposed: 9,862

Total

Total Waste Generation Tons/yr: 24,207
Tons Recycled: 2,915
Tons Composted: 1,100
Total Recovery: 4,015
Recovery Rate: 17%
Total Tons Disposed: 20,192

Year 2008: 25% Recovery Rate

Residential

Total Waste Generation Tons/yr: 12,571
Tons Recycled: 2,150
Tons Composted: 1,100
Total Recovery: 3,250
Recovery Rate: 25%
Total Tons Disposed: 9,071

Combined C/I

Total Waste Generation Tons/yr: 11,653
Tons Recycled: 2,913
Tons Composted: --
Total Recovery: 2,913
Recovery Rate: 25%
Total Tons Disposed: 8,740

Total

Total Waste Generation Tons/yr: 24,224
Tons Recycled: 5,063
Tons Composted: 1,100
Total Recovery: 6,056
Recovery Rate: 25%
Total Tons Disposed: 17,810

Program Recovery Estimates (tons per year)

Drop-off system:

1997: 900
2003: 1,115
2008: 1,370

Curbside recycling:

1997: 10
2003: 60
2008: 780

Commercial recycling:

1997: 600
2003: 1,740
2008: 2,913

Yard Waste:

1997: 850
2003: 1,100
2008: 1,100

Total Recovery:

1997: 1,760
2003: 4,015
2008: 6,056

Specific programs are described here which will help Manistee reach the target levels of recovery by the year 2008. Key features of the system include:

- Clean Community Program: emphasis on education, community organizing activities and special programs such as household hazardous waste and agriculture waste collection
- Drop-off Recycling: upgrade of the current system, including more convenient and assured access for all County residents and small businesses; a greater range of recyclable materials will be accepted at one permanent flagship site, including eventually construction and demolition material (C&D); existing fiber-only drop-offs would be combined with existing eight sites

- Curbside Recycling: Begins with subscription recycling and expanded by year 2003 to include contracted collection for all households within a designated curbside district
- Yard Waste Collection: Expansion of drop-off opportunities and fall leaf collection in municipalities
- Commercial Recycling: Expanded drop-off and aggressive collection opportunities for corrugated and mixed office paper
- Waste Transfer: Consideration of waste transfer capabilities may become desirable to provide greater waste disposal options.
- System Participation Incentives: Pay-as-You-Throw (PAYT) programs, aggressive public education and other incentives will help ensure full participation in recovery programs.

Program Descriptions/Estimated Costs/Time line

THESE system options assume certain organizational and management variables such as service provider roles, in order to estimate costs. In some cases, costs shown are "fully loaded", and do not necessarily reflect savings which can be achieved by renegotiating arrangements with existing service providers. Long-term capital and operating funding, intergovernmental arrangements and other organizational and management roles must be determined by the County.

Clean Community

Solid waste collection services:

Program Description: Provided to all households and businesses in the County. Illegal dumping and litter would be policed with enforcement of violations.

Cost per year: Status quo (residents contract with service provider, or township/municipality provides collection)

Time line: 1998-2008

Program Description: Spring/fall cleanup days: Municipalities would provide annual clean-up programs with scavenging/trading/reuse encouraged and recycling of as many materials left as possible.

Cost per year: Dependent on individual community programs

Time line: 1998-2008

Project Description: Household hazardous waste collection services: Collection arranged one or more times per year at a temporary site, with services provided by private vendor.

Cost per year: \$2,250 - \$9,000: assumes 125 - 500 participants @ \$18 per use and hauler assumes site liability

Time line: 1998-2003

Project Description: Household hazardous waste collection services: A permanent collection site would be established, and services would be extended to small quantities of agricultural pesticides and herbicides, and possibly small businesses willing to pay a fee for drop-off

Cost per year:

Operating Costs: \$16,000/yr, assumes 1000 participants @ \$16 per use

Capital Costs: \$35,000 for containment building, site improvements, staff training

Additional Costs: Staff time, emergency cleanup

Time line: 2003-2008

Project Description: Adopt a "____" programs would be organized with volunteers and business/service group sponsorship for periodic cleaning of roadsides, streambanks, lakeshores, parks and forests

Cost per year: Largely based on volunteer efforts and intergovernmental cooperation

Time line: 1998-2003

Recycling Incentives:

Project Description: Promotion and Education: a range of outreach efforts would support all system programs, including recycling, composting, household hazardous waste collection and businesses waste reduction; county-wide mailings (twice per year); radio ads, newspaper ads, presentations and public displays are recommended

Cost per year: \$2-\$4 per household per year, \$20-\$40,000) with cost escalating as new programs are added

Time line: 1998-2008

Project Description: Pay as You Throw (PAYT): residents pay for solid waste collection depending on the volume they put at curb, including option for pay by the bag

Cost per year: Approximately \$1-\$1.50 per bag (paid by resident); other rates for cart service

Time line: 1999-2008

Residential Recycling:

Project Description: Expanded Drop-off Sites: Five of the existing Shoreline drop-off sites (Bear Lake, Arcadia, Onkama, Manistee Garage, Manistee-1st & Pine) would be combined with the existing fiber-only drop-offs. Roll-off containers would be upgraded to improve visibility and attractiveness. Initially, fiber would be collected in trailers as it is now, however, this approach should eventually be replaced with a collection system that would allow more automated servicing (roll-off or front-load dumpsters). Materials collected would be standardized. The remaining three Shoreline drop-offs would be upgraded to improve convenience and attractiveness and to extend operating hours.

Recovery Estimate: 1350 tons/year

Cost per year: Servicing: \$75 per pull x 540 pulls per year @ 2.5 tons per pull (2 containers per site x 8 sites) = \$40,500/yr (assumes fiber and glass/metals/plastics servicing); does not reflect current agreement w/ Shoreline for servicing

Processing: \$20-60/ton x 1350 tons = \$27,000-81,000; does not reflect fiber revenue

Capital: \$162,000 (2 30-yd-roll-off containers per site at \$4,500 ea. plus 2 extras for swapping); plus site improvements (fencing, signage, additional); assumes use of existing roll-off truck

Time line: 1998-2003

Project Description: Drop-off Sites: possible reconfiguration to reflect increased curbside recycling in Manistee; possibly move one site into another part of county

Recovery Estimate: 900 tons/year

One central station converted to "super drop-off" (see below)

Cost per year: Servicing: \$75 per pull x 360 pulls per year (two containers per site x 8 sites) = \$27,000/yr (assumes 2.5 tons per pull)

Processing: \$20-60/ton x 900 tons = \$21-63,000; could be reduced through OCC only dumpster servicing at lower cost

Time line: 2003-2008

Project Description: "Super" Drop-off (flagship stations): one central drop-off becomes permanent, flagship site with some staffing, added materials such as metals, batteries, construction and demolition (C&D)

Recovery Estimate: 430 tons/year; with C&D could be as much as 1,500 tons/year

Cost per year:

Servicing: \$75 per pull x 172 pulls per year = \$12,900/yr (assumes 2.5 tons per pull)

Processing: \$20-60/ton x 430 tons = \$8,600-25,800 (not incl. revenue)

Capital: 3-4 roll-offs @\$4,500 ea.; plus site improvements = \$18,000 (fencing, signage, additional)

Staffing/cleanup: \$10-\$30,000 per site

Time line: 2003-2008

Project Description: Subscription Curbside Recycling: residents in a more urban district would be urged to subscribe for curbside recycling

Recovery Estimate: 60 tons per year (assumes 300 households participating)

Cost per year: \$5/hh/month (paid by residents). Includes processing costs

Time line: 1998-2003

Project Description: Contracted Curbside Recycling: residents in a designated curbside district (primarily City of Manistee) would receive weekly curbside recycling under a coordinated contract bid; this could happen by the year 2,000 when the City renegotiates its waste contract

Recovery Estimate: 430 tons per year (assumes 2,500 households participating)

Cost per year: \$3.00/hh/month; blended with solid waste bill, water bill or paid by municipality

\$144,000 total. Includes processing costs

Time line: 2003-2008

Yard Waste Recovery:

Project Description: Yard Waste Drop-off Sites: add yard waste collection bins at two additional recycling drop-off sites (existing sites at Stronach and Filer City would be continued)

Recovery Estimate: 3-400 tons/year

Cost per year: Servicing: \$6,000/yr

Time line: 1998-2008

Project Description: Fall leaf collection: larger municipalities

Recovery Estimate: 600 tons/year

Cost per year: Servicing: \$10,000/yr estimate; difficult to quantify based on existing municipal equipment (loaders, dump trucks)

Time line: 1998-2008

Project Description: Back Yard Composting: bins and mulching mower blades made available to residents at reasonable prices; promotion and education to encourage residents to participate

Diversion Estimate: 100 tons/year

Cost per year: \$3-4,000

Time line: 1998-2008

Project Description: Alternative Seasonal Collection System: residents could purchase designated special paper yard waste bags (\$1 to \$2 ea) which would allow contractor or municipal crew to pick up yard debris weekly during the growing season (expansion of existing program)

Cost per year: \$1-\$2/bag to cover collection costs

Commercial Recycling:

Project Description: Commercial Corrugated Routes: existing OCC routes currently provided by the waste hauler would be expanded, largely through education efforts. Individual businesses would contract directly for this service, and assume that they would pay less for OCC pickup than trash pickup.

Recovery Estimate: 1450 tons/yr

Cost per year: \$50,000, assuming a front or rear-packer services larger businesses in county with two routes per week; costs largely supported by user fees and/or avoided disposal costs

Time line: 1998-2003

Project Description: Expanded Commercial OCC/paper routes: development of a service district, with "bundled" contracted service would lure service provider to bid on coordinated route to service multiple businesses with curbside, bins, bags and/or other system

Recovery Estimate: 2400 tons/year

Cost per year: \$60,000 includes four routes per week; includes amortization of containers/ bins/bags; costs supported by user fees, avoided disposal costs

Time line: 2003-2008

Project Description: C&D recovery: assumes facility is setup to receive and process or transfer to other processing facilities

Recovery Estimate: 1500 tons/year

Cost per year: \$60,000 operating/ processing cost

Capital costs: \$200,000 to \$2 million depending on degree of processing

Time line: 2003-2008

Recyclables Processing:

Project Description: Expansion of the existing Lakeshore facility is necessary to accommodate any increase in fiber recovery, and potentially to accommodate processing of source separated or commingled containers (plastic, metal, glass); containers could continue to go to Muskegon as they are now

Recovery Estimate: As much as 5000+ tons/yr w/possible additional materials from adjacent counties which would allow for a better economy of scale

Cost per year: Capital costs: \$300,000 to \$1 million + depending on level of upgrade at Lakeshore

Time line: 1998-2003

Solid Waste Transfer:

Project Description: Future waste transfer facilities: future waste transfer may be desired if certain conditions develop

Cost per year: \$0-\$2 million depending on capabilities required

Time line: 2003-2008

Advantages and Disadvantages of the Selected System:

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

ADVANTAGES:

1. Clean community and education/promotion create stronger interest in responsible practices
2. Illegal dumping activity minimized
3. More small quantity unregulated hazardous wastes diverted from landfill disposal
4. Recycling more convenient and accessible
5. Organic management systems begins to be put into place
6. Seasonal/Tourist population has option with recycling and solid waste drop-offs
7. Recycling processing/marketing system starts to build strong recycling capability
8. Less reliance on landfills for disposal
9. Alternatives landfills can now be used should costs rise or availability become limited

DISADVANTAGES:

1. Small quantity unregulated hazardous wastes still end up in landfills
2. Green yard waste stream not addressed - ends up in landfills despite state ban
3. Landfilling still dominate form of waste management
4. Landfill disposal still primary option for commercial businesses
5. Few if any opportunities to divert construction and demolition waste
6. Still few alternatives to current landfill services should cost rise or availability be limited

Appendix E3: Non Selected Systems

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

System Components:

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

Key Features: Expanded clean community program that operates at a highly effective levels. Incentives to recycling boost program performance, increasing tons and lowering unit costs. Expanded recycling drop-off capabilities at a flagship site increase options for recovering more materials and reaching higher diversion levels. Curbside programs for cities, villages and towns increase convenience for large sector of population. Commercial recycling and recycling processing capabilities mature and increase diversion. Organic management options exist throughout year for all types of waste with addition of drop-offs for yard waste. Waste transfer capability within county opens up options for more commercial recycling and begins to make other landfill destinations economically feasible. Source reduction impact will be observed by both residential and commercial.

Resource Conservation Efforts:

Residential yard waste composting programs reviewed. Curbside yard waste collection: during growing season yard waste is picked up at the curb from residential single family and small multi-family households - diversion potential is high, cost is medium to high. This is an older semi-retired solid waste collection vehicles can be used with temporary crews. Requires a processing site where mixed yard waste material can be processed and composted. Fall leaf collection: special collection of leaves in fall from towns/villages - diversion potential is high, cost is low to medium. This service has two positive impacts in 1) diverting materials from landfills, and 2) cleaning streets and preventing drain clogging. A number of techniques are used that can vary from simple collection of bagged leaves to use of various types of equipment (leaf vacuums, front end loaders, street sweepers, etc.).

Volume Reduction Techniques & Resource Recovery Programs:

Incineration and shredding, for volume reduction is not economically feasible for Manistee County.

Permanent commingled flagship site and curbside subscription county wide. Recycle More: adding more material types to existing and planned recycling programs - diversion potential, high cost range is medium. This is a proven method of increasing diversion of both new materials (that are added) and existing materials (as more people use recycling services). Requires improved processing capacity for sorting and preparing materials for markets. Material bans: certain materials banned from set out in solid waste - diversion potential is high, cost range is low. This is a proven method for increasing diversion of materials when a convenient recycling opportunity is available. Curbside residential recycling program with two or three stream "wet/dry" collection: the residential waste stream is picked up by one vehicle but placed into separate compartments for dry recyclables, wet compostable organic and "other" for landfill disposal - diversion potential is high, cost is high. This has been proven in some Canadian communities to divert up to 90% from landfill disposal but requires specialized trucks and sophisticated recycling/composting/transfer station facilities for material to be processed. Co-collection of "blue bag" recyclables and solid waste: recycling and waste collection services provided to single family (and small multi-family) every week - diversion potential is medium, cost is high. The existing trucks can be used but does require sophisticated recycling/transfer station facility where bagged recyclables are separated from waste and then sorted. Can be as much as a 20% loss of materials during process. Modeled after the Chicago "blue bag" program but has been used in rural areas in Michigan.

Commercial recycling programs reviewed. Commercial recycling collection - commingled: recycling services provided to commercial businesses and institutions for pickup of commingled fibers and/or commingled containers - diversion potential is high, cost is low to medium. This is the most effective method of diverting high volumes of recyclables at reasonable cost. Does require commingled processing capability either at a material recovery facility (MRF), transfer station with recycling capability or a larger private for profit buy back scrap processor.

Collection Processes:

Construction and Demolition (C&D) processing facility: Where C&D material (wood, concrete, etc.), is either separated on site or at the facility for recycling and disposal - diversion potential is medium, cost medium. Mixed waste recycling and composting facility processing: facility takes in municipal solid waste and separates some material for recycling and composting prior to disposal - diversion potential is low to medium, cost is high. Some vendors will provide this technology for high density population centers. Recovery levels are relatively low unless material can be separated out prior to processing ("blue bag" approach) or completed stream is processed as organic material ("municipal solid waste composting").

Institutional Arrangements:

Solid waste disposal programs reviewed. Municipal solid waste incineration:: Facility would be developed to incinerate solid waste with or without energy recovery - diversion potential medium, cost is high. Some vendors will provide this technology for high density population centers, but typically not economically viable for regions with lower population. Requires significant public sector guarantees of financing and waste streams that are then used as security for the project. The guarantees, high operating costs and environmental factors have resulted in a number of these facilities being closed in recent years and a significant slow down in development of new facilities even in urban areas.

Educational and Informational Programs:

More educational programs for businesses and residential on recycling, household hazardous waste, C&D programs.

Capital, Operational, and Maintenance Costs:

Overall performance and cost impact: Source reduction will be observed both residential and commercial. Diversion through recycling/composting likely in the 50% +/- range. Landfill capacity less critical to long term system health. System costs increase (\$10.00 to \$14.00 per capita per year as general estimate). Reduce overall solid waste collections cost begin to be realized. Some offsetting savings in reduced waste transport and disposal (\$30.00 to \$50.00 per ton or \$8.00 to \$15.00 per capita per year as general estimate).

Evaluation Summary of Non-selected System:

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

THIS selection was discarded as unsuitable for the county based on discussion and evaluation of 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.

The process also included surveying of the views of those involved in the planning process, some surveying of citizen's to determine their issues and interests and surveying of others considered to be critical to implementation of the plan - primarily local government officials.

Advantages and Disadvantages of the Non-selected System:

Each solid waste management system has pros and cons relating to its implementation within the County. Following is a summary of the major advantages and disadvantages for this non-selected system.

ADVANTAGES:

1. Clean community and education/promotion create stronger interest in responsible practices
2. Illegal dumping activity minimized
3. More small quantity unregulated hazardous wastes diverted from landfill disposal
4. Recycling more convenient and accessible
5. Organic management systems begins to be put into place
6. Seasonal/Tourist population has option with recycling and solid waste drop-offs
7. Recycling processing/marketing system starts to build strong recycling capability
8. Less reliance on landfills for disposal
9. Alternatives landfills can now be used should costs rise or availability become limited

DISADVANTAGES:

1. Achieving system cost efficiencies requires greater capital expenditures/carries risk
2. Also requires more control over system than typical in region

Appendix E4: Public Participation and Approval

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

Public Involvement Process:

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

EACH meeting of the Manistee County Solid Waste Council complied with the Michigan Open Meeting Act, providing for public participation at each meeting, public notices of the meetings, and minutes available to the public within seven days after the meeting. In addition meeting notices complied with the two week notice requirements of SW NREPA and sent to each chief elected official in Manistee County, surrounding counties, and anyone else who asked to be on the mailing list (without charge).

A subscription service (at cost) for those who wished to receive the minutes was also maintained. Minutes were sent (no charge) to each chief elected official in Manistee County, county commissioners and to adjacent counties. Minutes were also placed on line, at the Manistee County Planning Department's world wide web Internet page:

www.mufn.org/public/localgov/manplan.html

As each chapter of this *Plan* was completed, a draft was sent to each municipality and to the DEQ for review and comment. Comment could be by postal service, phone or e-mail.

Also, members of the Solid Waste Council divided among them the municipalities in Manistee County. This was so each municipality would receive visits from a member of the Solid Waste Council to hear an oral progress report, and listen to comments. Staff of the Manistee County Planning Department has also been available for public presentations to anyone asking. Staff attended each meeting of the Manistee County Chapter of the Michigan Townships Association during the planning period.

Upon completion of the first draft of this *Plan* it was submitted for public comment, pursuant to SW NREPA's three month public comment period; September 14, 1998 to December 14, 1998 with hearing at 7:00pm December 14, 1998.

Planning Committee Appointment Procedure:

ON September 17, 1997 the term of office for each member of the Manistee County Solid Waste Council ended. At the September meeting of the Manistee County Board of Commissioners action was taken to advertise for applications for members to be appointed to the Solid Waste Council for the next two-year term of office. The intent was to make the appointments at the October 21, 1997 County Board meeting, so the new members are in place at the start of the *Solid Waste Plan* updating process.

All the members of the Solid Waste Council membership expire at the same time. Thus all 14 positions are to be re-appointed at the same time. In the past, the County Board used the following procedure to advertise the vacancies. This same procedure was used at this time:

1. **Four to represent Solid Waste Industry doing business in Manistee County** (landfill owner, garbage truck hauler, hazardous waste collection). The Board wrote a letter to each of those industries asking them for nominations. Those companies are:
 - A. Waste Reduction Systems, 5848 N. Stiles Road, Ludington, Michigan 49431;
 - B. Northern A-1 Services, Inc. (United Waste), 154 Eighth Street, P.O. Box 249, Manistee, Michigan 49660-0249;
 - C. PCA, P.O. Box 316, Manistee, Michigan 49660-0316;
 - D. United Waste Systems of Michigan, 3890 Camp Road, P.O. Box 607, Manistee, Michigan 49660-0607.
2. **One representing a major solid waste generator.** The Board wrote a letter to the top three largest solid waste generators in the county asking them for nominations. Those companies are:
 - A. T.E.S. Filer City Station, 700 Mee Street P.O. Box 12, Filer City, Michigan 49634-0012;
 - B. PCA, P.O. Box 316, Manistee, Michigan 49660-0316;
 - C. Martin Marietta Magnesia Specialties Inc., 1800 Eastlake Road, Manistee, Michigan 49660
3. **Two representing Environmental Interest Groups.** The Board wrote a letter to the active county-wide environmental organizations county asking them for nominations. Those are:
 - A. Spirit-of-the-Woods Conservation Club, MUCC Affiliate, % Robert Johnson, 12451 Russell Street, Bear Lake, Michigan 49614;

- B. Manistee County Conservation District (formerly Manistee County Soil Conservation District), % Bonnie Harnish, 8840 Chippewa Highway, Bear Lake, Michigan 49614;
- C. Manistee County Audubon Society, % Ramona Venegas, 471 Fourth Street, Manistee, Michigan 49660.
- 4. **One representing County Government.** The Board selected one of the members of the County Board of Commissioners.
- 5. **One representing Township Government.** The Board wrote a letter to the chair of the Manistee Chapter of the Michigan Township's Association asking them for nominations.
- 6. **One representing City Government.** The Board wrote a letter to the City of Manistee asking them for nominations.
- 7. **One representing the regional planning agency.** The Board wrote a letter to the Northwest Michigan Council of Governments asking them for nominations.
- 8. **Three representing the General Public** (e.g. not holding any other office in government). The Board placed an advertisement in the *Manistee News-Advocate* (the county's only daily newspaper) seeking people to submit a letter of application and resume. A copy of that ad is reproduced here:

Application for County Solid Waste Planning Council Membership

The Manistee County Board of Commissioners is accepting applications for membership of three "at large" representatives to be on the Manistee County Solid Waste Planning Council. Appointments will be made, for terms of office which end October 21, 1999.

The Manistee County Solid Waste Council is the board which oversees the creation of a *Manistee County Solid Waste Plan*, including garbage collection and management, recycling, landfill siting, hazardous waste collection, and so on. The Solid Waste Council guides this process and sets policy and direction for the content of the Solid Waste Management Plan.

An application should be in the form of a letter and resume. Applications should be received by Marilyn Kliber, County Clerk, 415 Third Street --Courthouse, Manistee Michigan 49660 before 3:30 p.m. Monday October 13, 1997.

As a result of the above the following applications for solid waste council membership were received and were appointed:

- 1. **Four to represent Solid Waste Industry doing business in Manistee County:** No applications were received by the October 13, 1997 deadline.
- 2. **One representing a major solid waste generator:** One application was received (Mr. Roger Smithe) representing a company (PCA) which qualifies as either a solid waste industry or a major solid waste generator. He was not appointed, with the thought that he may be appointed as a representative of solid waste industry.
- 3. **Two representing Environmental Interest Groups:** No applications were received.
- 4. **One representing County Government:** Mr. Carl Rutske, County Commissioner.
- 5. **One representing Township Government:** Mr. Fred Alkire, chair of the Manistee Michigan Townships Association Chapter, who in turn indicated Mrs. Jeanne Crampton as was his designee.
- 6. **One representing City Government:** Mr. Mike Jankowski.
- 7. **One representing the regional planning agency:** No applications were received.
- 8. **Three representing the General Public:** Mr. George Ott and Mr. Dan E. Welburn were appointed.

Because the appointments did not fill all the seats on the Solid Waste Council, the county board acted to advertize again, with the intent to make appointments at the November 18, 1997 meeting. Reproduced here is a copy of the advertizement which appeared in the daily newspaper *Manistee News Advocate*.

Application for County Solid Waste Planning Council Membership

The Manistee County Board of Commissioners is accepting applications for membership to be on the Manistee County Solid Waste Planning Council. Appointments will be made, for terms of office which end October 21, 1999.

The Manistee County Solid Waste Council is the board which oversees the creation of a Manistee County Solid Waste Plan, including garbage collection and management, recycling, landfill siting, hazardous waste collection, and so on. The Solid Waste Council guides this process and sets policy and direction for the content of the *Solid Waste Management Plan*.

An application should be in the form of a letter and resume. Please specify which category applying for. Do not apply for more than one. Applications should be received by Marilyn Kliber, County Clerk, 415 Third Street --Courthouse, Manistee Michigan 49660 before 3:30 p.m. Monday November 10, 1997.

Appointments are for the following:

- Four to represent a solid waste industry doing business in Manistee County (specific industries had been asked to nominate individuals, but did not do so).
- One to represent a major solid waste generator in Manistee County.
- Two to represent environmental interest groups in Manistee County.
- One to represent a regional planning agency which includes Manistee County (e.g. Northwest Michigan Council of Governments).
- One to represent the general public (e.g. does not hold any other government office)

At the November 18, 1997 County Board meeting the following action was taken:

1. **Four to represent Solid Waste Industry doing business in Manistee County:** Appointed were Todd Harland (Manistee County Landfill Inc. (Harland's Landfill/United Waste/Allied, Inc.)) and Shoreline Disposal (Harland's Trucking Inc.), Edward Jabrocki, Waste Reduction Systems and Roger Smithe, PCA. No application was received for the fourth seat.
2. **One representing a major solid waste generator:** Two applications were received. Mr. Don Kuk of Martin Marietta was appointed.
3. **Two representing Environmental Interest Groups:** Appointed was P. Samuel Robey representing the Manistee County Conservation District. No application was received for the second seat.
7. **One representing the regional planning agency:** County Commissioner Jeffery Dontz was appointed to a Northwest Michigan Council of Governments region solid waste committee and also appointed to represent the region on the Manistee County Solid Waste Council. The Northwest Michigan Council of Governments, by letter, authorized the County Board to make this appointment.
8. **Three representing the General Public:** No applications were received.

Because the appointments did not fill all the seats on the Solid Waste Council, the county board acted to advertise again, with the intent to make appointments at the December 16, 1997 meeting. Reproduced here is a copy of the advertisement which appeared in the daily newspaper *Manistee News Advocate*.

Application for County Solid Waste Planning Council Membership

The Manistee County Board of Commissioners is accepting applications for membership to be on the Manistee County Solid Waste Planning Council. Appointments will be made, for terms of office which end October 21, 1999.

The Manistee County Solid Waste Council is the board which oversees the creation of a Manistee County Solid Waste Plan, including garbage collection and management,

recycling, landfill siting, hazardous waste collection, and so on. The Solid Waste Council guides this process and sets policy and direction for the content of the *Solid Waste Management Plan*.

An application should be in the form of a letter and resume. Please specify which category applying for. Do not apply for more than one. Applications should be received by Marilyn Kliber, County Clerk, 415 Third Street --Courthouse, Manistee Michigan 49660 before 3:30 p.m. Tuesday December 9, 1997.

Appointments are for the following:

- One to represent a solid waste industry doing business in Manistee County.
- One to represent environmental interest groups in Manistee County.
- One to represent the general public (e.g. does not hold any other government office).

At the December 16, 1997 County Board meeting the following action was taken: Two applications were received, both for the "general public" seat. The County Board appointed Ms Judith Park Cunningham as a general public member of the Solid Waste Council. Because two vacancies still exist, the Commission advertized again for applicants, with the intent to make appointments at the January 20, 1998 meeting. Reproduced here is a copy of the advertisement which appeared in the daily newspaper *Manistee News Advocate*. Also municipalities which own a transfer station, or operate their own garbage collection trucks were sent a copy of the ad by first class mail with an indication it is possible they can have a seat as a solid waste industry representative.

Application for County Solid Waste Planning Council

Membership The Manistee County Board of Commissioners is accepting applications for membership to be on the Manistee County Solid Waste Planning Council. Appointments will be made, for terms of office which end October 21, 1999.

The Manistee County Solid Waste Council is the board which oversees the creation of a Manistee County Solid Waste Plan, including garbage collection and management, recycling, landfill siting, hazardous waste collection, and so on. The Solid Waste Council guides this process and sets policy and direction for the content of the *Solid Waste Management Plan*.

An application should be in the form of a letter and resume. Please specify which category applying for. Do not apply for more than one. Applications should be received by Marilyn Kliber, County Clerk, 415 Third Street --Courthouse, Manistee Michigan 49660 before 3:30 p.m. Tuesday January 13, 1998.

Appointments are for the following:

- One to represent a solid waste industry doing business in Manistee County.
- One to represent environmental interest groups in Manistee County.

At the January 20, 1997 County Board meeting the following action was taken after no applications for appointment was received. One of the already appointed "general public" members was subsequently nominated by the Manistee County Audubon Society to be an "environmental representative." Discussion at the County Board indicated agreement it was a waste of money to continue advertizing for applicants. As a result the County Board adopted a motion to move Ms Cunningham's appointment from "general public" to "environmental interest group". At the December meeting of the County Board there were two candidates seeking appointment as a representative as "general public," and only one was appointed to fill the one position remaining in that category. So the County Board's motion also included appointing the other individual -- Mrs. Shelley A. Green -- to the Solid Waste Council as a member of the "general public".

In a second motion the County Board directed the designated planning agency to seek a representative from a municipality which operates a garbage truck or transfer station because no one has applied from the private enterprise solid waste industry doing business in Manistee County. Those municipalities are Copemish Village, Maple Grove and Stronach Townships. The director of the designated planning agency indicated to the County Board he would first contact Maple Grove Township as the only transfer station owner in the county (because the three private businesses already appointed to the Solid Waste Council own and operate garbage trucks).

Action at the February 17, 1998 County Board meeting was to appoint H. Wayne Beldo, Maple Grove Township Supervisor. Mr. Beldo was the only applicant. Maple Grove Township operates a small solid waste transfer station and recycling center north of Kaleva Village, and as such is in the solid waste business.

This completed the appointment process, with 14 members on the Manistee County Solid Waste Council.

Then, February 1, 1999 Mr. Mike Jankowski (City representative) resigned from the Solid Waste Council. He did so, after not being re-elected to the Manistee City Council in fall 1998, and no longer being a council member. In February 1999 the County Board asked Manistee City Council to nominate another to fill the vacancy.

Planning Committee

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

MANISTEE'S Solid Waste Planning Committee (a.k.a. Manistee County Solid Waste Council) membership follows, with terms of office through October 21, 1999:

Four to represent Solid Waste Industry doing business in Manistee County:

1. Mr. Todd Harland, Manistee County Landfill Inc. (formerly Harland's Landfill) and Shoreline Disposal (formerly Harland's Trucking) both owned by Allied Inc (formerly owned by USA Waste, formerly United Waste, Inc., formerly owned by West Michigan Disposal, formerly owned by Keith and Annette Harland, formerly owned by John and Annette White.)
2. Mr. Edward Jabrocki, Waste Reduction Systems
3. Mr. Roger Smithe, PCA
4. Mr. H. Wayne Beldo, Maple Grove Township transfer station and recycling center

One representing a major solid waste generator:

1. Mr. Don Kuk, Martin-Marietta

Two representing Environmental Interest Groups:

1. Mr. P. Samuel Robey representing the Manistee County Conservation District. [Deputy Secretary of the Solid Waste Council]
2. Ms Judith Park Cunningham, Manistee County Audubon Society.

One representing County Government:

1. Mr. Carl Rutske, Manistee County Board, County Commissioner.

One representing Township Government:

1. Mrs. Jeanne Crampton, chair of the Pleasanton Township Planning Commission [Secretary of the Solid Waste Council], designee of Mr. Fred Alkire, chair of the Manistee County Chapter of the Michigan Townships Association

One representing City Government:

1. Mr. Mike Jankowski, member of Manistee City Council, November 18, 1997-February 1, 1999. Mr. Jankowski resigned February 1, 1999. The position was vacant (Feb. 1- March 16, 1999) until county board appointed Mrs. Jan Gavlinski. (the only city in Manistee County).

One representing the regional planning agency:

1. Mr. Jeffery Dontz, Member of the Manistee County Board, Manistee County Planning Commission (designated Planning Agency) and Northwest Michigan Council of Governments regional solid waste committee.

Three representing the General Public:

1. Mr. George Ott [Chair of the Solid Waste Council]
2. Mr. Dan E. Welburn [Vice Chair of the Solid Waste Council]
3. Mrs. Shelley A. Green.

RECEIVED DEC 10 1998



**New Manistee County
Solid Waste
Management Plan
Now Available
for Public Review**

The Manistee County Solid Waste Council is putting forward, for public review and comment, a proposed *Manistee County Solid Waste Management Plan* of 1998. This *Plan* is the document which determines how garbage is disposed of, after it is collected, including location of solid waste facilities (landfills), recycling, source reduction, composting and so on. It will be used for making decisions about most aspects of solid waste management in Manistee County.

This *Plan* was developed by a Solid Waste Council. The membership of the Solid Waste Council is defined by statute, and appointed by the Manistee County Board of Commissioners.

How to Comment

NOW IS THE TIME to review the proposed *Plan*, submit suggestions or changes. Submissions may be made in writing at any time between September 14, 1998 and December 14, 1998. Mail or bring submissions to:

Manistee County Solid Waste Council
c/o Planning Department
415 Third Street - Courthouse
Manistee, Michigan 49660-1606

E-Mail submissions to: plan@mufn.org

Oral submissions may be made at a public hearing on the proposed *Plan*. The hearing starts at:

7pm, Monday, December 14, 1998
County Board Meeting Room

415 Third Street - Courthouse, Manistee, Michigan

How to See Copies of the Plan

One can look at the proposed *Plan* at:

- A. Any Manistee County Public Library, during library business hours: (616) 723-2519. County libraries are in Manistee, Arcadia, Bear Lake, Kaleva, Onekama and Wellston.
- B. At Michigan State University Extension Manistee office, 6433 Eight Mile Road, near Onekama, during business hours: (616) 889-4277.
- C. At the Manistee County Planning Department, 415 Third Street - Courthouse, Manistee, during business hours: (616) 723-6041.
- D. A summary of the *Plan* is on the Manistee Universal Free Network (MUFN) under government, county government, planning department. Or the summary can be accessed on the Internet at: www.mufn.org/public/localgov/manplan.html

Copies of any part or all of the proposed *Plan* can be made at each of the above location for the cost of photocopying.

One can obtain copies of the *Plan*, a summary of the *Plan*, or specific parts of the *Plan* and background materials used for the *Plan* from the Manistee County Planning Department.

A presentation about the *Plan* is also available for organizations, groups, municipalities - scheduled on a first come, first serve, basis. Telephone (616) 723-6041 to make arrangements.

9/17, 10/7, 11/7, 12/7

PROOF OF PUBLICATION

STATE OF MICHIGAN } SS.
County of Manistee

Robert L. Trout being duly sworn, deposes and says that he is one of the editors or publishers of the Manistee News Advocate, a newspaper printed, published and circulated in said County of Manistee, and that the annexed notice of Manistee County Solid Waste Management Plan was duly printed and published in said newspaper at least once each 4 ^{weeks} for 4 ^{weeks} in succession commencing on the 17th day of September A.D. 19 98 and ending on the 7th day of December A.D. 19 98

Robert L. Trout

Subscribed and sworn to before me, this 7th day of December A.D. 19 98

Ann M. Makowski Notary Public,
Manistee County, Michigan

My Commission expires 12-2-00 ANN M. MAKOWSKI
NOTARY PUBLIC - MANISTEE COUNTY, MI
MY COMMISSION EXP. 12/02/2000

Mr Robey moved seconded by Mr. Kuk to adopt the following resolution:

Resolution

To Adopt the *Manistee County Solid Waste Plan* of 1999.

WHEREAS the Manistee County Board of Commissioners formed a 14 member Solid Waste Council (acting as the Planning Committee pursuant to Part 115 of PA 451 of 1994, as amended, (being M.C.L. 324.11501 *et. seq.*, the Solid Waste Part of the Michigan Natural Resources and Environmental Protection Act (formerly PA 641 of 1987, as amended, being the Solid Waste Management Act)); and

WHEREAS the Solid Waste Council has met during 1998 and 1999 to review and create the *Manistee County Solid Waste Management Plan* of 1999; and

WHEREAS drafts of the *Solid Waste Plan* have been widely distributed, including but not limited to each municipality in Manistee County, adjacent counties, each public library in the county, the *Manistee News Advocate*, members of the County Board of Commissioners and members of the Manistee County Planning Commission; and

WHEREAS a public comment period has been widely advertised and held during September 14, 1998 to December 14, 1998 and a formal public hearing, pursuant to Part 115 of PA 451 of 1994, as amended, held at 7pm, Monday December 14, 1998; and

WHEREAS the Solid Waste Council reviewed the public comments received and made changes to the draft of the *Solid Waste Plan*, as appropriate.

THEREFORE the Solid Waste Council acts to adopt the *Manistee County Solid Waste Plan* of 1999, dated April 12, 1999, and directs the *Plan* be sent to the County Board of Commissioners for adoption and then to each municipality in Manistee County for adoption; and

THEREFORE the Solid Waste Council recommends the County Board of Commissioners and each municipality in Manistee County also adopt the *Manistee County Solid Waste Plan* of 1999, dated April 12, 1999.

Motion passed after a roll call vote. Those voting "yes" were: Mrs. Crampton, Mrs. Gavliniski, Mr. Kuk, Mr. Beldo, Mr. Ott, Mr. Robey, Mr. Rutske, Mrs. Green, Ms. Cunningham, Mr. Smithe, Mr. Harland, Mr. Welburn. Those voting "no" were: none. Those absent were: Mr. Dontz, and Mr. Jabrocki.



Manistee County Board of Commissioners
 Manistee County Courthouse • 415 Third Street • Manistee, Michigan 49660

CLERK
 Marilyn Kliber
 (616) 723-3331
 CONTROLLER/ADMINISTRATOR
 Thomas Kaminski
 (616) 723-4575

CHAIRPERSON
 Sharlene Wild
 VICE-CHAIRPERSON
 Jeffrey Dontz
 David McNeilly
 Carl Mezeske
 Ervin Kowalski
 Mark Bergstrom
 Carl Rutske

RESOLUTION

To Adopt the Manistee County Solid Waste Plan of 1999.

WHEREAS, the Manistee County Board of commissioners formed a 14 member Solid Waste Council (acting as the Planning Committee pursuant to Part 115 of PA 451 of 1994, as amended, (being M.C.L. 324.11501 *et. seq.*, the Solid Waste Part of the Michigan Natural Resources and Environmental Protection Act (formerly PA 641 of 1987, as amended, being the Solid Waste Management Act))); and

WHEREAS, the Solid Waste Council has met during 1998 and 1999 to review and create the *Manistee County Solid Waste Management Plan* of 1999; and

WHEREAS, drafts of the *Solid Waste Plan* have been widely distributed, including but not limited to each municipality in Manistee County, adjacent counties, each public library in the county, the *Manistee News Advocate*, members of the County Board of Commissioners and members of the Manistee County Planning Commission; and

WHEREAS, a public comment period has been widely advertised and held during September 14, 1998 to December 14, 1998 and a formal public hearing, pursuant to Part 115 of PA 451 of 1994, as amended, held at 7pm, Monday December 14, 1998; and

WHEREAS, the Solid Waste Council reviewed the public comments received and made changes to the draft of the *Solid Waste Plan*, as appropriate.


WHEREAS, the Solid Waste Council has taken action to adopt the *Manistee County Solid Waste Plan* of 1999, dated April 12, 1999.

WHEREAS, the Solid Waste Council recommends the County Board of Commissioners and each municipality in Manistee County also adopt the *Manistee County Solid Waste Plan* of 1999, dated April 12, 1999.

NOW, THEREFORE, BE IT RESOLVED that the Manistee County Board of Commissioners, of Manistee, Michigan adopts the *Manistee County Solid Waste Plan* of 1999, dated April 12, 1999, and directs the *Plan* be sent to each municipality in Manistee County for adoption.

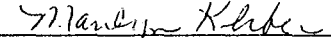
THE RESOLUTION WAS ADOPTED.

Date: 4/28/99


 Sharlene J. Wild, Chairperson
 Manistee County Board of Commissioners

STATE OF MICHIGAN)
)ss.
 COUNTY OF MANISTEE)

I, Marilyn Kliber, County Clerk, do hereby certify that the foregoing is a true copy of a Resolution adopted by the Manistee County Board of Commissioners at its regular monthly meeting held on the 28th day of April, 1999.


 Marilyn Kliber, County Clerk

(99-5)

[c:\office\resolutn 99-5]

Appendix E5: Attachments

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

This *Plan's* implementation strategy is to maintain the status quo. The second priority is to increase solid waste management activities as outlined in this *Plan*. However to implement the second priority funding will need to be secured. The process of establishing funding is a political process which includes referendum election, or the possibility for a vote on a proposed new revenue. If the funding is resolved, then the third strategy is to address the expansion of existing programs (paper recycling and minimal recycling for glass, tin, aluminum, and #2 plastic) and implementation of new programs like county wide hazardous waste collection.

The county is now exploring different revenue options for funding to implement the *Plan* and new programs outlined in the *Plan*.

Letters attached on the following pages are from::

City of Manistee

Health Department

*Manistee County Board

Springdale Township

*Manistee County Sheriff's Department

*Manistee County Road Commission

*Manistee-Benzie Community Health

Maple Grove Township

Waste Reduction Systems

*Manistee County Planning Commission

Cleon Township

Village of Copemish

Pleasanton Township

MSU Extension Office

Bear Lake Village

Shoreline Waste Services

*NWMiCOG

Manistee County Board of Commissioners



Manistee County Courthouse • 415 Third Street • Manistee, Michigan 49660

CHAIRPERSON
Sharlene Wild
VICE-CHAIRPERSON
Jeffrey Dantz

David McNeilly
Carl Mezeske
Ervin Kowalski
Mark Bergstrom
Carl Rutske

CLERK
Marilyn Kliber
(616) 723-3331
CONTROLLER/ADMINISTRATOR
Thomas Kaminski
(616) 723-4575

January 19, 1999

Kurt Schindler, County Planner
Manistee County Planning Department
Manistee County Courthouse
415 Third Street
Manistee, Michigan 49660

Kurt Schindler, County Planner
January 19, 1999
Page 2

Re: Manistee County Solid Waste Management Plan
Chapter C10: Solid Waste Management Components

Dear Mr. Schindler:

The Manistee County Board of Commissioners has read and accepts the following duties assigned in the Manistee County Solid Waste Management as follows:

Chapter C10: Solid Waste Management Components

The following identifies the management responsibilities and institutional arrangements necessary for the implementation of the Selected Waste Management System. Also included is a description of the technical, administrative, financial and legal capabilities of each identified existing structure of persons, municipalities, counties and State and Federal agencies responsible for solid waste management including planning, implementation and enforcement.

Manistee County Board of Commissioners

The Manistee County Board of Commissioners will be responsible for ensuring that this Plan is carried out to the fullest extent practicable. Fulfillment of this responsibility will require assurances that all methods, practices and policies associated with solid waste management comply with the Plan and are fully reviewed to ensure that the health and welfare of citizens and the natural environment of Manistee County are not compromised.

In pursuit of this, the County Board of Commissioners will perform the following functions:

- Authorize and establish a mechanism which provides adequate funding for Plan implementation.
- Authorize the necessary administrative framework for Plan implementation.
- Authorize participation in a multi-county solid waste council.
- Authorize participation in regional solid waste management programs.
- Continue, when economically feasible, to increase purchases of recycled paper and reusable items and encourage other government units to do so through central purchasing arrangements or other.
- Authorize funding mechanism for Plan implementation, but not limited to, P.A. 7 of extra session of 1967, as amended (in particular by P.A. 138 of 1989), (being the Urban Cooperation Act, M.C.L. 124.501 et seq); bonding; millage; tipping fee surcharge at a solid waste facility; grants; user fees; gifts and donations.
- Support and assist in implementing educational programs on recycling and household hazardous waste.

The Manistee County Board of Commissioners is faced with the responsibility for funding each of the local agencies participating in the Management Plan. These include the Solid Waste Council, Planning Commission/Department, District #10 Health Department, MSU Extension, Manistee County Conservation District, County Sheriff, and the Regional Planning Agency.

Acceptance of these responsibilities does not mandate Manistee County to fund the implementation of the Solid Waste Management Plan.

Sincerely,

MANISTEE COUNTY BOARD
OF COMMISSIONERS

By: 
Sharlene J Wild
Its: Chairperson



70 Maple Street • P.O. Box 358 • Manistee, Michigan 49660

616-723-2558
FAX 616-723-1546

January 21, 1999

RECEIVED JAN 21 1999

Manistee County Planning Department
415 Third Street, Courthouse
Manistee, Michigan 49660

SUBJECT: Manistee County *Solid Waste Management Plan*

The City of Manistee has read and accepts the following duties assigned in the Manistee County *Solid Waste Management Plan* as follows:

Chapter C10: Solid Waste Management Components

The following identifies the management responsibilities and institutional arrangements necessary for the implementation of the Selected Waste Management System. Also included is a description of the technical, administrative, financial and legal capabilities of each identified existing structure of persons, municipalities, counties and state and federal agencies responsible for solid waste management including planning, implementation and enforcement.

City of Manistee

The City of Manistee will be relied upon to operate, maintain and continue development of the City's Compost Yard.

- Explore the possibility of providing construction and demolition processing.
- Work with county municipalities to provide contracted use of the City's compost yard.

Municipalities

Individual municipalities are responsible for ensuring local solid waste collection needs are met. The mechanisms utilized to meet these needs may be in the form of direct or indirect involvement. Direct involvement includes municipal collection crews and equipment, municipal contracts with private haulers, the creation, financing and operation of transfer stations and other direct financing mechanisms. An indirect mechanism is the allowance for individual contracts between residents and private waste haulers. The following solid waste collection needs should include, but not be limited to, spring/fall clean up, drop-off recycling, curbside recycling, composting and volume-based pricing.

Letter to County Planning Department
Solid Waste Management Plan
Page 2

- Municipalities will be responsible for enforcing municipal regulations and ordinances which are authorized by this *Plan*.
- Municipalities shall institute a Pay As You Throw (PAYT) -- volume-based charges -- direct to the user as soon as possible.

Local units of government will make recommendations to the Manistee County Planning Commission and County Solid Waste Council regarding solid waste issues.

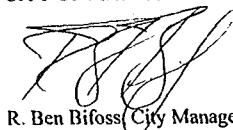
Municipal street authorities will maintain surface streets in a manner which facilitates the safe and efficient transport of solid waste and serve in an advisory capacity to the Solid Waste Council on matters regarding solid waste transport and the siting of new facilities.

To the extent which it is economically feasible and generally practical, local units of government will be expected to encourage and participate in programs instituted for the recycling and recovery of material and energy.

Municipalities will be responsible for ensuring that abandoned disposal sites within their jurisdiction are adequately sealed and that provisions are made to prevent further unauthorized use. Future use as a solid waste facility will be in accordance with the provisions of P.A. 641 and the Manistee County Solid Waste Management Plan.

Sincerely,

CITY OF MANISTEE



R. Ben Bifoss, City Manager

RBB:cl

ENVIRONMENTAL HEALTH OFFICE
MANISTEE COUNTY

385 Third Street
Manistee, Michigan 49660
Telephone: (616)723-3595
Fax: (616)723-1477

January 5, 1999

Manistee County Planning Department
415 Third Street - Courthouse
Manistee, Michigan 49660

RE: Manistee County *Solid Waste Management Plan*

The District #10 Health Department has read and accepts the following duties assigned in the Manistee County *Solid Waste Management Plan* as follows:

Chapter C10: Solid Waste Management Components

The following identifies the management responsibilities and institutional arrangements necessary for the implementation of the Selected Waste Management System. Also included is a description of the technical, administrative, financial and legal capabilities of each identified existing structure of persons, municipalities, counties and state and federal agencies responsible for solid waste management including planning, implementation, and enforcement.

District Health Department #10

District Health Department #10 (formerly Manistee - Mason District Health Department) will be responsible for enforcing provisions of the local Sanitary Code as they relate to solid waste management.

This element will be integrated into the regular work programs of the above agency.

Sincerely,


James C. Lerg
Manager for Environmental Health

JCL/cas



Manistee County

January 4, 1999

Manistee County Planning Department
415 Third Street - Courthouse
Manistee, Michigan 49660

RE: Manistee County *Solid Waste Management Plan*

The Springdale Township has read and accepts the following duties assigned in the Manistee County *Solid Waste Management Plan* as follows:

Chapter C10: Solid Waste Management Components

The following identifies the management responsibilities and institutional arrangements necessary for the implementation of the Selected Waste Management System. Also included is a description of the technical, administrative, financial and legal capabilities of each identified existing structure of persons, municipalities, counties and state and federal agencies responsible for solid waste management including planning, implementation, and enforcement.

Municipalities

Individual municipalities are responsible for ensuring local solid waste collection needs are met. The mechanisms utilized to meet these needs may be in the form of direct or indirect involvement. Direct involvement includes municipal collection crews and equipment, municipal contracts with private haulers, the creation, financing and operation of transfer stations and other direct financing mechanisms. An indirect mechanism is the allowance for individual contracts between residents and private waste haulers. The following solid waste collection needs should include, but not be limited to, spring/fall clean up, drop-off recycling, curbside recycling, composting and volume-based pricing.

- Municipalities will be responsible for enforcing municipal regulations and ordinances which are authorized by this *Plan*.
- Municipalities shall institute a Pay As You Throw (PAYT) — volume based charges — direct to the user as soon as possible.

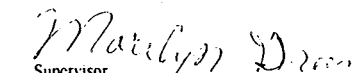
Local units of government will make recommendations to the Manistee County Planning Commission and County Solid Waste Council regarding solid waste issues.

Municipal street authorities will maintain surface streets in a manner which facilitates the safe and efficient transport of solid waste and serve in an advisory capacity to the solid waste council on matters regarding solid waste transport and the siting of new facilities.

To the extent which it is economically feasible and generally practical, local units of government will be expected to encourage and participate in programs instituted for the recycling and recovery of material and energy.

Municipalities will be responsible for ensuring that abandoned disposal sites within their jurisdiction are adequately sealed and that provisions are made to prevent further unauthorized use. Future use as a solid waste facility will be in accordance with the provisions of P.A. 641 and the Manistee County Solid Waste Management Plan.

Sincerely,


Marilyn D. Brown
Supervisor
Springdale Township

Shoreline Waste Services

3890 Camp Rd. Manistee, MI 49660

RECEIVED JAN 1 1999

January 4, 1999

Manistee County Planning Department
415 Third Street - Courthouse
Manistee, Michigan 49660

RE: Manistee County *Solid Waste Management Plan*

The Manistee County Landfill, Inc. has read and accepts the following duties assigned in the Manistee County *Solid Waste Management Plan* as follows:

Chapter C10: Solid Waste Management Components

The following identifies the management responsibilities and institutional arrangements necessary for the implementation of the Selected Waste Management System. Also included is a description of the technical, administrative, financial and legal capabilities of each identified existing structure of persons, municipalities, counties and state and federal agencies responsible for solid waste management including planning, implementation, and enforcement.

Private Solid Waste Industry

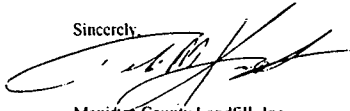
To the extent practical, Manistee County will rely on private industry to provide the land, facilities, manpower, equipment, and capital necessary for the collection, transport, processing and disposal of solid waste material.

- Private industry will also be relied upon to establish, as conditions warrant, a system for the collection, transport, processing and sale of recovered materials and energy.
- The solid waste industry will be expected to operate in a manner that ensures the economic viability and efficiency of the solid waste management system and concurrently avoid the unnecessary burdening of users and taxpayers.
- With respect to the general public's health and welfare and the natural environment, private industry will be expected to comply with all federal, state and local ordinances, regulations and contracts concerning the handling, transport, storage and disposal of solid waste material in accordance with the Act and the *Plan*.

The solid waste industry will be expected to adhere to the recommendations of the County Solid Waste Council.

Private industry funding will be generated through Charges for their services - volume based - either collected directly from individual residents or through municipal contracts which should include the following, but not limited too, spring/fall clean up, drop-off recycling, curbside recycling, composting, volume-based pricing. Capital cost requirements have been previously addressed.

Sincerely,



Manistee County Landfill, Inc.



WASTE REDUCTION SYSTEMS
5848 N. STILES RD. • LUDINGTON, MICHIGAN 49431 • 616-843-9129



LICENSED INDUSTRIAL
WASTE HAULER

WASTE CONTAINERS
2 yd. to 40 yd.
PORTABLE TOILETS

January 4, 1999

Manistee County Planning Department
415 Third Street - Courthouse
Manistee, Michigan 49660

RE: Manistee County *Solid Waste Management Plan*

The Waste Reduction Systems has read and accepts the following duties assigned in the Manistee County *Solid Waste Management Plan* as follows:

Chapter C10: Solid Waste Management Components

The following identifies the management responsibilities and institutional arrangements necessary for the implementation of the Selected Waste Management System. Also included is a description of the technical, administrative, financial and legal capabilities of each identified existing structure of persons, municipalities, counties and state and federal agencies responsible for solid waste management including planning, implementation, and enforcement.

Private Solid Waste Industry

To the extent practical, Manistee County will rely on private industry to provide the land, facilities, manpower, equipment, and capital necessary for the collection, transport, processing and disposal of solid waste material.

- Private industry will also be relied upon to establish, as conditions warrant, a system for the collection, transport, processing and sale of recovered materials and energy.
- The solid waste industry will be expected to operate in a manner that ensures the economic viability and efficiency of the solid waste management system and concurrently avoid the unnecessary burdening of users and taxpayers.
- With respect to the general public's health and welfare and the natural environment, private industry will be expected to comply with all federal, state and local ordinances, regulations and contracts concerning the handling, transport, storage and disposal of solid waste material in accordance with the Act and the *Plan*.

The solid waste industry will be expected to adhere to the recommendations of the County Solid Waste Council.

Private industry funding will be generated through Charges for their services - volume based - either collected directly from individual residents or through municipal contracts which should include the following, but not limited too, spring/fall clean up, drop-off recycling, curbside recycling, composting, volume-based pricing. Capital cost requirements have been previously addressed.

Sincerely,

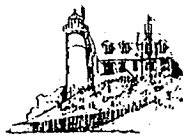


Waste Reduction Systems

RECEIVED JAN 0 8 1999



Benzie Lakeshore Enterprises
 6051 Frankfort Highway, Suite 300
 Benzonia, MI 49616
 Phone: 616.882.9601
 Fax: 616.882.2360



January 8, 1999

Manistee County Planning Department
 415 Third Street - Courthouse
 Manistee, MI 49660

RECEIVED JAN 12 1999

RE: Manistee County Solid Waste Management Plan

Lakeshore Enterprises has reviewed and acknowledge the following assignments in the Manistee County Solid Waste Management plan:

Chapter C10: Solid Waste Management components

The following identifies the management responsibilities and institutional arrangements necessary for the implementation of the Selected Waste Management System. Also included is a description of the technical, administrative, financial, and legal capabilities of each identified existing structure of persons, municipalities, counties and state and federal agencies responsible for solid waste management including planning, implementation, and enforcement.

Lakeshore Enterprises:

- > will be utilized to continue all paper product recycling
- > provide and promote educational programs for all paper recycling
- > provide and promote educational programs for commercial paper recycling
- > explore the possibility of developing a MRF
- > explore the possibility of developing and operating a "Flagship" drop-off recycling site
- > explore the possibility of providing a permanent collection site for household hazardous waste cleanup program

Lakeshore Enterprises will to its best ability carry out these assignments within the scope of available funds and other resources.

Sincerely,

Ingemar Johansson, Director
 Lakeshore Enterprises

cc. George Ott
 Judy Cunningham

Programs are supported with Federal, State and Local funding. (E.O.E.)
 Printed on Recycled Paper



NORTHWEST MICHIGAN

Council of Governments

Connecting People With Progress

Chairman
 Loren Allen

Workforce Development Board
 Chairman
 David R. Adams

Director
 Alton M. Shupstead

January 4, 1999

Manistee County Planning Department
 415 Third Street - Courthouse
 Manistee, Michigan 49660

RECEIVED JAN 06 1999

RE: Manistee County Solid Waste Management Plan

The Northwest Michigan Council of Governments, Solid Waste Regional Planning Coordinator has read and accepts the following duties assigned in the Manistee County Solid Waste Management Plan as follows:

Chapter C10: Solid Waste Management Components

The following identifies the management responsibilities and institutional arrangements necessary for the implementation of the Selected Waste Management System. Also included is a description of the technical, administrative, financial and legal capabilities of each identified existing structure of persons, municipalities, counties and state and federal agencies responsible for solid waste management including planning, implementation, and enforcement.

Northwest Michigan Council of Governments.

The NWMCOG being the designated regional solid waste management planning agency will have the following responsibilities. The regional planning agency will participate in and conduct periodic studies and updates exploring the following:

- Potential markets, locations, and feasibility for energy recovery facilities throughout the region.
- The potential for mass movement of solid waste to regional recycling or resource recovery centers.
- Assist in developing opportunities for collaboration and coordination with neighboring communities and counties in the region. This effort will focus on opportunities for disposal capacity, recycling and composting processing capabilities, residential and commercial solid waste and recycling collection programs, household hazardous waste programs, enforcement, education and outreach.

The region may assist in the development and maintenance of a multi-county solid waste agency.

The region will report all findings and make recommendations to Manistee County regarding issues related to and affecting solid waste management in Manistee County.

The regional planning agency will assist in educational efforts designed to inform industry, business and the general public of solid waste management issues.

Sincerely,

Northwest Michigan Council of Governments
 Solid Waste Regional Planning Coordinator

Michigan Works! logo



RECEIVED JAN 6 1999

MAPLE GROVE TOWNSHIP

H. Wayne Bekdo
Supervisor

PO Box 185
Kaleva, Michigan 49645

Telephone 616-362-3830
Fax 616-362-2555

January 5, 1999

Manistee County Planning Department
415 Third Street - Courthouse
Manistee, Michigan 49660

RE: Manistee County *SOLID WASTE MANAGEMENT PLAN*

MAPLE GROVE TOWNSHIP has read and accepts the following duties assigned in the Manistee County *SOLID WASTE MANAGEMENT PLAN* as follows:

Chapter C10: Solid Waste Management Components.

The following identifies the management responsibilities and institutional arrangements necessary for the implementation of the Selected Waste Management System. Also included is a description of the technical, administrative, financial and legal capabilities of each identified existing structure of persons, municipalities, counties and state and federal agencies responsible for solid waste management including planning, implementation, and enforcement.

MUNICIPALITIES

Individual municipalities are responsible for ensuring local solid waste collection needs are met. The mechanisms utilized to meet these needs may be in the form of direct or indirect involvement. Direct involvement includes municipal collection crews and equipment, municipal contracts with private haulers, the creation, financing and operation of transfer stations and other direct financing mechanisms. An indirect mechanism is the allowance for individual contracts between residents and private waste haulers. The following solid waste collection needs should include, but not be limited to, spring/fall clean up, drop-off recycling, curbside recycling, composting and volume-based pricing.

- Municipalities will be responsible for enforcing municipal regulations and ordinances which are authorized by this plan.

- Municipalities shall institute a Pay As You Throw -- volume based charges -- direct to the user as soon as possible.

Local units of government will make recommendations to the Manistee County Planning Commission and County Solid Waste Council regarding solid waste issues.

Municipal street authorities will maintain surface streets in a manner which facilitates the safe and efficient transport of solid waste and serve in an advisory capacity to the solid waste council on matters regarding solid waste transport and the siting of new facilities.

To the extent which it is economically feasible and generally practical, local units of government will be expected to encourage and participate in programs instituted for the recycling and recovery of material and energy.

Municipalities will be responsible for ensuring that abandoned disposal sites within their jurisdiction are adequately sealed and that provisions are made to prevent further unauthorized use. Future use as a solid waste facility will be in accordance with the provisions of P. A. 641 and the Manistee County Solid Waste Management Plan.

Sincerely;

Supervisor
Maple Grove Township

RECEIVED JAN 6 7 1999

January 4, 1999

Manistee County Planning Department
415 Third Street - Courthouse
Manistee, Michigan 49660

RE: Manistee County *Solid Waste Management Plan*

The Bear Lake Village has read and accepts the following duties assigned in the Manistee County *Solid Waste Management Plan* as follows:

Chapter C10: *Solid Waste Management Components*

The following identifies the management responsibilities and institutional arrangements necessary for the implementation of the Selected Waste Management System. Also included is a description of the technical, administrative, financial and legal capabilities of each identified existing structure of persons, municipalities, counties and state and federal agencies responsible for solid waste management including planning, implementation, and enforcement.

Municipalities

Individual municipalities are responsible for ensuring local solid waste collection needs are met. The mechanisms utilized to meet these needs may be in the form of direct or indirect involvement. Direct involvement includes municipal collection crews and equipment, municipal contracts with private haulers, the creation, financing and operation of transfer stations and other direct financing mechanisms. An indirect mechanism is the allowance for individual contracts between residents and private waste haulers. The following solid waste collection needs should include, but not be limited to, spring/fall clean up, drop-off recycling, curbside recycling, composting and volume-based pricing.

Municipalities will be responsible for enforcing municipal regulations and ordinances which are authorized by this *Plan*.

Municipalities shall institute a Pay As You Throw (PAYT) -- volume based charges -- direct to the user as soon as possible.

Local units of government will make recommendations to the Manistee County Planning Commission and County Solid Waste Council regarding solid waste issues.

Municipal street authorities will maintain surface streets in a manner which facilitates the safe and efficient transport of solid waste and serve in an advisory capacity to the solid waste council on matters regarding solid waste transport and the siting of new facilities.

To the extent which it is economically feasible and generally practical, local units of government will be expected to encourage and participate in programs instituted for the recycling and recovery of material and energy.

Municipalities will be responsible for ensuring that abandoned disposal sites within their jurisdiction are adequately sealed and that provisions are made to prevent further unauthorized use. Future use as a solid waste facility will be in accordance with the provisions of P.A. 641 and the Manistee County Solid Waste Management Plan.

Sincerely,



President
Bear Lake Village

RECEIVED JAN 0 7 1999

MICHIGAN STATE
UNIVERSITY
EXTENSION

January 4, 1999

Manistee County Planning Department
415 Third Street - Courthouse
Manistee, Michigan 49660

RE: Manistee County *Solid Waste Management Plan*

The Manistee County MSU Cooperative Extension Service has read and accepts the following duties assigned in the Manistee County *Solid Waste Management Plan* as follows:

Chapter C10: *Solid Waste Management Components*

The following identifies the management responsibilities and institutional arrangements necessary for the implementation of the Selected Waste Management System. Also included is a description of the technical, administrative, financial and legal capabilities of each identified existing structure of persons, municipalities, counties and state and federal agencies responsible for solid waste management including planning, implementation, and enforcement.

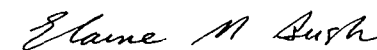
Manistee County MSU Extension Service

The Manistee County MSU Extension Service will be utilized to do the following with assistance from other agencies:

- Develop public education and promotion programs necessary for implementing various components of the *Plan*.
- Coordinate and perform efforts to encourage local units of government, businesses, schools, etc. to participate in or expand recycling and resource recovery methods and programs.
- Provide a county-wide education program to point out the importance of keeping household and commercial hazardous wastes out of landfills.
- Develop and disseminate information and literature designed to inform the public on matters related to recycling, resource recovery, and conservation.
- Encourage and provide technical assistance to the solid waste industry and private and civic organizations to implement methods of recycling and resource recovery.
- Assist in organizing and operating the Clean Sweep pesticide disposal program.

The MSU Extension Service may work in conjunction with the County Conservation District and Planning Commission in each of the above elements.

Sincerely,



Extension Director
Manistee County MSU Cooperative Extension Service



Cooperative Extension Service
6433 Eight Mile Rd
Bear Lake, Michigan
49614-9712

616/889-4277
FAX 616/889-5930

Michigan State University Extension
programs and materials are open to
all without regard to race, color,
national origin, sex, handicap, age,
or religion.

Michigan State University, U.S.
Department of Agriculture and
Cooperatives participating.
MSU is an affirmative action equal
opportunity institution.

Pleasanton Township

8958 Lumley Road
Bear Lake, Michigan 49614

January 4, 1999

Manistee County Planning Department
415 Third Street - Courthouse
Manistee, Michigan 49660

RECEIVED JAN 15 1999

RE: Manistee County *Solid Waste Management Plan*

The Pleasanton Township has read and accepts the following duties assigned in the Manistee County *Solid Waste Management Plan* as follows:

Chapter C10: Solid Waste Management Components

The following identifies the management responsibilities and institutional arrangements necessary for the implementation of the Selected Waste Management System. Also included is a description of the technical, administrative, financial and legal capabilities of each identified existing structure of persons, municipalities, counties and state and federal agencies responsible for solid waste management including planning, implementation, and enforcement.

Municipalities

Individual municipalities are responsible for ensuring local solid waste collection needs are met. The mechanisms utilized to meet these needs may be in the form of direct or indirect involvement. Direct involvement includes municipal collection crews and equipment, municipal contracts with private haulers, the creation, financing and operation of transfer stations and other direct financing mechanisms. An indirect mechanism is the allowance for individual contracts between residents and private waste haulers. The following solid waste collection needs should include, but not be limited to: spring/fall clean up, drop-off recycling, curbside recycling, composting and volume-based pricing.

- Municipalities will be responsible for enforcing municipal regulations and ordinances which are authorized by this *Plan*.
- Municipalities shall institute a Pay As You Throw (PAYT) — volume based charges — direct to the user as soon as possible.

Local units of government will make recommendations to the Manistee County Planning Commission and County Solid Waste Council regarding solid waste issues.

Municipal street authorities will maintain surface streets in a manner which facilitates the safe and efficient transport of solid waste and serve in an advisory capacity to the solid waste council on matters regarding solid waste transport and the siting of new facilities.

To the extent which it is economically feasible and generally practical, local units of government will be expected to encourage and participate in programs instituted for the recycling and recovery of material and energy.

Municipalities will be responsible for ensuring that abandoned disposal sites within their jurisdiction are adequately sealed and that provisions are made to prevent further unauthorized use. Future use as a solid waste facility will be in accordance with the provisions of P.A. 641 and the Manistee County Solid Waste Management Plan.

Sincerely,



Supervisor
Pleasanton Township

Manistee County Road Commission

RECEIVED JAN 15 1999

425 Parkdale Avenue • Manistee, Michigan 49660 • Telephone 723 6522 • Fax to 723 1150

January 4, 1999

Manistee County Planning Department
415 Third Street - Courthouse
Manistee, Michigan 49660

RE: Manistee County *Solid Waste Management Plan*

The Manistee County Road Commission has read and accepts the following duties assigned in the Manistee County *Solid Waste Management Plan* as follows:

Chapter C10: Solid Waste Management Components

The following identifies the management responsibilities and institutional arrangements necessary for the implementation of the Selected Waste Management System. Also included is a description of the technical, administrative, financial and legal capabilities of each identified existing structure of persons, municipalities, counties and state and federal agencies responsible for solid waste management including planning, implementation, and enforcement.

Manistee County Road Commission

The Manistee County Road Commission will be relied upon to maintain the county roads and highways in a manner which facilitates the safe and efficient transport of solid waste throughout the county.

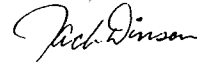
The Road Commission will also provide advisory analysis to solid waste planning agencies and councils on matters relating to the transport of solid waste and for the siting of new facilities.

The Road Commission will maintain surface streets in a manner which facilitates the safe and efficient transport of solid waste and serve in an advisory capacity to the solid waste council on matters regarding solid waste transport and the siting of new facilities.

- Operations and maintenance of "Adopt a Road" program.
- Pick up of litter and solid waste along county road right-of-ways.

This element will be completed as part of the Road Commission's regular work program and is not expected to require additional funding.

Sincerely,



Manistee County Road Commission



Manistee County Courthouse • 415 Third Street • Manistee, Michigan 49660

January 4, 1999

Manistee County Planning Department
415 Third Street - Courthouse
Manistee, Michigan 49660

RE: Manistee County *Solid Waste Management Plan*

The Manistee County Planning Commission/Department has read and accepts the following duties assigned in the Manistee County *Solid Waste Management Plan* as follows:

Chapter C10: Solid Waste Management Components

The following identifies the management responsibilities and institutional arrangements necessary for the implementation of the Selected Waste Management System. Also included is a description of the technical, administrative, financial and legal capabilities of each identified existing structure of persons, municipalities, counties and state and federal agencies responsible for solid waste management including planning, implementation, and enforcement.

Manistee County Planning Commission/Department

The Manistee County Planning Commission and its staff acting as the Designated County Solid Waste Planning Agency shall in general, coordinate and participate in all matters related to the administration and implementation of the *Plan*.

More specifically, its responsibilities will include, but not be limited to, the following:

- Provide staff to the Solid Waste Planning Council.
- Monitor solid waste activities in the county.
- Serve as liaison between the county and other agencies involved in matters related to solid waste management.
- Serve as a depository for solid waste information and legislation.
- Assist local units of government in solid waste matters.
- Carry out or assist in the in-depth investigation which may be needed prior to the implementation of the various resource recovery and recycling programs indicated in the *Plan*.
- Assist the MSU Extension Service in developing the public education and promotion programs necessary for implementing various components of the *Plan*.
- Develop and monitor local solid waste management legislation.
- Assist municipalities, Solid Waste Council and solid waste industry in the up grading of drop-off sites and containers.
- Assist in exploring the possibilities of creating a MRF with Lakeshore Enterprise or another Agency.
- Assist in coordinating efforts to develop and promote a household hazardous waste collection program and site.
- Assist and coordinate the implementation of a volume-base price system for solid waste disposal

The Manistee County Planning Commission is funded by the County Board and has a full-time staff consisting of a county planner and an assistant planner. Offices are located in the County Building. Most of the Commission's solid waste functions would be handled by staff as part of regular programming efforts.

Sincerely,

Jack Lehman
Manistee County Planning Commission/Department
Planning Commission Chair

VILLAGE OF COPEMISH

P.O. Box 207
Manistee County
COPEMISH, MICHIGAN 49625

RECEIVED JAN 5 1999

January 4, 1999

Manistee County Planning Department
415 Third Street - Courthouse
Manistee, Michigan 49660

RE: Manistee County *Solid Waste Management Plan*

The Copemish Village has read and accepts the following duties assigned in the Manistee County *Solid Waste Management Plan* as follows:

Chapter C10. Solid Waste Management Components

The following identifies the management responsibilities and institutional arrangements necessary for the implementation of the Selected Waste Management System. Also included is a description of the technical, administrative, financial and legal capabilities of each identified existing structure of persons, municipalities, counties and state and federal agencies responsible for solid waste management including planning, implementation, and enforcement.

Municipalities

Individual municipalities are responsible for ensuring local solid waste collection needs are met. The mechanisms utilized to meet these needs may be in the form of direct or indirect involvement. Direct involvement includes municipal collection crews and equipment, municipal contracts with private haulers, the creation, financing and operation of transfer stations and other direct financing mechanisms. An indirect mechanism is the allowance for individual contracts between residents and private waste haulers. The following solid waste collection needs should include, but not be limited to, spring/fall clean up, drop-off recycling, curbside recycling, composting and volume-based pricing

- Municipalities will be responsible for enforcing municipal regulations and ordinances which are authorized by this *Plan*.
- Municipalities shall institute a Pay As You Throw (PAYT) -- volume based charges -- direct to the user as soon as possible.

Local units of government will make recommendations to the Manistee County Planning Commission and County Solid Waste Council regarding solid waste issues

Municipal street authorities will maintain surface streets in a manner which facilitates the safe and efficient transport of solid waste and serve in an advisory capacity to the solid waste council on matters regarding solid waste transport and the siting of new facilities.

To the extent which it is economically feasible and generally practical, local units of government will be expected to encourage and participate in programs instituted for the recycling and recovery of material and energy.

Municipalities will be responsible for ensuring that abandoned disposal sites within their jurisdiction are adequately sealed and that provisions are made to prevent further unauthorized use. Future use as a solid waste facility will be in accordance with the provisions of P. A. 641 and the Manistee County Solid Waste Management Plan.

Sincerely,

President
Copemish Village

Richard McQueen
President



United States
Department of
Agriculture

Forest
Service

Manistee-Cadillac
Ranger Station
412 Red Apple Road
Manistee, MI 49660

616-723-2211 (Voice)
616-723-8642 (Fax)
616-723-0124 (TTY)

ONEKAMA TOWNSHIP
5435 MAIN STREET
P.O. BOX 458
ONEKAMA, MI 49675

File Code: 1920
Date: February 2, 1999

Office of Township Supervisor
Phone (616) 889-3308
Fax (616) 889-5587

Manistee County Planning Department
415 Third Street - Courthouse
Manistee, MI 49660

RECEIVED FEB 3 1999

RE: Manistee County Solid Waste Management Plan

We have read the following duties assigned in the Manistee County Solid Waste Management Plan as follows:

Chapter C10: Solid Waste Management Components

The following identifies the management responsibilities and institutional arrangements necessary for the implementation of the Selected Waste Management System. Also included is a description of the technical, administrative, financial and legal capabilities of each identified existing structure of persons, municipalities, counties and state and federal agencies responsible for solid waste management including planning, implementation, and enforcement.

United States Forest Service

- Operation and Maintenance of the Adopt a Forest program
- Pick up of litter and solid waste on forest land

We do accept these duties as part of our land stewardship responsibilities in the management of the National Forest. Our ability to carry out these duties is dependant on budget allocations.

Sincerely,

GARY W. COLE
District Ranger

January 4, 1999

RECEIVED FEB 8 1999

Manistee County Planning Department
415 Third Street - Courthouse
Manistee, Michigan 49660

RE: Manistee County *Solid Waste Management Plan*

The Onekama Township has read and accepts the following duties assigned in the Manistee County *Solid Waste Management Plan* as follows:

Chapter C10: Solid Waste Management Components

The following identifies the management responsibilities and institutional arrangements necessary for the implementation of the Selected Waste Management System. Also included is a description of the technical, administrative, financial and legal capabilities of each identified existing structure of persons, municipalities, counties and state and federal agencies responsible for solid waste management including planning, implementation, and enforcement.

Municipalities

Individual municipalities are responsible for ensuring local solid waste collection needs are met. The mechanisms utilized to meet these needs may be in the form of direct or indirect involvement. Direct involvement includes municipal collection crews and equipment, municipal contracts with private haulers, the creation, financing and operation of transfer stations and other direct financing mechanisms. An indirect mechanism is the allowance for individual contracts between residents and private waste haulers. The following solid waste collection needs should include, but not be limited too, spring/fall clean up, drop-off recycling, curbside recycling, composting and volume-based pricing.

- Municipalities will be responsible for enforcing municipal regulations and ordinances which are authorized by this *Plan*.
- Municipalities shall institute a Pay As You Throw (PAYT) — volume based charges — direct to the user as soon as possible.

Local units of government will make recommendations to the Manistee County Planning Commission and County Solid Waste Council regarding solid waste issues.

Municipal street authorities will maintain surface streets in a manner which facilitates the safe and efficient transport of solid waste and serve in an advisory capacity to the solid waste council on matters regarding solid waste transport and the siting of new facilities.

To the extent which it is economically feasible and generally practical, local units of government will be expected to encourage and participate in programs instituted for the recycling and recovery of material and energy.

Municipalities will be responsible for ensuring that abandoned disposal sites within their jurisdiction are adequately scaled and that provisions are made to prevent further unauthorized use. Future use as a solid waste facility will be in accordance with the provisions of P.A. 641 and the Manistee County Solid Waste Management Plan.

Sincerely,

Supervisor
Onekama Township



Caring for the Land and Serving People

Printed on Recycled Paper



VILLAGE OF EASTLAKE

175 Main Street P O Box 128

Eastlake, MI 49626

Phone (616) 723-9558

Fax (616) 723-9596

RECEIVED FEB 16 1999

February 11, 1999

Manistee County Planning Department
415 Third Street - Courthouse
Manistee, MI 49660

RE: Manistee County Solid Waste Management Plan

The Eastlake Village has read and accepts the following duties assigned in the Manistee County Solid Waste Management Plan as follows:

Chapter C10: Solid Waste Management Components

The following identifies the management responsibilities and institutional arrangements necessary for the implementation of the Selected Waste Management System. Also included is a description of the technical, administrative, financial and legal capabilities of each identified existing structure of persons, municipalities, counties and state and federal agencies responsible for solid waste management including planning, implementation, and enforcement.

Municipalities

Individual municipalities are responsible for ensuring local solid waste collection needs are met. The mechanisms utilized to meet these needs may be in the form of direct or indirect involvement. Direct involvement includes municipal collection crews and equipment, municipal contracts with private haulers, the creation, financing and operation of transfer stations and other direct financing mechanisms. An indirect mechanism is the allowance for individual contracts between residents and private waste haulers. The following solid waste collection needs should include, but not be limited to, spring/fall clean up, drop-off recycling, curbside recycling, composting and volume-based pricing.

Municipalities will be responsible for enforcing municipal regulations and ordinances which are authorized by this Plan.
Municipalities shall institute a Pay As You Throw (PAYT) - volume based charges- direct to the user as soon as possible.

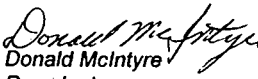
Local units of government will make recommendations to the Manistee County Planning Commission and County Solid Waste Council regarding solid waste issues

Municipal street authorities will maintain surface streets in a manner which facilitates the safe and efficient transport of solid waste and serve in the advisory capacity to the solid waste council on matters regarding solid waste transport and the siting of new facilities.

To the extent which it is economically feasible and generally practical, local units of government will be expected to encourage and participate in programs instituted for the recycling and recovery of material and energy.

Future use as a solid waste facility will be in accordance with the provision of P.A. 641 and the Manistee County Solid Waste Management Plan.

Sincerely,


Donald McIntyre
President
Village of Eastlake



SHERIFF: Edward A. Haik, Jr.
ADMIN 616-723-8393
FAX 616-723-1498

SHERIFF'S DEPARTMENT • 1525 E. Parkdale Ave. • Manistee, MI 49660

January 4, 1999

Manistee County Planning Department
415 Third Street - Courthouse
Manistee, Michigan 49660

RE: Manistee County *Solid Waste Management Plan*

The County Sheriff Department has read and accepts the following duties assigned in the Manistee County *Solid Waste Management Plan* as follows:

Chapter C10: Solid Waste Management Components

The following identifies the management responsibilities and institutional arrangements necessary for the implementation of the Selected Waste Management System. Also included is a description of the technical, administrative, financial and legal capabilities of each identified existing structure of persons, municipalities, counties and state and federal agencies responsible for solid waste management including planning, implementation, and enforcement.

District #10 Health Department/Manistee County Sheriff Department

The District #10 Health Department (formerly the Manistee-Mason District Health Department) and local and county law enforcement agencies will be responsible for enforcing county regulations and ordinances relating to the handling, collection and disposal of solid waste in Manistee County.

This element will be integrated into the regular work programs of the above agencies.

Sincerely,



Sheriff
Manistee County Sheriff Department

Resolutions

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

THERE were no such resolutions adopted.

The following are resolutions from the Municipalities of Manistee County adopting the *Plan*.

City of Manistee	Pleasanton Township
Village of Onekama	Brown Township
Springdale Township	Bear Lake Village
Cleon Township	Eastlake Village
Kaleva Village	Marilla Township
Arcadia Township	Onekama Township
Bear Lake Township	Maple Grove Township

Listed Capacity

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

On the following pages are letters from Manistee County Landfill, Inc., Wexford Landfill and Glen's Landfill.

Council Minutes, 9/21/99

Page 4

***Recommended Proposal**

Each vendor made presentations to a staff committee. The Partner System is currently installed at the DPW Garage and is locally maintained. The staff recommends the acquisition of the Partner System for the Police Department/City Hall system.

A MOTION was made by Skory, seconded by Mack to authorize the purchase of a new Partner ACS telephone system from Lucent Technologies in the amount of \$18,815.25. All voting in favor, 6-0.

CONSIDERATION OF ENDORSING THE MANISTEE COUNTY SOLID WASTE PLAN.

Manistee County has developed a County Solid Waste Plan. Under state statute, if the County does not develop and adopt a solid waste planning program then the State of Michigan establishes a plan and regulations on the County's behalf.

By that same statute, the County Solid Waste Planning Commission includes representatives from local units of government including the City and Townships, appointed by the County Board of Commissioners. The City's representative while the plan was being developed was Councilmember Mike Jankowski.

The plan was reviewed at the City Council work session of Tuesday, September 14, 1999. Various questions and discussions regarding the impact of the plan were reviewed. The plan has been accepted by the Manistee County Solid Waste Planning Commission. If it is approved by fourteen of the governmental units in the County, (City, Villages and Townships) it will take affect. To date thirteen local units of government have approved the plan. The City Manager recommends Council concurrence.

A MOTION was made by Fenstermacher, seconded by Shales to approve the Manistee County Solid Waste Management Plan dated September 15, 1998. All voting in favor, 6-0.

CONSIDERATION OF ESTABLISHING COMPENSATION, THE BOARD OF REVIEW.

The Board of Review is unique among the various City boards and commissions. The Board of Review is established by Charter Section 8-3. That provision of the Charter includes language noting that "their compensation shall be fixed by Council." The Board of Review regularly meets in full day increments rather than evening meetings. Boards of Review are traditionally compensated while other boards and commissions are not.

The City Board of Review currently receives compensation at the rate of \$50 for members, \$55 for the Chairman. This rate has not changed for the last ten years. The City Assessor has surveyed surrounding communities and notes compensation rates ranging from hourly amounts to \$50 per day to \$180 per day. She has recommended a change in the compensation rates for the Board of Review and the possibility in paying in half day increments.

RECEIVED OCT 27 1999

Resolution
To Adopt the *Manistee County Solid Waste Plan of 1999.*

WHEREAS the Manistee County Board of Commissioners formed a 14 member Solid Waste Council (acting as the Planning Committee pursuant to Part 115 of PA 451 of 1994, as amended, (being M.C.L. 324.11501 *et seq.*, the Solid Waste Part of the Michigan Natural Resources and Environmental Protection Act (formerly PA 641 of 1987, as amended, being the Solid Waste Management Act))); and

WHEREAS the Solid Waste Council has met during 1998 and 1999 to review and create the *Manistee County Solid Waste Management Plan of 1999*; and

WHEREAS drafts of the *Solid Waste Plan* have been widely distributed, including but not limited to each municipality in Manistee County, adjacent counties, each public library in the county, the *Manistee News Advocate*, members of the County Board of Commissioners and members of the Manistee County Planning Commission; and

WHEREAS a public comment period has been widely advertised and held during September 14, 1998 to December 14, 1998 and a formal public hearing, pursuant to Part 115 of PA 451 of 1994, as amended, held at 7pm, Monday December 14, 1998; and

WHEREAS the Solid Waste Council reviewed the public comments received and made changes to the draft of the *Solid Waste Plan*, as appropriate.

THEREFORE the Solid Waste Council acts to adopt the *Manistee County Solid Waste Plan of 1999*, dated April 12, 1999, and directs the *Plan* be sent to the County Board of Commissioners for adoption and then to each municipality in Manistee County for adoption; and

THEREFORE the Manistee County Board of Commissioners, of Manistee, Michigan adopts the *Manistee County Solid Waste Plan of 1999*, dated April 12, 1999 and directs the *Plan* be sent to each municipality in Manistee County for adoption.

THEREFORE the Village of Onekama adopts the *Manistee County Solid Waste Plan of 1999*, dated April 12, 1999.

Date: July 8, 1999

Evelyn M. Pearson Trust
Village of Onekama

STATE OF MICHIGAN)
)
COUNTY OF MANISTEE)ss.
)
VILLAGE OF ONEKAMA)

I, Ruth M. Jackson, Village Clerk, do hereby certify that the foregoing is a true copy of a Resolution adopted by the Onekama Village Council at its regular monthly meeting held 8 day of July, 1999.

Ruth M. Jackson
Village, Township/Village/City Clerk

Resolution
To Adopt the *Manistee County Solid Waste Plan* of 1999.

WHEREAS the Manistee County Board of Commissioners formed a 14 member Solid Waste Council (acting as the Planning Committee pursuant to Part 115 of PA 451 of 1994, as amended, (being M.C.L. 324.11501 *et seq.*, the Solid Waste Part of the Michigan Natural Resources and Environmental Protection Act (formerly PA 641 of 1987, as amended, being the Solid Waste Management Act))); and

WHEREAS the Solid Waste Council has met during 1998 and 1999 to review and create the *Manistee County Solid Waste Management Plan* of 1999; and

WHEREAS drafts of the *Solid Waste Plan* have been widely distributed, including but not limited to each municipality in Manistee County, adjacent counties, each public library in the county, the *Manistee News Advocate*, members of the County Board of Commissioners and members of the Manistee County Planning Commission; and

WHEREAS a public comment period has been widely advertised and held during September 14, 1998 to December 14, 1998 and a formal public hearing, pursuant to Part 115 of PA 451 of 1994, as amended, held at 7pm, Monday December 14, 1998; and

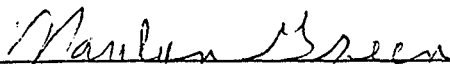
WHEREAS the Solid Waste Council reviewed the public comments received and made changes to the draft of the *Solid Waste Plan*, as appropriate.

THEREFORE the Solid Waste Council acts to adopt the *Manistee County Solid Waste Plan* of 1999, dated April 12, 1999, and directs the *Plan* be sent to the County Board of Commissioners for adoption and then to each municipality in Manistee County for adoption; and

THEREFORE the Manistee County Board of Commissioners, of Manistee, Michigan adopts the *Manistee County Solid Waste Plan* of 1999, dated April 12, 1999 and directs the *Plan* be sent to each municipality in Manistee County for adoption.


THEREFORE the Springdale Township adopts the *Manistee County Solid Waste Plan* of 1999, dated April 12, 1999.

Date: 7.14.99


~~RICHARD NIXON~~
Springdale Township ~~Clerk~~ Supervisor

STATE OF MICHIGAN)
)
COUNTY OF MANISTEE)ss.
)
SPRINGDALE TOWNSHIP)

I, Yvonne Humphrey, Township Clerk, do hereby certify that the foregoing is a true copy of a Resolution adopted by the Springdale Township Council at its regular monthly meeting held 12 day of JULY, 1999.


Yvonne Humphrey, Springdale Township Clerk

RECEIVED JUL 20 1999

RESOLUTION # 1999-07-14
To Adopt the *Manistee County Solid Waste Plan* of 1999

WHEREAS the Manistee County Board of Commissioners formed a 14 member Solid Waste Council (acting as the Planning Committee pursuant to Part 115 of PA 451 of 1994, as amended, (being MCL 324 11501 *et. seq.*, the Solid Waste Part of Michigan Natural Resources and Environmental Protection Act (formerly PA 641 of 1987, as amended, being the solid Waste management Act). and

WHEREAS the Solid Waste Council has met during 1998 and 1999 to review and create the *Manistee County Solid Waste Management Plan* of 1999, and

WHEREAS drafts of the *Solid Waste Plan* have been widely distributed, including but not limited to each municipality in Manistee County, adjacent counties, each public library in the county, the *Manistee News Advocate*, members of the County Board of Commissioners and members of the Manistee County Planning Commission, and

WHEREAS a public comment period has been widely advertised and held during September 14, 1998, to December 14, 1998, and a formal public hearing, pursuant to Part 115 of PA 451 of 1994, as amended, held at 7pm, Monday, December 14, 1998; and

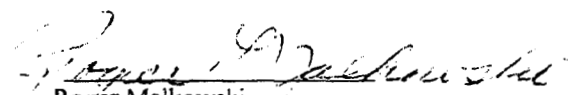
WHEREAS the Solid Waste Council reviewed public comments received and made changes to the draft of the *Solid Waste Plan*, as appropriate.

THEREFORE the Solid Waste Council acts to adopt the *Manistee County Solid Waste Plan* of 1999, dated April 12, 1999, and directs the *Plan* be sent to the county Board of Commissioners for adoption and then to each municipality in Manistee County for adoption

THEREFORE the Manistee County Board of Commissioners, of Manistee, Michigan adopts the *Manistee County Solid Waste Plan* of 1999, and directs the *Plan* be sent to each municipality in Manistee County for adoption.


THEREFORE the Cleon Township Board of Trustees adopts the *Manistee County Solid Waste Plan* of 1999, dated April 12, 1999.

Date 7-14-99


Roger Malkowski
Cleon Township Supervisor

STATE OF MICHIGAN)
)
COUNTY OF MANISTEE)ss
)
CLEON TOWNSHIP)

I, Kristine A. Malkowski, Cleon Township Clerk, do hereby certify that the foregoing is a true copy of a Resolution adopted by the Cleon Township Council at its regular monthly meeting held on the 14th day of July, 1999.


Kristine A. Malkowski

Resolution
To Adopt the *Manistee County Solid Waste Plan of 1999.*

WHEREAS the Manistee County Board of Commissioners formed a 14 member Solid Waste Council (acting as the Planning Committee pursuant to Part 115 of PA 451 of 1994, as amended, (being M.C.L. 324.11501 *et seq.*, the Solid Waste Part of the Michigan Natural Resources and Environmental Protection Act (formerly PA 641 of 1987, as amended, being the Solid Waste Management Act))); and

WHEREAS the Solid Waste Council has met during 1998 and 1999 to review and create the *Manistee County Solid Waste Management Plan of 1999*; and

WHEREAS drafts of the *Solid Waste Plan* have been widely distributed, including but not limited to each municipality in Manistee County, adjacent counties, each public library in the county, the *Manistee News Advocate*, members of the County Board of Commissioners and members of the Manistee County Planning Commission; and

WHEREAS a public comment period has been widely advertised and held during September 14, 1998 to December 14, 1998 and a formal public hearing, pursuant to Part 115 of PA 451 of 1994, as amended, held at 7pm, Monday December 14, 1998; and

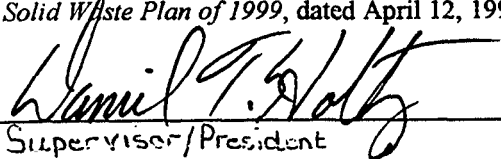
WHEREAS the Solid Waste Council reviewed the public comments received and made changes to the draft of the *Solid Waste Plan*, as appropriate.

THEREFORE the Solid Waste Council acts to adopt the *Manistee County Solid Waste Plan of 1999*, dated April 12, 1999, and directs the *Plan* be sent to the County Board of Commissioners for adoption and then to each municipality in Manistee County for adoption; and

THEREFORE the Manistee County Board of Commissioners, of Manistee, Michigan adopts the *Manistee County Solid Waste Plan of 1999*, dated April 12, 1999 and directs the *Plan* be sent to each municipality in Manistee County for adoption.

THEREFORE the Kaleva Village adopts the *Manistee County Solid Waste Plan of 1999*, dated April 12, 1999.

Date: June 24, 1999



Supervisor/President
Kaleva Village Council

STATE OF MICHIGAN)
)
COUNTY OF MANISTEE)ss.
)
KALEVA VILLAGE)

I, Margaret Peterson, Village Clerk, do hereby certify that the foregoing is a true copy of a Resolution adopted by the Kaleva Village Council at its regular monthly meeting held 24th day of June, 1999.



Margaret Peterson, Kaleva Village Clerk

Roll Call Vote

Those voting in favor: Vess, Holtz, R. Schafer and McKinley

Those voting against: None

Those absent or abstaining: Draper, Fitzgerald and Grossnickle
absent.

Resolution declared passed. Yes

Margaret E. Peterson
Village of Kaleva, Clerk

RECEIVED JUN 28 1999

Resolution
To Adopt the *Manistee County Solid Waste Plan* of 1999.

WHEREAS the Manistee County Board of Commissioners formed a 14 member Solid Waste Council (acting as the Planning Committee pursuant to Part 115 of PA 451 of 1994, as amended, (being M.C.L. 324.11501 *et seq.*, the Solid Waste Part of the Michigan Natural Resources and Environmental Protection Act (formerly PA 641 of 1987, as amended, being the Solid Waste Management Act)); and

WHEREAS the Solid Waste Council has met during 1998 and 1999 to review and create the *Manistee County Solid Waste Management Plan* of 1999; and

WHEREAS drafts of the *Solid Waste Plan* have been widely distributed, including but not limited to each municipality in Manistee County, adjacent counties, each public library in the county, the *Manistee News Advocate*, members of the County Board of Commissioners and members of the Manistee County Planning Commission; and

WHEREAS a public comment period has been widely advertised and held during September 14, 1998 to December 14, 1998 and a formal public hearing, pursuant to Part 115 of PA 451 of 1994, as amended, held at 7pm, Monday December 14, 1998; and

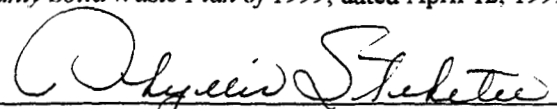
WHEREAS the Solid Waste Council reviewed the public comments received and made changes to the draft of the *Solid Waste Plan*, as appropriate.

THEREFORE the Solid Waste Council acts to adopt the *Manistee County Solid Waste Plan* of 1999, dated April 12, 1999, and directs the *Plan* be sent to the County Board of Commissioners for adoption and then to each municipality in Manistee County for adoption; and

THEREFORE the Manistee County Board of Commissioners, of Manistee, Michigan adopts the *Manistee County Solid Waste Plan* of 1999, dated April 12, 1999 and directs the *Plan* be sent to each municipality in Manistee County for adoption.

THEREFORE the Arcadia Township adopts the *Manistee County Solid Waste Plan* of 1999, dated April 12, 1999.

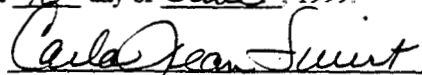
Date: June 10, 1999



William Frederick, Chairperson
Arcadia Township Council
PHYLLIS STIGTBE
ARCADIA TOWNSHIP SUPERVISOR

STATE OF MICHIGAN)
)
COUNTY OF MANISTEE)ss.
)
ARCADIA TOWNSHIP)

I, Carla Jean Sievert, Township Clerk, do hereby certify that the foregoing is a true copy of a Resolution adopted by the Arcadia Township Council at its regular monthly meeting held 10 day of June, 1999.



Carla Jean Sievert, Arcadia Township Clerk

RECEIVED JUN 25 1999

Resolution
To Adopt the *Manistee County Solid Waste Plan* of 1999.

WHEREAS the Manistee County Board of Commissioners formed a 14 member Solid Waste Council (acting as the Planning Committee pursuant to Part 115 of PA 451 of 1994, as amended, (being M.C.L. 324.11501 *et seq.*, the Solid Waste Part of the Michigan Natural Resources and Environmental Protection Act (formerly PA 641 of 1987, as amended, being the Solid Waste Management Act)); and

WHEREAS the Solid Waste Council has met during 1998 and 1999 to review and create the *Manistee County Solid Waste Management Plan* of 1999; and

WHEREAS drafts of the *Solid Waste Plan* have been widely distributed, including but not limited to each municipality in Manistee County, adjacent counties, each public library in the county, the *Manistee News Advocate*, members of the County Board of Commissioners and members of the Manistee County Planning Commission; and

WHEREAS a public comment period has been widely advertised and held during September 14, 1998 to December 14, 1998 and a formal public hearing, pursuant to Part 115 of PA 451 of 1994, as amended, held at 7pm. Monday December 14, 1998; and

WHEREAS the Solid Waste Council reviewed the public comments received and made changes to the draft of the *Solid Waste Plan*, as appropriate.

THEREFORE the Solid Waste Council acts to adopt the *Manistee County Solid Waste Plan* of 1999, dated April 12, 1999, and directs the *Plan* be sent to the County Board of Commissioners for adoption and then to each municipality in Manistee County for adoption; and

THEREFORE the Manistee County Board of Commissioners, of Manistee, Michigan adopts the *Manistee County Solid Waste Plan* of 1999, dated April 12, 1999 and directs the *Plan* be sent to each municipality in Manistee County for adoption.

THEREFORE the Bear Lake Township adopts the *Manistee County Solid Waste Plan* of 1999, dated April 12, 1999.

Date: 5/27/99

Lester K. Smith
~~Township Chairman~~
Bear Lake Township Council
Lester K. Smith, Supervisor

STATE OF MICHIGAN)
)
COUNTY OF MANISTEE)ss.
)
BEAR LAKE TOWNSHIP)

I, Dorothy Nystrom, Township Clerk, do hereby certify that the foregoing is a true copy of a Resolution adopted by the Bear Lake Township Council at its regular monthly meeting held _____ day of _____, 1999.

Dorothy Nystrom
Dorothy Nystrom, Bear Lake Township Clerk

RECEIVED JUN 2 1 1999

Resolution
To Adopt the *Manistee County Solid Waste Plan* of 1999

WHEREAS the Manistee County Board of Commissioners formed a 14 member Solid Waste Council (acting as the Planning Committee pursuant to Part 115 of PA 451 of 1994, as amended, (being M.C.L. 324.11501 *et seq.*, the Solid Waste Part of the Michigan Natural Resources and Environmental Protection Act (formerly PA 641 of 1987, as amended, being the Solid Waste Management Act))); and

WHEREAS the Solid Waste Council has met during 1998 and 1999 to review and create the *Manistee County Solid Waste Management Plan* of 1999; and

WHEREAS drafts of the *Solid Waste Plan* have been widely distributed, including but not limited to each municipality in Manistee County, adjacent counties, each public library in the county, the *Manistee News Advocate*, members of the County Board of Commissioners and members of the Manistee County Planning Commission; and

WHEREAS a public comment period has been widely advertised and held during September 14, 1998 to December 14, 1998 and a formal public hearing, pursuant to Part 115 of PA 451 of 1994, as amended, held at 7pm. Monday December 14, 1998; and

WHEREAS the Solid Waste Council reviewed the public comments received and made changes to the draft of the *Solid Waste Plan*, as appropriate.

THEREFORE the Solid Waste Council acts to adopt the *Manistee County Solid Waste Plan* of 1999, dated April 12, 1999, and directs the *Plan* be sent to the County Board of Commissioners for adoption and then to each municipality in Manistee County for adoption; and

THEREFORE the Manistee County Board of Commissioners, of Manistee, Michigan adopts the *Manistee County Solid Waste Plan* of 1999, dated April 12, 1999 and directs the *Plan* be sent to each municipality in Manistee County for adoption.

THEREFORE the Pleasanton Township adopts the *Manistee County Solid Waste Plan* of 1999, dated April 12, 1999.

Date: 6-14-99

Fred Alkire
Fred Alkire, Supervisor
Pleasanton Township

STATE OF MICHIGAN)
)
COUNTY OF MANISTEE)ss.
)
PLEASANTON TOWNSHIP)

I, Christie Niesen, Township Clerk, do hereby certify that the foregoing is a true copy of a Resolution adopted by the Pleasanton Township Board at its regular monthly meeting held 14th day of June, 1999.

Christie Niesen
Christie Niesen, Pleasanton Township Clerk

Resolution
To Adopt the *Manistee County Solid Waste Plan* of 1999.

WHEREAS the Manistee County Board of Commissioners formed a 14 member Solid Waste Council (acting as the Planning Committee pursuant to Part 115 of PA 451 of 1994, as amended, (being M.C.L. 324.11501 *et seq.*, the Solid Waste Part of the Michigan Natural Resources and Environmental Protection Act (formerly PA 641 of 1987, as amended, being the Solid Waste Management Act)); and

WHEREAS the Solid Waste Council has met during 1998 and 1999 to review and create the *Manistee County Solid Waste Management Plan* of 1999; and

WHEREAS drafts of the *Solid Waste Plan* have been widely distributed, including but not limited to each municipality in Manistee County, adjacent counties, each public library in the county, the *Manistee News Advocate*, members of the County Board of Commissioners and members of the Manistee County Planning Commission; and

WHEREAS a public comment period has been widely advertised and held during September 14, 1998 to December 14, 1998 and a formal public hearing, pursuant to Part 115 of PA 451 of 1994, as amended, held at 7pm, Monday December 14, 1998; and

WHEREAS the Solid Waste Council reviewed the public comments received and made changes to the draft of the *Solid Waste Plan*, as appropriate.

THEREFORE the Solid Waste Council acts to adopt the *Manistee County Solid Waste Plan* of 1999, dated April 12, 1999, and directs the *Plan* be sent to the County Board of Commissioners for adoption and then to each municipality in Manistee County for adoption; and

THEREFORE the Manistee County Board of Commissioners, of Manistee, Michigan adopts the *Manistee County Solid Waste Plan* of 1999, dated April 12, 1999 and directs the *Plan* be sent to each municipality in Manistee County for adoption.

THEREFORE the Brown Township adopts the *Manistee County Solid Waste Plan* of 1999, dated April 12, 1999.

Date: 6/16/1999

Jeff Rose
~~Donovan Hayes, Chairperson~~ Jeff Rose, Supervisor
Brown Township Council Board

STATE OF MICHIGAN)
)
COUNTY OF MANISTEE)ss.
)
BROWN TOWNSHIP)

I, Pamela Tompke, Township Clerk, do hereby certify that the foregoing is a true copy of a Resolution adopted by the Brown Township Council at its regular monthly meeting held 16th day of June, 1999.

Board

Pamela Tompke
Pamela Tompke, Brown Township Clerk

Call Vote:
Rose - Yes Peters - Yes
Goodrich - Yes Joseph - Yes
Tompke - Yes

RECEIVED JUN 15 1999

Resolution
To Adopt the *Manistee County Solid Waste Plan of 1999*

WHEREAS the Manistee County Board of Commissioners formed a 14 member Solid Waste Council (acting as the Planning Committee pursuant to Part 115 of PA 451 of 1994, as amended, (being M.C.L. 324.11501 *et seq.*, the Solid Waste Part of the Michigan Natural Resources and Environmental Protection Act (formerly PA 641 of 1987, as amended, being the Solid Waste Management Act))); and

WHEREAS the Solid Waste Council has met during 1998 and 1999 to review and create the *Manistee County Solid Waste Management Plan of 1999*; and

WHEREAS drafts of the *Solid Waste Plan* have been widely distributed, including but not limited to each municipality in Manistee County, adjacent counties, each public library in the county, the *Manistee News Advocate*, members of the County Board of Commissioners and members of the Manistee County Planning Commission; and

WHEREAS a public comment period has been widely advertised and held during September 14, 1998 to December 14, 1998 and a formal public hearing, pursuant to Part 115 of PA 451 of 1994, as amended, held at 7pm, Monday December 14, 1998; and

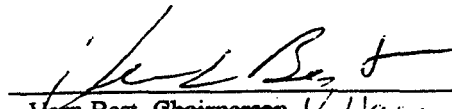
WHEREAS the Solid Waste Council reviewed the public comments received and made changes to the draft of the *Solid Waste Plan*, as appropriate.

THEREFORE the Solid Waste Council acts to adopt the *Manistee County Solid Waste Plan of 1999*, dated April 12, 1999, and directs the *Plan* be sent to the County Board of Commissioners for adoption and then to each municipality in Manistee County for adoption; and

THEREFORE the Manistee County Board of Commissioners, of Manistee, Michigan adopts the *Manistee County Solid Waste Plan of 1999*, dated April 12, 1999 and directs the *Plan* be sent to each municipality in Manistee County for adoption.

THEREFORE the Bear Lake Village adopts the *Manistee County Solid Waste Plan of 1999*, dated April 12, 1999.

Date: 6/9/99


Vern Best, ~~Chairperson~~ Village President
Bear Lake Village Council

STATE OF MICHIGAN)
)
COUNTY OF MANISTEE)ss.
)
BEAR LAKE VILLAGE)

I, Joanne Schroeder, Village Clerk, do hereby certify that the foregoing is a true copy of a Resolution adopted by the Bear Lake Village Council at its regular monthly meeting held 9th day of June, 1999.


Joanne Schroeder, Bear Lake Village Clerk

RECEIVED JUN 15 1999

Resolution
To Adopt the *Manistee County Solid Waste Plan* of 1999.

WHEREAS the Manistee County Board of Commissioners formed a 14 member Solid Waste Council (acting as the Planning Committee pursuant to Part 115 of PA 451 of 1994, as amended, (being M.C.L. 324.11501 *et seq.*, the Solid Waste Part of the Michigan Natural Resources and Environmental Protection Act (formerly PA 641 of 1987, as amended, being the Solid Waste Management Act))); and

WHEREAS the Solid Waste Council has met during 1998 and 1999 to review and create the *Manistee County Solid Waste Management Plan* of 1999; and

WHEREAS drafts of the *Solid Waste Plan* have been widely distributed, including but not limited to each municipality in Manistee County, adjacent counties, each public library in the county, the *Manistee News Advocate*, members of the County Board of Commissioners and members of the Manistee County Planning Commission; and

WHEREAS a public comment period has been widely advertised and held during September 14, 1998 to December 14, 1998 and a formal public hearing, pursuant to Part 115 of PA 451 of 1994, as amended, held at 7pm. Monday December 14, 1998; and

WHEREAS the Solid Waste Council reviewed the public comments received and made changes to the draft of the *Solid Waste Plan*, as appropriate.

THEREFORE the Solid Waste Council acts to adopt the *Manistee County Solid Waste Plan* of 1999, dated April 12, 1999, and directs the *Plan* be sent to the County Board of Commissioners for adoption and then to each municipality in Manistee County for adoption; and

THEREFORE the Manistee County Board of Commissioners, of Manistee, Michigan adopts the *Manistee County Solid Waste Plan* of 1999, dated April 12, 1999 and directs the *Plan* be sent to each municipality in Manistee County for adoption.

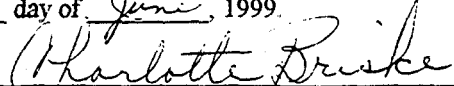
THEREFORE the Eastlake Village adopts the *Manistee County Solid Waste Plan* of 1999, dated April 12, 1999.

Date: 6-9-99


Donald Mc Intyre, Chairperson
Eastlake Village Council

STATE OF MICHIGAN)
)
COUNTY OF MANISTEE)ss.
)
EASTLAKE VILLAGE)

I, Charlotte Briske, Village Clerk, do hereby certify that the foregoing is a true copy of a Resolution adopted by the Eastlake Village Council at its regular monthly meeting held 9th day of June, 1999.


Charlotte Briske, Eastlake Village Clerk

Resolution
To Adopt the *Manistee County Solid Waste Plan* of 1999.

WHEREAS the Manistee County Board of Commissioners formed a 14 member Solid Waste Council (acting as the Planning Committee pursuant to Part 115 of PA 451 of 1994, as amended, (being M.C.L. 324.11501 *et seq.*, the Solid Waste Part of the Michigan Natural Resources and Environmental Protection Act (formerly PA 641 of 1987, as amended, being the Solid Waste Management Act))); and

WHEREAS the Solid Waste Council has met during 1998 and 1999 to review and create the *Manistee County Solid Waste Management Plan* of 1999; and

WHEREAS drafts of the *Solid Waste Plan* have been widely distributed, including but not limited to each municipality in Manistee County, adjacent counties, each public library in the county, the *Manistee News Advocate*, members of the County Board of Commissioners and members of the Manistee County Planning Commission; and

WHEREAS a public comment period has been widely advertised and held during September 14, 1998 to December 14, 1998 and a formal public hearing, pursuant to Part 115 of PA 451 of 1994, as amended, held at 7pm, Monday December 14, 1998; and

WHEREAS the Solid Waste Council reviewed the public comments received and made changes to the draft of the *Solid Waste Plan*, as appropriate.

THEREFORE the Solid Waste Council acts to adopt the *Manistee County Solid Waste Plan* of 1999, dated April 12, 1999, and directs the *Plan* be sent to the County Board of Commissioners for adoption and then to each municipality in Manistee County for adoption; and

THEREFORE the Manistee County Board of Commissioners, of Manistee, Michigan adopts the *Manistee County Solid Waste Plan* of 1999, dated April 12, 1999 and directs the *Plan* be sent to each municipality in Manistee County for adoption.

THEREFORE the Marilla Township adopts the *Manistee County Solid Waste Plan* of 1999, dated April 12, 1999.

Date: 6/10/99

Patty Labadie, Chairperson
Marilla Township Council

STATE OF MICHIGAN)
)
COUNTY OF MANISTEE)ss.
)
MARILLA TOWNSHIP)

I, Margaret Ribicki, Township Clerk, do hereby certify that the foregoing is a true copy of a Resolution adopted by the Marilla Township Council at its regular monthly meeting held 10 day of JUNE, 1999.

Margaret Rybicki
Margaret Rybicki, Marilla Township Clerk

MANISTEE COUNTY SOLID WASTE PLAN OF 1999: Motion by Garwood, second by Miller to adopt Resolution 99-7.

RESOLUTION 99-7

RECEIVED JUN 9 1999

WHEREAS the Manistee County Board of Commissioners formed a 14 member Solid Waste Council (acting as the Planning Committee pursuant to Part 115 of PA 451 of 1994, as amended, (being M.C.L. 324.1150 et. seq., the Solid Waste Part of the Michigan Natural Resources and Environmental Protection Act (formerly PA 641 of 1987, as amended, being the Solid Waste Management Act); and

WHEREAS the Solid Waste Council has met during 1998 and 1999 to review and create the Manistee County Solid Waste Management Plan of 1999; and

WHEREAS drafts of the Solid Waste Plan have been widely distributed, including but not limited to each municipality in Manistee County, adjacent counties, each public library in the county, the Manistee News Advocate, members of the County Board of Commissioners and members of the Manistee County Planning Commission; and

WHEREAS a public comment period has been widely advertised and held during September 14, 1998 to December 14, 1998 and a formal public hearing, pursuant to Part 115 of PA 451 of 1994, as amended, held at 7 p.m., Monday, December 14, 1998; and

WHEREAS the Solid Waste Council reviewed the public comments received and made changes to the draft of the Solid Waste plan, as appropriate.

THEREFORE the Solid Waste Council acts to adopt the Manistee County Solid Waste Plan of 1999, dated April 12, 1999, and directs the Plan to be sent to the County Board of Commissioners for adoption and then to each municipality in Manistee County for adoption; and

THEREFORE the Manistee County Board of Commissioners, of Manistee, Michigan adopts the Manistee County Solid Waste Plan of 1999, dated April 12, 1999 and directs the Plan be sent to each municipality in Manistee County for adoption.

THEREFORE the Onekama Township Board adopts the Manistee County Solid Waste Plan of 1999, dated April 12, 1999.


ROLL CALL VOTE:

Yeas: Harold Sorenson, Tina Garwood, Blanche Miller, Helen Mathieu, David Meister.

Nays: None.

Absent: None.

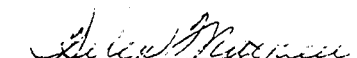
Date: June 1, 1999



Helen Mathieu
Onekama Township Clerk

STATE OF MICHIGAN
COUNTY OF MANISTEE
ONEKAMA TOWNSHIP

I, Helen Mathieu, Township Clerk, do hereby certify that the foregoing is a true copy of a Resolution adopted by the Onekama Township Board at its regular monthly meeting held the 1st day of June, 1999.



Helen Mathieu, Onekama Township Clerk

Resolution

To Adopt the Manistee County Solid Waste Plan of 1999

WHEREAS the Manistee County Board of Commissioners formed a 14-member Solid Waste Council (acting as the Planning Committee pursuant to Part 115 of PA 451 of 1994, as amended, (being M.C.L. 324.11501 et.seq., the Solid Waste Part of the Michigan Natural Resources and Environmental Protection Act (formerly PA 641 of 1987, as amended, being the Solid Waste Management Act))); and

WHEREAS the Solid Waste Council has met during 1998 and 1999 to review and create the Manistee County Solid Waste Management Plan of 1999; and

WHEREAS drafts of the Solid Waste Plan have been widely distributed, including but not limited to each municipality in Manistee County, adjacent counties, each public library in the county, the Manistee News Advocate, members of the County Board of Commissioners and members of the Manistee County Planning Commission; and

WHEREAS a public comment period has been widely advertised and held during September 14, 1998 to December 14, 1998 and a formal public hearing, pursuant to Part 115 of PA 451 of 1994, as amended, held at 7 pm Monday, December 14, 1998; and

WHEREAS the Solid Waste Council reviewed the public comments and received and made changes to the draft of the Solid Waste Plan, as appropriate.

THEREFORE the Solid Waste Council acts to adopt the Manistee County Solid Waste Plan of 1999, dated April 12, 1999, and directs the Plan be sent to the County Board of Commissioners for adoption and then to each municipality in Manistee County for adoption; and

THEREFORE the Manistee County Board of Commissioners of Manistee, Michigan adopts the Manistee County Solid Waste Plan of 1999, dated April 12, 1999 and directs the plan be sent to each municipality in Manistee County for adoption.

THEREFORE the Maple Grove Township Board adopts the Manistee County Solid Waste Plan of 1999, dated April 12, 1999.

Date: 5/20/99

H. Wayne Beldo
H. Wayne Beldo, Supervisor
Maple Grove Township Board

STATE OF MICHIGAN)
)
COUNTY OF MANISTEE)ss.
)
MAPLE GROVE TOWNSHIP)

I, Catherine Larsen, Maple Grove Township Clerk, do hereby certify that the foregoing is a true copy of a Resolution adopted by the Maple Grove Township Board at its regular meeting held the 19th day of May, 1999.

Catherine Larsen
Catherine Larsen,
Maple Grove Township Clerk



Manistee County Courthouse • 415 Third Street • Manistee, Michigan 49660

PLANNING DEPARTMENT
(616) 723-6041
FAX: (616) 723-1718
plan@multi.org

December 29, 1998

RECEIVED JAN 08 1999

Mr. Todd Harland
Manistee County Landfill, Inc.
3890 Camp Road
Manistee, Michigan 49660

Dear Mr. Harland:

Manistee County is updating the Manistee County *Solid Waste Plan*. In this *Plan* the DEQ requires letters from all landfills listed in the *Plan* to provide a letter of available capacity and the landfill's willingness to service Manistee County's solid waste disposal needs. The following statement would be adequate to meet the DEQ requirements:

The Manistee County Landfill, Inc. currently has 14,75 capacity and is willing to service Manistee County's solid waste disposal needs

Thank you for your time and efforts in this matter.

Sincerely,

Christy Lee Maitland, Assistant Planner
Manistee County Planning Department

CLM



Manistee County Courthouse • 415 Third Street • Manistee, Michigan 49660

PLANNING DEPARTMENT
(616) 723-6041
FAX (616) 723-1718
plan@manistee.org

December 29, 1998

RECEIVED JAN 06 1999

Manager
Glen's Sanitary Landfill
518 M-72
Maple City, Michigan 49664

To: Manager of Glen's Sanitary Landfill

Manistee County is up dating the Manistee County *Solid Waste Plan*. In this *Plan* the DEQ requires letters from all landfills listed in the *Plan* to provide a letter of available capacity and the landfill's willingness to service Manistee County's solid waste disposal needs. The Manistee County *Solid Waste Plan* list Glen's landfill as an emergency back-up only. The following statement would be adequate to meet the DEQ requirements:

Glen's Sanitary Landfill currently has ^{*}10 years capacity and is willing to service Manistee County's solid waste disposal needs for as an emergency back-up site

Thank you for your time and efforts in this matter

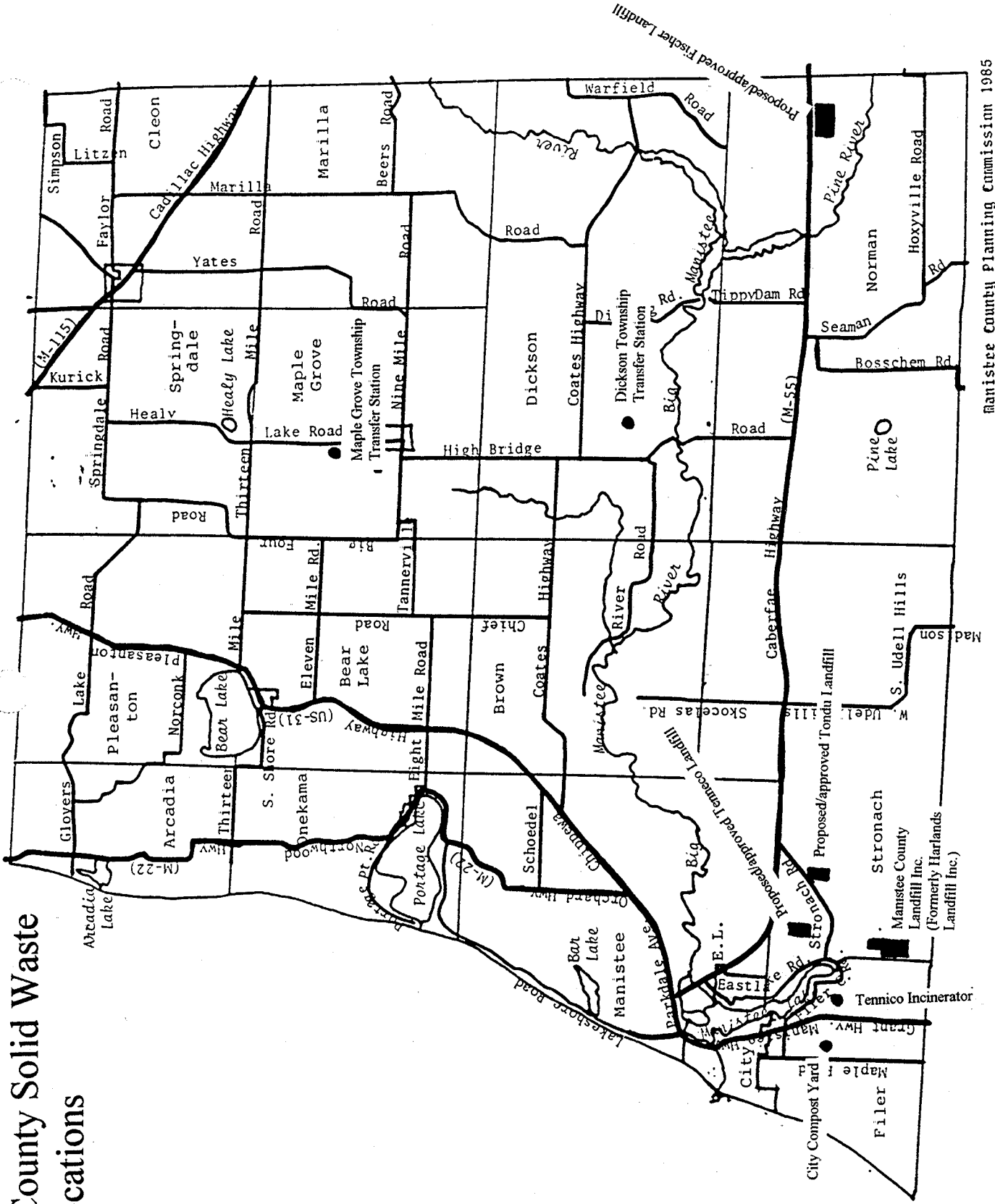
Sincerely,

Christy Lee Maitland, Assistant Planner
Manistee County Planning Department

CLM

* per "Plan format" section 2-3 "Listed capacity."

Manistee County Solid Waste Facility Locations

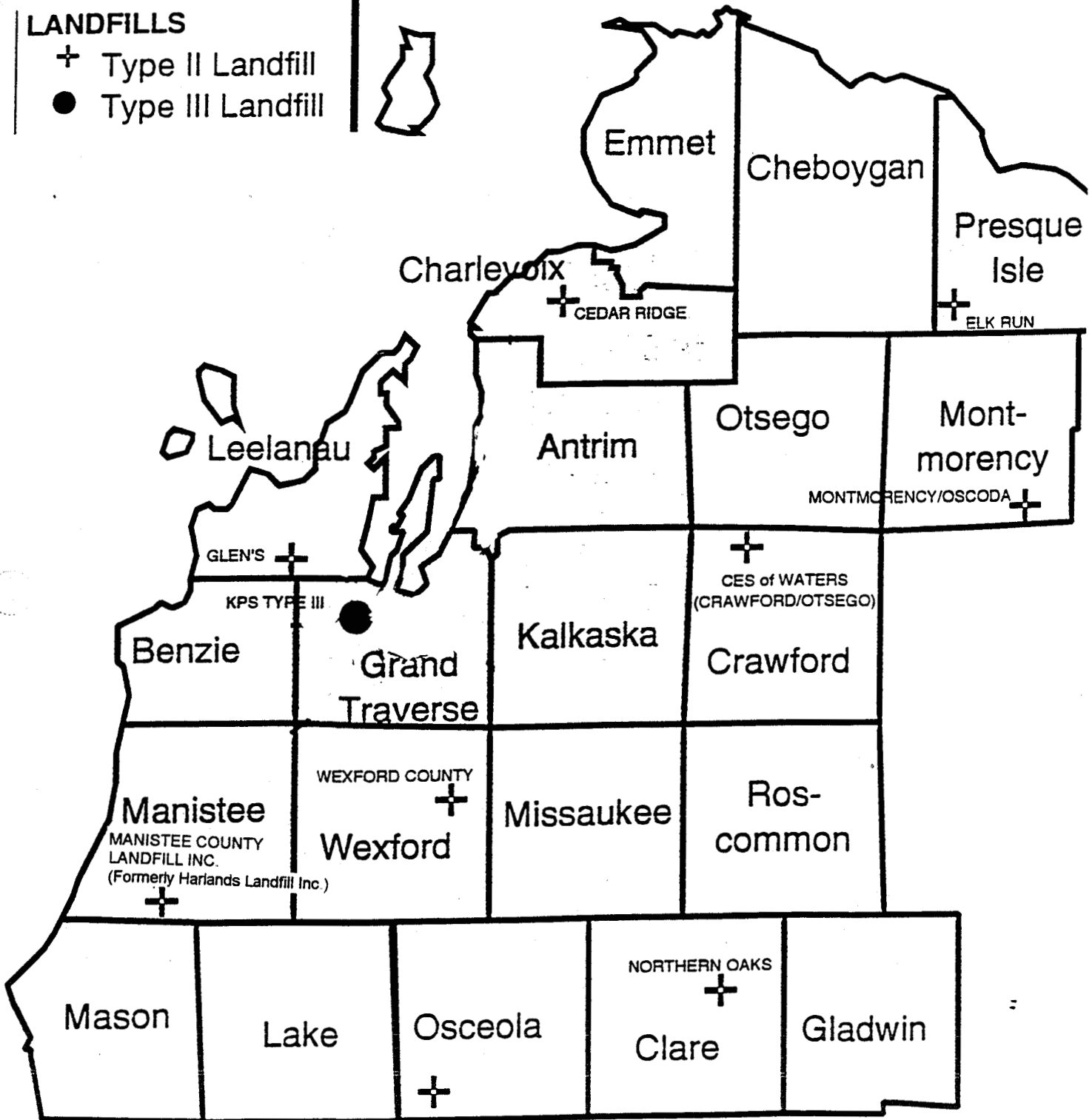


Manistee County Planning Commission 1985

DISPOSAL IN NWMCOG REGION

LANDFILLS

- + Type II Landfill
- Type III Landfill



Inter-County Agreements

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

The following are the two standard forms for reciprocal agreements that Manistee County will be using to negotiate with other counties.

MANISTEE AND _ COUNTIES
MEMORANDUM OF UNDERSTANDING FOR A
RECIPROCAL AGREEMENT ON SOLID WASTE
FOR DAY-TO-DAY FLOW OF SOLID WASTE

Both Manistee County and _ County are responsible for the collection and disposal of their own respective solid waste, and both are Michigan counties subject to the regulations and planning requirements of part 115 of P.A. 451 of 1994, as amended, being the Solid Waste Management Part of the Michigan Natural Resources and Environmental Protection Act, M.C.L. 324 11501 *et seq.* (formerly P.A. 641 of 1978, as amended, (M.C.L. 299 401 *et seq.*, the Solid Waste Management Act)), hereafter the "Act".

The Act, and administrative rules promulgated pursuant to the Act, requires both the receiving and sending county's solid waste management plan include statements as to where solid waste will be sent to and/or received from, before wastes can be transported between counties.

The *Manistee County Solid Waste Plan* of 1998 9, page _ provides for a mechanism to enter into reciprocal agreements such as this one:

The _ *County Solid Waste Plan* of 1998 9, page _ provides for a mechanism to enter into reciprocal agreements such as this one:

- A. Manistee County will agree to accept solid waste from _ County, for primary day-to-day and/or standby backup disposal in solid waste facilities in Manistee County so long as:
 - 1. The solid waste facility(ies) is(are) open to the public; and
 - 2. Users are not to be subject to discrimination in service or tipping fee published price structure (which can include volume discount and special handling)
- B. _ County will agree to accept solid waste from Manistee County for primary day-to-day and/or standby backup disposal in solid waste facilities in _ County so long as:
 - 1. The solid waste facility(ies) is(are) open to the public; and
 - 2. Users are not to be subject to discrimination in service or tipping fee published price structure (which can include volume discount and special handling)
- C. _ County may negotiate with Manistee County Landfill, Inc., (owned by Allied Waste Systems, Inc.) for certain capacity guarantee, so long as the result of the negotiation does not reduce the available disposal capacity for Manistee County (excluding solid waste from Tondu Energy Systems, Inc. (40,000 tons per year) and PCA (58,000 to 127,200 tons per year)) below 25,000 tons per year at the current plan approved Manistee County Landfill, Inc., until year 2086.

This agreement may be terminated by either county upon receipt of a mutually agreeable notice adequate to provide time for another method of primary (permanent) disposal and/or standby disposal. If adequate notice is not mutually agreed to, then adequate notice shall be two years.

Both counties agree to assume their own and separate liability, and assume financial responsibility for payment of any damages, fines, etc., at their own cost, as would exist if this agreement had never been entered into.

FOR MANISTEE COUNTY

FOR _ COUNTY

Mrs. Sharlene Wild, chair
Manistee County Board of
Commissioners

Mr
_ County Board of
Commissioners

Mrs. Marilyn Kliber, County Clerk
Date: _____

Mr _ County Clerk
Date: _____

April 30, 1999

MANISTEE AND _ COUNTIES
MEMORANDUM OF UNDERSTANDING FOR A
RECIPROCAL AGREEMENT ON SOLID WASTE
FOR EMERGENCY BACKUP DISPOSAL OF SOLID WASTE

Both Manistee County and _ County are responsible for the collection and disposal of their own respective solid waste, and both are Michigan counties subject to the regulations and planning requirements of part 115 of P.A. 451 of 1994, as amended, being the Solid Waste Management Part of the Michigan Natural Resources and Environmental Protection Act, M.C.L. 324.11501 *et seq.* (formerly P.A. 641 of 1978, as amended, (M.C.L. 299.401 *et seq.*, the Solid Waste Management Act)), hereafter the "Act".

The Act, and administrative rules promulgated pursuant to the Act, require both the receiving and sending county's solid waste management plan shall include statements as to where solid waste will be sent to and/or received from, before wastes can be transported between counties.

Both counties have solid waste facilities which, at the time of signing this agreement, are providing adequate capacity to each respective county for disposal of that county's solid waste for the solid waste planning period. However it is recognized there are events beyond the control of both counties which may result in the need for emergency, or temporary flow of solid waste between both counties.

The *Manistee County Solid Waste Plan* of 1998/9, page _ provides for a mechanism to enter into reciprocal agreements such as this one.

The _ *County Solid Waste Plan* of 1998/9, page _ provides for a mechanism to enter into reciprocal agreements such as this one.

A. Manistee County will agree to accept solid waste from _ County, for temporary emergency backup disposal in solid waste facilities in Manistee County subject to the following conditions so long as:

1. The solid waste facility(ies) is(are) open to the public; and
2. Users are not to be subject to discrimination in service or tipping fee published price structure (which can include volume discount and special handling); and
3. All of _ County's waste shall not be diverted to Manistee County in an emergency — to avoid the full impact that may have. This shall be done by _ County having similar agreements with other counties. No more than 33% of _ County's solid waste shall be diverted to Manistee County; and
4. _ County notifies, in writing, the Manistee County designated Solid Waste Planning Agency before solid waste is diverted to Manistee County.

Intent is also to accommodate situations where large volumes of solid waste can not be accepted because it can not be properly handled at a landfill. "Not properly handled" is intended to be determined by the landfill operator. There are some types of solid waste -- in large quantities -- which are of such composition the landfill's leachate is changed and as a result can not be properly treated, or accepted where leachate is disposed of. In such case this agreement allows for a one time diversion of the solid waste upon _ County notifying, in writing, the Manistee County designated Solid Waste Planning Agency before solid waste is diverted to Manistee County.

B. _ County will agree to accept solid waste from Manistee County, for temporary emergency backup disposal in solid waste facilities in Manistee County subject to the following conditions so long as:

1. The solid waste facility(ies) is(are) open to the public; and
2. Users are not to be subject to discrimination in service or tipping fee published price structure (which can include volume discount and special handling); and
3. All of Manistee County's waste shall not be diverted to _ County in an emergency — to avoid the full impact that may have. This shall be done by Manistee County having similar agreements with other counties. No more than 33% of Manistee County's solid waste would be diverted to _ County; and
4. Manistee County notifies, in writing, the _ County designated Solid Waste Planning Agency before solid waste is diverted to _ County.

Intent is also to accommodate situations where large volumes of solid waste can not be accepted because it can not be properly handled at a landfill. "Not properly handled" is intended to be determined by the landfill operator. There are some types of solid waste -- in large quantities -- which are of such composition the landfill's leachate is changed and as a result shall not be properly treated, or accepted where leachate is disposed of. In such case this agreement allows for a one time diversion of the solid waste notifying, in writing, the _ County designated Solid Waste Planning Agency before solid waste is diverted to _ County.

This agreement may be terminated by either county upon receipt of a mutually agreeable notice adequate to provide time for another method of primary (permanent) disposal and/or standby disposal. If adequate notice is not mutually agreed to, then adequate notice shall be two years.

Both counties agree to assume their own and separate liability, and assume financial responsibility for payment of any damages, fines, etc., at their own cost, as would exist if this agreement had never been entered into.

FOR MANISTEE COUNTY

FOR _ COUNTY

Mrs. Sharlene Wild, chair
Manistee County Board of
Commissioners

Mr _____
_ County Board of
Commissioners

Mrs. Marilyn Kliber, County Clerk

Mr ___, County Clerk

Date: _____

Date: _____

Special Conditions

Special conditions affecting import or export of solid waste

THIS Plan's intent is to have two types of agreements with other counties for import and export of solid waste. These agreements are expressed in Chapter C1 Import/Export Authorizations, page 59, 69. First is a "day-to-day reciprocal agreement". The purpose is to provide economic viability, in terms of volume of business, for a private enterprise-operated landfill in Manistee County. The purpose is also to seek better tipping fee costs, by economies of scale at the landfill. The purpose is also to extend a good neighbor policy with adjacent counties with the expectation that will be reciprocated, and may result in joint solid waste management efforts (recycling, shared composting equipment, etc.)

The Solid Waste Council, under special conditions, will also consider possible day-to-day conditional reciprocal agreements to be created with other counties in the northwest Michigan ten county region (Leelanau, Kalkaska, Antrim, Charlevoix and Emmet). The day-to-day conditional reciprocal agreement's purpose is to provide a system to attempt to counter a monopoly-like situation with only two corporations owning all the private landfills. The purpose is also to accommodate regional cooperation between counties.

Second is a "emergency back-up agreement". The purpose is to provide Manistee County with alternative solid waste facilities for Manistee County waste to be taken to should solid waste facilities in Manistee County be closed (strike, DEQ-ordered closure, closure by action of the facility's owner). It is understood such agreements will not be entered into by another county, unless Manistee County is also agreeing to be that county's backup, thus these agreements are reciprocal in nature also. Further the agreement should seek to avoid all of another county's waste coming to Manistee in an emergency — to avoid the full impact that may have — by having agreements with several counties and the intent for a part of the waste to go Manistee and other county(ies). The visa-versa of this would also be expected.

This Plan's intent is also to accommodate situations where large volumes of solid waste can not be accepted at a landfill doing business in Manistee County. "Not properly handled" is intended to be determined by the landfill operator. There are some types of solid waste -- in large quantities -- which effects the composition of the landfill's leachate and results in a leachate that can not be properly treated, or accepted where leachate is disposed of. Examples in Manistee's case are excessive amounts of chlorides and salt. When this happens this Plan's intent is that the solid waste can then be taken to any other northern lower Michigan peninsula county.

The following policy shall be used to guide import/export authorization with other counties:

1. Cancel all existing import/export reciprocal agreements with other counties that Manistee County has entered into.
2. This Plan authorizes two types of agreements with other counties.
 - 1A. First a day-to-day reciprocal agreement with adjacent counties, if the other county Solid Waste Plan also authorizes such action. Those counties are Benzie, Grand Traverse, Wexford, Lake and Mason counties.
 - Terms of the agreement shall include:
 - a. The solid waste facility/county agree to not discriminate in service or tipping fee price structure.
 - 1B. A possible day-to-day conditional reciprocal agreement with other counties in the northwest Michigan ten county region if the other county's Solid Waste Plan also authorizes such action. Those counties are: Leelanau, Missaukee, Kalkaska, Antrim, Charlevoix, and Emmet.
 - Terms of the agreement shall include but not limited too:
 - a. The solid waste facility/county agree to not discriminate in service or tipping fee price structure.
 - The conditional Reciprocal agreement is specifically approved by the Manistee County Solid Waste Council.
2. Second an emergency backup agreement with any northern lower peninsula county, if the other county Solid Waste Plan also authorizes such action and if at the time of signing that county has a solid waste facility in operation, or likely to be in operation which Manistee County could utilize. Those counties are Emmet, Cheboygan, Presque Isle, Charlevoix, Antrim, Otsego, Montmorency, Alpena, Leelanau, Benzie, Grand Traverse, Kalkaska, Crawford, Oscoda, Alcona, Wexford, Missaukee, Roscommon, Ogemaw, Iosco, Mason, Lake, Osceola, Clare, Gladwin, and Arenac.
 - Terms of the agreement shall include:
 - a. The other county agrees to allow part of Manistee County solid wastes to be sent to their county should facilities in Manistee cease to operate, if and when that county has a solid waste disposal facility. "part of" means the total waste generated by Manistee County, divided by the number of agreements Manistee County has with other counties, so some of the waste — not all of it — is sent to a given landfill.
 - b. Manistee County agrees to allow part of the other county's solid wastes to be sent to Manistee county should facilities in the other county cease to operate, if Manistee County has a solid waste disposal facility. "Part of" means the total waste generated by other county, divided by the number of agreements the other county has with third party counties, so some of the waste — not all of it — is sent to a solid waste facility in Manistee County.
 - i. The solid waste facility/county agree to not discriminate in service or tipping fee price structure.

3. Landfill(s) doing business in Manistee County are obligated³⁷ to accept solid wastes from Manistee County and may accept solid wastes from other counties which have day-to-day reciprocal agreements and emergency backup agreements with Manistee County. However in the event there is a large quantity of material for disposal at landfill(s) doing business in Manistee County which can not be properly handled as determined by the landfill operator, then that waste can be sent to another landfill in the northern part of lower peninsula of Michigan. For these unique and infrequent occurrences, this paragraph of this *Plan* is intended to be this county's explicit authorization (Authorization will still be needed from the importing county) Inability to properly handle means the waste is of such a nature that the composition of the landfill's leachate is changed and as a result could not be properly treated, or accepted where leachate is disposed of.
4. This policy, concerning which county's agreements are entered into may be waived by the Solid Waste Council by action after due consideration at a Solid Waste Council meeting(s), if such waiver is in the best interests of the county. Such action shall be in the form of action to rescind, or refuse to enter a reciprocal agreement with the other county.

The Manistee County Planning Commission, the designated Manistee County Solid Waste Planning Agency, shall be authorized to enter into day-to-day reciprocal agreements with adjacent counties and emergency back-up agreements on behalf of Manistee County (but not the possible day-to-day conditional reciprocal agreements). The Planning Commission shall not have discretion in doing so. If the other county meets the terms and conditions spelled out in this *Plan* for import/export authorization then the Planning Commission shall enter into the agreement with the other county.

Any existing agreements, any future agreements, and actions to rescind agreements, shall be forwarded to the DEQ within 30 days of being executed by the two counties and shall be attached to this *Plan*.

³⁷ The landfills in Manistee County, pursuant to conditions of approval for those facilities to operate and be sited in Manistee County, are obligated to accept wastes from Manistee County sources. This condition may or may not exist for future facilities located in Manistee County, through it is the intent of this plan to require accepting wastes from Manistee County sources

Appendix E6: Solid Waste Facility Siting Criteria

Attachment to Plan Siting Mechanism

Minimum Primary Siting Criteria

MINIMUM Primary Siting Criteria are considered minimum standards that any proposed facility must meet under the conditions described in Section A, Facilities Included in this Plan, as part of the Authorized Disposal Area Types in the Plan's Siting Review Procedures. Each criterion listed below must be answered in the affirmative in order for a facility to fulfill the Minimum Primary Siting Criteria requirements. Detailed descriptions of each criteria follow the yes/no checklist below.

MINIMUM PRIMARY 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 DEQ 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

MINIMUM PRIMARY SITING CRITERIA DETAILED DESCRIPTIONS

- C. 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, or all-season road which connects to a paved county primary road or state trunkline.
- D. 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.*) or other wetland ordinance (map included in Attachments to Plan).
- 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 of NREPA).

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- 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 site and respective parcel(s) 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 in existence on the date the disposal area application was found complete, as long as that well was drilled by a licensed well driller and a well log is filed with the Geological Survey Division of the DEQ and district Health Department or that well was in existence prior to the requirements for well permit.
- 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:
1. Snowmobile and all terrain vehicle trails which are marked and signed and receive care, grooming with public funds (map included in Attachments to Plan);
 2. Horse, bicycle, hiking and ski trails which are marked and signed and receive care, grooming with public funds (map included in Attachments to Plan);
 3. Abandoned rail road right-of-ways when owned by a railroad company or a public agency (map included in Attachments to Plan);
 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; and
 7. 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 part of NREPA as amended.
- 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 parts of 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 NREPA, M.C.L. 324.51101 *et. seq.*).
- P. No part of the site and respective parcel(s) is located less than one mile from the boundary edge of certain recreation lands:
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 corridor boundary;
 5. State designated natural river's water's edge; and
 6. The parcel boundary of arboretums, sanctuaries established under statute.
- 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 legally declaring to the County that they will abide by and remain in compliance with these requirements at all times. Submittal of this statement is all that is required to meet this criteria.
- S. For facilities which are landfill disposal areas or landfill disposal area expansions, 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.
- 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, and
 - ii: Not be sloped greater than one (1) unit vertical for each of the same two (2) units horizontal
 - 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.

For facilities which are not landfill disposal areas, 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:
 - i: Shall not be occupied by any structure, storage of equipment, materials, operations, or be similarly activities;
 - ii: Shall consist of the following for any side of the parcel that is adjacent to a industrial or commercial zoned area:
 - a buffer area setback of fifty (50) feet, or
 - a berm four (4) feet, or more high not sloped greater than (1) vertical for each of the same two units horizontal, or
 - a solid wall four (4) feet, or more, in height, or
 - a proportionately adjusted combination of the above.
 - 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.
- I. An analysis has been submitted that defines the public services which are required by the solid waste disposal area, that inventories existing public services (fire protection, sewer, water, sanitation, County emergency services/response, and utilities including gas, electric, telephone) available at the site boundaries and that documents that the existing public services are the same as or exceed the public services required by the solid waste disposal area. Submittal of this analysis is all that is required to meet this criteria.
- U. Applicant has submitted a written and signed statement legally declaring to the County 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 of this statement is all that is required to meet this criteria.
- V. Applicant has submitted a written and signed statement legally declaring to the County 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 of this statement is all that is required to meet this criteria.

Attachment Plan Siting Mechanism

Minimum Secondary Siting Criteria

MINIMUM Secondary Siting Criteria are considered minimum standards that any proposed Type II or Type III Landfill disposal area must meet under the conditions described in Section A.1.a describing Facilities Included in this *Plan* as part of the Authorized Disposal Area Types in the *Plan's* Siting Review Procedures. Each criterion listed below must be answered in the affirmative in order for a facility to fulfill the Minimum Secondary Siting Criteria requirements. Detailed descriptions of each criterion follow the yes/no checklist below.

MINIMUM SECONDARY SITING CRITERIA EVALUATION CHECKLIST

	YES	NO	CRITERION (See detailed descriptions following checklist)
A			Facility Noise Limits
B			Facility Fugitive Dust Limit
C			Facility Fugitive Odor Limit
D			Facility Import/Export Limit
E			Facility Service Requirements

MINIMUM SECONDARY SITING CRITERIA DETAILED DESCRIPTIONS

- A: Applicant has submitted a written and signed statement legally declaring to the County that noise shall not generally exceed 65 decibels at the solid waste facility property line. Submittal of this statement is all that is required to meet this criteria.
- B: Applicant has submitted a written and signed statement legally declaring to the County that fugitive dust shall not generally escape the site as measured at the solid waste facility property line. Submittal of this statement is all that is required to meet this criteria.
- C: Applicant has submitted a written and signed statement legally declaring to the County that fugitive odors from solid waste operations shall not generally escape the site as measured at the solid waste facility property line. Submittal of this statement is all that is required to meet this criteria.
- D: Applicant has submitted a written and signed statement legally declaring to the County that the facility shall not accept solid waste from other counties which are (1) not authorized in this *Plan* and (2) do not have an agreement with Manistee County for the importation and exportation of solid waste. Submittal of this statement is all that is required to meet this criteria.
- E: Applicant has submitted a written and signed statement legally declaring to the County that it will design and operate the Solid Waste facility to provide full range of service to all the County.
 - a. Full range of service shall include material recovery programs (ie: reduction, reuse, recycling and household hazardous waste collection services as well as publicity for the encouragement and promotion of recycling) consistent with the Plan's Selected Alternative and Enforceable Program and shall be provided as part of the Owner/Operator's operation so that the full cost of which is the responsibility of the Owner/Operator'.
 - b. At the Owner/Operator's option, in lieu of providing said full range of service as part of the operation, an annual cash payment for said material recovery programs may be made to the County to assist in providing those services. Such payments shall be placed, by Manistee County, in a Program Fund dedicated for said material recovery programs in Manistee County. (The Fund shall be used for such purposes as increasing the convenience of recycling collection services, funding public and private recycling services, publicity for the encouragement and promotion of recycling, household hazardous waste collection, capital equipment purchases for recycling, and any other material recovery program consistent with the Plan's Selected Alternative. The use of the Fund shall be for the above stated purpose and at the sole discretion of the Solid Waste Plan's Designated Implementation Planning Department.)

Submittal of this statement is all that is required to meet this criteria.

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