Locally Amended; and MDEQ Approved 6/05/15

BAY COUNTY SOLID WASTE MANAGEMENT PLAN

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

Rick Snyder, Governor
Dan Wyant, DEQ Director

Michigan Department of Environmental Quality
Waste Management Division

This document is available to download from our Internet site at:
http://www.deq.state.mi.us./wmd/sections/swpshome.html

EQP 5210 (8-97)

1997 PLAN UPDATE COVER PAGE

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

DATE SUBMITTED TO THE DEQ:
If this Plan includes more than a single County, list all counties participating in this Plan.

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

Municipality Original Planning County New Planning County

DESIGNATED PLANNING AGENCY PREPARING THIS PLAN UPDATE:

Bay County Environmental Affairs Department

CONTACT PERSON: Laura Ogar, Director

ADDRESS: 515 Center Avenue, Suite 501
Bay City, MI 48708-5994

PHONE: 989-895-4135

FAX: 989-895-4068

E-MAIL: ogarl@baycounty.net

CENTRAL REPOSITORY LOCATION(S):

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EXECUTIVE SUMMARY

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

OVERALL VIEW OF THE COUNTY (attach additional pages as necessary)

Township or Municipality name	**1990 Pop.**	**% Land Use**		**% Economic base***					
		Rural	**Urban**	**Ag**	**For**	**Ind**	**Com**	**Res**	**Other**
Auburn City	1,855	0	100	0	0	0	16	79	5
Bangor Township	15,905	5	95	13	0	4	21	63	0
Bay City	38,596	0	100	0	0	4	17	64	15
Beaver Township	2,791	100	0	31	1	.4	2	62	4
Essexville City	4,082	0	100	0	0	5	3	87	5
Frankenlust Township	2,190	75	25	14	0	.3	17	63	6
Fraser Township	3,680	95	5	22	0	.3	6	66	6
Garfield Township	1,726	98	2	30	0	.3	2	64	4
Gibson Township	1,090	100	0	45	10	.4	.3	33	11
Hampton Township	9,256	75	25	4	.01	52	9	30	5
Kawkawlin Township	4,793	90	10	15	0	1	8	71	5
Merritt Township	1,510	98	2	53	0	2	1	37	7
Monitor Township	9,391	85	15	8	0	3	9	67	13
Mount Forest Township	1,457	100	0	36	8	1	.3	50	5
Pinconning City	1,291	0	100	0	0	9	25	48	18
Pinconning Township	2,647	95	5	33	0	1	7	52	7

Portsmouth Township	3,918	70	30	17	0	2	5	70	6
Williams Township	4,241	80	20	14	0	13	3	53	17
TOTAL (1990)	110,653								

Total Population

*Ag = Agriculture; For = Forestry; Ind = Industry; Com = Commercial; Oth = All Other Economic Bases

Additional listings, if necessary, are listed on an attached page. Rounding may cause figures to add to other than 100%.

EXECUTIVE SUMMARY

Bay County is a primarily rural county outside of the City of Bay City. The solid waste management system has evolved through a combination of needs, cost effectiveness and long effort by public and private groups to maximize resource recovery in the waste stream.

The County is not developing at a rate that demands wide scale waste handling planning, nor is it expected to do so in the next five to ten years. Most development is in new and existing residential subdivisions, with very little industrial or commercial group that would alter the waste stream in quantity or type of waste.

Given this situation, Bay County has chosen to retain the current sold waste collection and disposal system currently in place, with several changes to increase public awareness and opportunity to recycle and remove hazardous materials from the waste stream.

The County reviewed four main solid waste management alternatives prior to coming to this conclusion. These alternatives are to,

1. Retain the solid waste management system as it currently exists.

2. Adopt a combination of two approaches. First we would recommend maintaining the current system of solid waste hauling and disposal efforts and institute additional efforts at diverting recyclable and reusable materials from the waste stream through three methods. This alternative stresses increasing public awareness of recycling, reuse and composting alternatives, identifying households in a more consistent manner to improve the efficiency of the current waste hauling system and decreasing open burning. **This is the selected solid waste management system.**

3. The third alternative is to encourage the municipalities that have not already done so to institute curbside disposal through special assessment and possibly include curbside recycling if their community is not sparsely populated.

4. The fourth alternative is to maintain the current solid waste collection system but require co-collection of trash and recyclables for all household that subscribe to trash collection. In addition, the alternative establishes recycling drop-off locations in every township at least twice a month.

CONCLUSIONS AND SELECTED ALTERNATIVE

The manner of evaluation and ranking of each alternative is very simplistic. The cost and potential for waste diversion are the two main factors used to evaluate each method. We did not rank the alternatives since there appears to be only one logical choice in this rural and sparsely populated county. Of the four alternatives, only one shows the opportunity to divert a substantial amount from the waste stream at a reasonable cost and that is the second alternative.

INTRODUCTION

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

Goal 1: 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.

Objective (1a): Increase drop off locations for recycling all materials, specifically oil and those items currently collected at curbside for those areas with curbside programs.

Objective (1b): Provide positive reinforcement for major industrial, municipal and commercial recyclers through awards and publicity.

Objective (1c): Increase household hazardous waste collections.

Objective (1d): Reach a 30% diversion rate for recyclables within the next five years.

Objective (1e): Encourage recovery of recyclables by industrial, commercial and residential sources.

Objective (1f): Produce local TV and radio ads on public cable channels on recycling education.

Objective (1g): Establish a recycling information packet encouraging people to buy recycled products, using examples of products, for distribution in public locations to newcomers and other groups.

Objective (1h): Encourage municipalities and organizations to locate a drop off center for returnable bottles and cans.

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

Objective (2a): Increase enforcement of open dumping offenses.

Objective (2b): Decrease open burning in densely populated areas by suggesting that municipalities adopt applicable Ordinances to prohibit open burning.

Objective (2c): Continue inspection and sampling of landfills and surrounding water sources at the state and Township level.

Goal 3: Develop an integrated solid waste management system in which all components work together effectively and efficiently.

Objective (3a): Ensure that the system maximizes proven waste reduction methods such as recycling and composting and extends the life of existing and planned landfills.

Objective (3b): Set up a cooperative network between the government and the waste industry.

Objective (3c): Encourage all waste haulers to include recycling in the services that they offer with waste pick up.

Objective (3d): Encourage waste collectors to introduce incentives using contractual agreements for participation in curbside recycling.

Goal 4: Minimize the costs and impacts of dealing with each component of the solid waste stream.

Objective (4a): Address issues relating to the siting and management of landfills and handling of materials which must be disposed of in this manner.

Objective (4b): Prevent adverse effects on public health and on the environment resulting from improper solid waste collection, transportation, processing, and disposal, including protection of surface and groundwater quality, air quality, and the land.

Goal 5: Develop an efficient, environmentally sound and cost effective solid waste management system that is capable of meeting the County's diverse needs for the next 20 years.

Objective (5a): Encourage new and innovative materials and energy recovery technologies.

Objective (5b): Advocate a more inclusive returnable bottle law.

Objective (5c): Promote lobbying on solid waste issues through the Michigan Township Association, Michigan Municipal League, Michigan Association of Counties and other organizations.

Objectives (5d): All solid waste disposal methods for type II and type III wastes other than land filling must be expressly allowed in the Solid Waste Management Plan by amendment.

DATA BASE

Identification of sources of waste generation within the county, total quantity of solid waste generated to be disposed, and sources of the information. (Attach additional pages as necessary)

Waste Type	Current Annual Volume	Five-Year Annual Volume	Ten-Year Annual Volume
Household solid waste (72%)	239,003	246,173	253,558
Commercial Solid Waste (17%)	76,348	78,638	80,998
Industrial Solid Waste (5% est.)	149,449	149,449	149,449
Industrial Sludge (.1% est.)	332	332	332
Municipal Sludge (1%)	3,319	3,419	3,521
Construction/demolition (4.2%)	13,942	14,360	14,791
Foundry Sand (1%)	3,320	3,320	3,320

All figures reported to Bay County were in cubic yards from both disposers and haulers. We used the conversion rates of three cubic yards equals one ton for all types of waste except soils. One cubic yard of soil, including foundry sand is assumed to weigh one ton. These conversion rates are those used by the local landfills. The industrial waste conversion rate is supplied by Consumer's Energy, for which .972 tons equals one cubic yard.

Household solid waste figures were derived using both actual figures reported to the county by waste haulers and disposers and checked against standardized solid waste generation rates for rural and urban areas from the Environmental Protections Agency's Waste Characterization study for 1995 and the National Solid Waste Management Association's Technical reports.

The EPA indicates that waste is generated at the rate of 4.5 pounds per day per person. The NSWMA establishes a range of 2.5 to 3.5 pounds per day per person. In the absence of any other available information such as a waste characterization survey, we have elected to use the NSWMA figure as a guide and comparison to what we learned through contact with haulers and generators. Other industry standards estimate one ton of waste per household per year is reasonable.

There are 110,423 people in Bay county, according to the Michigan Information Center's 1997 estimates. Population figures for municipalities are from the 1990 U.S. Census STF 1A Summary Tapes. This equates to 60,457 tons of household waste generated per year in Bay County, which is significantly lower than that reported by haulers and disposers. We have elected to use the rates reported by haulers and disposers.
Commercial waste was calculated from waste reports that detailed waste by type at Whitefeather Landfill, the current recipient of the majority of Bay County's waste. There is no way to use a standard for commercial waste generated without a waste survey. We checked generation rates against those determined from a survey of commercial generation in Saginaw County, an abutting, somewhat more urban county. These figures show an average of 8.7 pounds per day per employee, based on 310 days per year. The resulting figure is significantly higher than that reported in Bay County by haulers and we have elected to stay with the tonnage reported by haulers.

Industrial waste presents the same difficulty as commercial wastes, although, major industrial generators are easier to identify. In Bay County the major industrial generator is Consumers Energy. Consumer's disposes of all their wastes in private landfills, as substantiated by their submitted disposal reports

Industrial sludges were estimated as the sole source of data, based on similar generation rates in similarly developed counties.

Municipal sludges are generated by the City of Bay City and the City of Essexville. Currently, Bay City disposes of their sludges and grit from the wastewater treatment plant at the Saginaw Valley Landfill in Saginaw. The City of Essexville sends their sludges to Orion, Michigan for disposal. The City plans to land apply their sludges in the future. These figures were obtained directly from City records.

Construction/demolition debris is estimated from actual figures reported by landfills.

Foundry sand is estimated from actual figures reported by landfills.

Five and ten year estimates were derived by inflating household, commercial and municipal sludge figures by 3% for each five year increment. Population is expected to increase by 3% over each of these increments. Industrial waste, industrial sludge and foundry sand were not inflated since there is no way to predict these figures accurately.

TOTAL QUANTITY OF SOLID WASTE GENERATED:
170,995 Tons in one year (identify unit of time)

TOTAL QUANTITY OF SOLID WASTE NEEDING DISPOSAL:
120,968Tons in one year (identify unit of time)

DATA BASE

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.

Whitefeather Landfill, 2401 Whitefeather Road, Pinconning, Michigan

This landfill is located in Pinconning Township, Bay County. The landfill is owned by Republic Services of Michigan, Inc. Whitefeather is 106 acres in size. Currently 70.5 of these are permitted for disposal. The landfill accepts residential, commercial, industrial, construction, demolition, contaminated soils, special wastes and asbestos. The landfill has an estimated remaining life of 28.93 years or 5,453,901 cubic yards.

Taymouth Landfill, 4532 East Rathbun Road, Birch Run, Michigan

This landfill is closed.

Peoples Landfill, 4146 East Rathbun Road, Birch Run, Michigan

This landfill is located in Taymouth Township, Saginaw County. The landfill is owned by Waste Management, Inc. Peoples Landfill is 163 acres in size, 29 of which are permitted for disposal. The landfill accepts residential, commercial, industrial, construction, demolition, contaminated soils, special wastes, asbestos, sludges and ash. The landfill has an estimated remaining life of 20 years or 5,301,641 cubic yards.

Saginaw Valley Landfill, 2145 South Miller Road, Saginaw, Michigan

This landfill is closed.

Northern Oaks Landfill, Clare County

This landfill is located outside of Harrison in Clare County. The landfill is owned by Waste Management of Michigan, Inc. Northern Oaks is 480 acres is size, 76 of which are sited for use. The landfill accepts residential, commercial, industrial, construction and demolition, contaminated soils and special wastes. There is an estimated 37.6 years remaining lifetime for this landfill.

City of Midland Landfill, 4315 East Ashman Road, Midland, Michigan

This landfill is located in the City of Midland, Midland County. The landfill is owned by the city for the exclusive use of county residents. This landfill would only be available for use in emergency conditions. The landfill is 400 acres in size, 110 of which are permitted for use. The landfill accepts residential, commercial, industrial, construction, demolition, contaminated soils, special wastes, asbestos, sludges and ash. The landfill has an estimated remaining life of 55 year.

Brent Run Landfill, Genesee County

This landfill is located in Montrose, Genesee County. The landfill is owned by Republic Waste Services, Inc. Brent Run is 370 acres is size, 243 of which are sited for use. The landfill accepts residential, commercial, industrial, construction and demolition, contaminated soils and special wastes. There is an estimated lifetime of 22.1 years at this landfill.

Hampton Township Transfer Station, Bay County

This transfer station is located in Hampton Township, Bay County. The transfer station is owned by the Township. The facility is 6 acres in size. The transfer station accepts residential and yard waste. As a transfer station, there is no estimated life of the facility in terms of capacity.

DATA BASE

FACILITY DESCRIPTIONS

Facility Type**: Landfill**

Facility Name: **Whitefeather Development Company**

County: **Bay** Location: Town: **17N** Range: **4E** Section(s): **2**

Map identifying location included in Attachment Section: Yes **X** 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 **X** Private Owner: **Republic Services of Michigan, Inc.**

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

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

Site Size:

Total area of facility property:	752	acres
Total area sited for use:	106	acres
Total area permitted:	70.5	acres
Operating:	25.5	acres
Not excavated:	32.0	acres

Current capacity: 5,453,901

__ tons or X yds^3

Estimated lifetime: 28.93 years
Estimated days open per year: 260 days
Estimated yearly disposal volume: 150,000

__ tons or X yds^3

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

FACILITY DESCRIPTIONS

Facility Type**: Landfill**

Facility Name:**City of Midland Landfill**

County: **Midland** Location: Town: **14N** Range: **2E** Section(s) : **12**

Map identifying location included in Attachment Section: Yes **X** No

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

X Public Private Owner: **City of Midland**

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

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

Site Size:

Total area of facility property:	329.14	acres
Total area sited for use:	64.80	acres
Total area permitted:	110.00	acres
Operating:	20.50	acres
Not excavated:	48.67	acres

Current capacity: _____

__tons or X yds^3

Estimated lifetime: 55 years
Estimated days open per year: 252 days
Estimated yearly disposal volume: _____

__tons or X yds^3

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

FACILITY DESCRIPTIONS

Facility Type**: Landfill**

Facility Name:**Taymouth Landfill, Saginaw County**

County: **Saginaw** Location: Town: **10** Range: **5E** Section(s): **15**

Map identifying location included in Attachment Section: Yes **X** 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 **X** Private Owner: **Republic Services of Michigan, Inc.**

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

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

Site Size:

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

Current capacity: 0

__ tons or X yds^3

Estimated lifetime: 0 years
Estimated days open per year: 0 days
Estimated yearly disposal volume: 0

__ tons or X yds^3

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

FACILITY DESCRIPTIONS

Facility Type**: Landfill**

Facility Name: **Peoples Landfill**

County: **Saginaw** Location: Town: **10N** Range: **5E** Section(s): **15**

Map identifying location included in Attachment Section: **X** 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 **X** Private Owner: **Waste Management of Michigan, Inc.**

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

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

Site Size:

Total area of facility property:	163	acres
Total area sited for use:	110	acres
Total area permitted:	29.1	acres
Operating:	2	acres
Not excavated:	100	acres
Current capacity:	5,301,641	X tons or __ yds^3
Estimated lifetime:	20	years
Estimated days open per year:	254	days
Estimated yearly disposal volume:	1000	X tons or__ yds^3

(if applicable)
Annual energy production:
Landfill gas recovery projects: 3.2 megawatts (Combined with Taymouth)
Waste-to-energy incinerators: N/A megawatts

FACILITY DESCRIPTIONS

Facility Type**: Landfill**

Facility Name: **Saginaw Valley Landfill**

County: **Saginaw** Location: Town: **11N** Range: **3E** Section(s): **1**

Map identifying location included in Attachment Section: Yes **X** 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 **X** Private Owner: **Waste Management**

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

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

Site Size:

Total area of facility property:	84.25	acres
Total area sited for use:	0	acres
Total area permitted:	0	acres
Operating:	0	acres
Not excavated:	0	acres
Current capacity:	0	___ tons or__ yds^3
Estimated lifetime:	0	years
Estimated days open per year:	0	days
Estimated yearly disposal volume:	0	___ tons or __ yds^3

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

FACILITY DESCRIPTIONS

Facility Type**: Landfill**

Facility Name: **Northern Oaks Landfill**

County: **Clare** Location: Town: **19** Range: **4** Section(s): **32**

Map identifying location included in Attachment Section: __ Yes **X** 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 **X** Private Owner: **Waste Management of Michigan, Inc.**

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

* Explanation of special wastes, including a specific list and/or conditions: WWTP filter cake, sludge

Site Size:

Total area of facility property:	480	acres
Total area sited for use:	76	acres
Total area permitted:	76	acres
Operating:	19	acres
Not excavated:	57	acres
Current capacity:	17,014,000	___ tons or X yds^3
Estimated lifetime:	37.6	years
Estimated days open per year:	260	days
Estimated yearly disposal volume:	409,000	___ tons or X yds^3

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

FACILITY DESCRIPTIONS

Facility Type**: Landfill**

Facility Name: **Brent Run Landfill**

County: **Genesee** Location: Town: **9N** Range: **5E** Section(s): **23**

Map identifying location included in Attachment Section: __ Yes **X** 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 **X** Private Owner: **Republic Services of Michigan, Inc.**

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

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

Site Size:

Total area of facility property:	370	acres
Total area sited for use:	243.17	acres
Total area permitted:	106.47	acres
Operating:	38.91	acres
Not excavated:	67.56	acres
Current capacity:	11,050,000	X tons or __ yds^3
Estimated lifetime:	22.1	years
Estimated days open per year:	386	days
Estimated yearly disposal volume:	500,000	X tons or __ yds^3

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

FACILITY DESCRIPTIONS

Facility Type**: Transfer Station**

Facility Name: **Hampton Township Transfer Station**

County: **Bay** Location: Town: **17N** Range: **4E** Section(s): **7**

Map identifying location included in Attachment Section: __ Yes **X** No

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

X Public ___ Private Owner: **Hampton Township**

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

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

Site Size:

Total area of facility property:	6	acres
Total area sited for use:	_	acres
Total area permitted:	_	acres
Operating:	_	acres
Not excavated:	_	acres
Current capacity:	NA	__ tons or X yds^3
Estimated lifetime:	NA	years
Estimated days open per year:	310	days
Estimated yearly disposal volume:	___	____ tons or X yds^3

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

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. All services are curbside collection with municipal contracts unless otherwise noted.

Hampton Township Department of Public Works operates a transfer station for type II wastes, paper, glass, aluminum, plastic and yard wastes. There is no fee to drop off materials and the facility is open to Township residents only. Trash is compacted on site and hauled to Whitefeather Landfill by City Environmental Services. There is no drop location for recycling in Bay County. Some residents use drop off facilities in Standish and Saginaw.

Municipality	**1990 pop.**	**Waste Hauling Provider**	**Recycling Provider**	**Other services**
Auburn City	1,855	City Environmntl Serv.	City Environmntl Serv	yard waste
Bangor Township	15,905	City Environmntl Serv.	City Environmntl Serv	yard waste
Bay City	38,596	City Sanitation Serv.	City Sanitation services	yard waste
Beaver Township	2,791	City Environmntl Serv individual subscription	City Environmntl Serv	none
Essexville City	4,082	City Environmntl Serv.	City Environmntl Serv	yard waste
Frankenlust Twp.	2,190	City Environmntl Serv.	City Environmntl Serv.	yard waste
Fraser Township	3,680	City Environmntl Serv.	City Environmntl Serv.	none
Garfield Township	1,726	City Environmntl Serv.	none	none
Gibson Township	1,090	City Environmntl Serv.	none	none
Hampton Township	9,256	City Environmntl Serv. individual subscription	City Environmntl Serv	None

Kawkawlin Twp.	4,793	City Environmntl Serv.	City Environmntl Serv	None
Merritt Township	1,510	City Environmntl Serv.	City Environmntl Serv.	None
Monitor Township	9,391	City Environmntl Serv.	City Environmntl Serv.	yard waste
Mount Forest Twp.	1,457	City Environmntl Serv.	none	None
Pinconning City	1,291	City Environmntl Serv.	City Environmntl Serv.	yard waste
Pinconning Township	2,647	City Environmntl Serv.	City Environmntl Serv.	yard waste
Portsmouth Twp.	3,918	City Environmntl Serv.	City Environmntl Serv.	None
Williams Township	4,241	Waste Management	Waste Management	yard waste

DATA BASE

EVALUATION OF DEFICIENCIES AND PROBLEMS

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

Household deficiencies:

1. There is a need for public education on what constitutes hazardous materials and how to dispose of them. Opportunities exist for recycling for white goods, oil, tires, and other unique items, however it is difficult to find this information.
2. Battery recycling needs to be made available.
3. Open dumping remains a consistent problem.
4. Hauling routes require better roads. It is difficult to services all households due to poor road conditions.
5. There is no local opportunity to recycle for those who do not have curbside collection.

Commercial/Industrial deficiencies:

1. Lack of information regarding types and amounts of wastes disposed. Data is inconsistent and not comparable.
2. Lack of information supplied by Department of Environmental Quality on commercial wastes, if available.

Other issues:

1. There is a lack of markets for recyclable materials and recycled products, decreasing their value and in turn, waste handler's interest in providing this service at an affordable rate or bundling this service with waste collection services.

DATA BASE

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.

The current and projected population centers are the same for five and ten years into the future.

Population Center	1996	2000	2010	2020
Auburn City	1,895	1,791	1,730	1,670
Bangor Township	*16,028*	*16,384*	*16,562*	*17,192*
Bay City	*39,211*	*39,610*	*40,074*	*40,807*
Beaver Township	*2,931*	*2,609*	*2,422*	*2,248*
City of Essexville	*4,088*	*4,198*	*4,494*	*4,758*
Frankenlust Township	*2,281*	*2,449*	*2,724*	*3,056*
Fraser Township	3,734	3,425	3,188	2,967
Garfield Township	1,869	1,665	1,597	1,532
Gibson Township	1,162	1,112	1,135	1,159
Hampton Township	*9,308*	*9,919*	*10,546*	*11,275*
Kawkawlin Township	*4,844*	*5,098*	*5,601*	*6,133*
Merritt Township	1,504	1,360	1,226	1,104
Monitor Township	*9,512*	*9,869*	*10,577*	*11,453*
Mount Forest Township	1,547	1,470	1,483	1,497
Pinconning City	1,381	1,166	1,052	950
Pinconning Township	2,769	2,348	2,083	1,848
Portsmouth Township	*3,895*	*4,003*	*4,121*	*4,224*
Williams Township	4,474	4,146	4,016	3,895

Source: All 1996 population estimates, Michigan Information Center

Municipalities in italics source for 2000-2020 population projections, Bay County Transportation Study.

Municipalities not in italics source for projections is East Central Planning and Development Region.

DATA BASE

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 and a description of the current and projected centers of solid waste generation, including industrial waste for 5 and 10 year periods.

See County Map on page D-4.

Land development in Bay County is occurring primarily in the southeastern portions of the county. Home building is the primary form of development, with large increases in structures and structural value in Frankenlust, Monitor Williams and Bangor Townships. Development is steady along the waterfront; again, mostly single family housing for year-round living. Bay City is not experiencing growth in terms of changes to land use; however, existing land uses are fairly stable, as is the population. **These areas are the current and are likely to be the future centers for solid waste generation by residences.**

The northern portion of the county is primarily rural land. There are large tracts of wooded areas and heavy concentrations of farms in each township. I-75 bisects the county from north to south and there is some development along the highway in service businesses and related commercial activity.

Solid Waste planning is not heavily influenced by the development patterns in Bay County. Most new residential structures will be served by municipal waste hauling contracts that include curbside collection of all materials. Existing development is more likely to dictate the needs of residents for opportunities for recycling, for example.

There are two major generators of industrial waste in Bay County. These are Consumer's Energy and General Motors related facilities. **These areas are the current and are likely to be the future centers for solid waste generation by industry.**

Five and ten year projections are shown on page II-1.

DATA BASE

SOLID WASTE MANAGEMENT ALTERNATIVES (attach additional pages as necessary)

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 B.

Waste reduction, pollution prevention, resource conservation, resource recovery, volume reduction, sanitary land filling, collection processes, transportation, ultimate disposal area uses, institutional arrangements and recycling and composting programs were discussed as they do or do not exist now for each alternative. These factors were used to rank each alternative, although a formal ranking system was not used. Bay County does not require a formal or complicated ranking or evaluation system due to the largely rural nature, well operating systems for waste management and highly successful waste reduction, composting and recycling programs in the population centers and some rural areas. The County did, however, review each of these solid waste management components when considering each alternative.

We have identified **four main solid waste management alternatives**.

The **first is the solid waste management system as it currently exists** and operates.

The second solid waste management alternative is a combination of two approaches. First we would recommend maintaining the current system of solid waste hauling and disposal efforts, as they are operating well and can expand easily to cover households that currently do not contract for hauling services. Changes in this system that we recommend include additional efforts at **diverting recyclable and reusable materials** from the waste stream through three main methods:

Establish more frequent and diverse household hazardous collection programs. These need to be well publicized and include a variety of household items. These should be located throughout the county as well and be on a staggered schedule.

Yard waste and composting options should be better publicized, and expanded where possible.

Commercial and industrial diversion is going very well. Successful efforts should be advertised and used as examples for other commercial operations where applicable.

This alternative stresses increasing public awareness of recycling, reuse and composting alternatives, **identifying households** in a more consistent manner to improve the efficiency of the current waste hauling system and **decreasing open burning. This is the selected solid waste management system.**

The third alternative is to **encourage the municipalities** that have not already done so **to institute curbside disposal** through special assessment and possible include curbside recycling if their community is not sparsely populated.

The purpose of this alternative is to ensure that everyone has the opportunity to dispose of waste properly and with the least amount of effort. The negative aspects of this alternative are that curbside collection is not the most efficient nor cost effective way to eliminate open burning and promote recycling. This is a rural area with long distances between stops in some locations. Curbside collection on a countywide basis does not make sense. While we do not recommend this alternative due to its expense and element of overkill for a predominately rural area, we include it in the plan to show that the County has considered all alternatives.

The fourth alternative is to maintain the current solid waste collection system but encourage **co-collection of trash and recyclables for all household that subscribe to trash collection**. In addition, the alternative establishes **recycling drop-off locations in every township** at least twice a month. This alternative provides an easy way for household who have waste collection to begin recycling and for those who do not have trash collection, give them an easier opportunity to recycle closer to home. The negatives of this alternative are increased costs to those with household pick-up and increased cost to each Township to provide recycling drop-off service. We do not recommend this alternative due to costs and the potential of repeating a service already offered through recycling drop-offs. Drop-off locations are provided at a fairly regular interval in good locations in the County now, but do require the participant to know the schedule and location of the recycling drop-off and drive several miles out of their way to use this service.

The manner of evaluation and ranking of each alternative is very simplistic. The cost and potential for waste diversion are the two main factors used to evaluate each method. We did not rank the alternatives since there appears to be only one logical choice in this primarily rural and sparsely populated county. Of the four alternatives, only one shows the opportunity to divert a substantial amount from the waste stream at a reasonable cost and that is the second alternative.

THE 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 B. Following is an overall description of the Selected System:

The selected solid waste management alternative is a combination of two approaches. First we would recommend maintaining the current system of solid waste hauling and disposal efforts, as they are operating well and can expand easily to cover households that currently do not contract for hauling services. Changes in this system that we recommend include additional efforts at diverting recyclable and reusable materials from the waste stream through three main methods:

Establish more frequent and diverse household hazardous collection programs. These need to be well publicized and include a variety of household items. These should be located throughout the county as well and be on a staggered schedule.

Yard waste and composting options should be better publicized, and expanded where possible.

Commercial and industrial diversion is going very well. Successful efforts should be advertised and used as examples for other commercial operations where applicable.

This alternative stresses increasing public awareness of recycling, reuse and composting alternatives, identifying households in a more consistent manner to improve the efficiency of the current waste hauling system and decreasing open burning.

IMPORT AUTHORIZATION

If a Licensed solid waste disposal area is currently operating within the County, disposal of solid waste generated by the EXPORTING COUNTY is authorized by the IMPORTING COUNTY up to the AUTHORIZED QUANTITY according to the CONDITIONS AUTHORIZED in Table 1-A.

Table 1-A

CURRENT IMPORT VOLUME AUTHORIZATION OF SOLID WASTE

IMPORTING COUNTY	EXPORTING COUNTY	FACILITY NAME[1]	AUTHORIZED QUAN/DAILY	AUTHORIZED QUAN/ANN	AUTHORIZED CONDITIONS
Bay County	Alcona	**We have elected to not list specific facilities in this chart to maintain the opportunity to use any facilities each of the counties may have at the time they are needed by Bay County.**			
Bay County	Alpena				
Bay County	Antrim				
Bay County	Arenac				
Bay County	Benzie				
Bay County	Charlevoix				
Bay County	Cheboygan				
Bay County	Clare				
Bay County	Clinton				
Bay County	Crawford				
Bay County	Emmet				
Bay County	Genesee				

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

Bay County	Gladwin
Bay County	Gratiot
Bay County	Grant Traverse
Bay County	Huron
Bay County	Iosco
Bay County	Isabella
Bay County	Kalkaska

IMPORT AUTHORIZATION, Continued

If a Licensed solid waste disposal area is currently operating within the County, disposal of solid waste generated by the EXPORTING COUNTY is authorized by the IMPORTING COUNTY up to the AUTHORIZED QUANTITY according to the CONDITIONS AUTHORIZED in Table 1-A.

Table 1-A, Continued

CURRENT IMPORT VOLUME AUTHORIZATION OF SOLID WASTE

IMPORTING COUNTY	EXPORTING COUNTY	FACILITY NAME[2]	AUTHORIZED QUAN/DAILY	AUTHORIZED QUAN/ANN	AUTHORIZED CONDITIONS
Bay County	Lapeer	**We have elected to not list specific facilities in this chart to maintain the opportunity to use any facilities each of the counties may have at the time they are needed by Bay County.**			
Bay County	Leelanau				
Bay County	Manistee				
Bay County	Mecosta				
Bay County	Midland				
Bay County	Missaukee				
Bay County	Montmorency				
Bay County	Osceola				
Bay County	Ogemaw				
Bay County	Oscoda				
Bay County	Otsego				
Bay County	Presque Isle				

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

Bay County	Roscommon
Bay County	Saginaw
Bay County	Tuscola
Bay County	Wexford

EXPORT AUTHORIZATION

If a Licensed solid waste disposal area is currently operating within the County, disposal of solid waste generated by the IMPORTING COUNTY is authorized by the EXPORTING COUNTY up to the AUTHORIZED QUANTITY according to the CONDITIONS AUTHORIZED in Table 2-A.

Table 2-A

CURRENT EXPORT VOLUME AUTHORIZATION OF SOLID WASTE

IMPORTING COUNTY	EXPORTING COUNTY	FACILITY NAME[3]	AUTHORIZED QUAN/DAILY	AUTHORIZED QUAN/ANN	AUTHORIZED CONDITIONS
Alcona	Bay County	**We have elected to not list specific facilities in this chart to maintain the opportunity to use any facilities each of the counties may have at the time they are needed by Bay County.**			
Alpena	Bay County				
Antrim	Bay County				
Arenac	Bay County				
Benzie	Bay County				
Charlevoix	Bay County				
Cheboygan	Bay County				
Clare	Bay County				
Clinton	Bay County				
Crawford	Bay County				
Emmet	Bay County				

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

Genesee	Bay County
Gladwin	Bay County
Gratiot	Bay County
Grant Traverse	Bay County
Huron	Bay County
Iosco	Bay County
Isabella	Bay County
Kalkaska	Bay County

EXPORT AUTHORIZATION, Continued

If a Licensed solid waste disposal area is currently operating within the County, disposal of solid waste generated by the IMPORTING COUNTY is authorized by the EXPORTING COUNTY up to the AUTHORIZED QUANTITY according to the CONDITIONS AUTHORIZED in Table 2-A.

Table 2-A, Continued

CURRENT EXPORT VOLUME AUTHORIZATION OF SOLID WASTE

IMPORTING COUNTY	EXPORTING COUNTY	FACILITY NAME[4]	AUTHORIZED QUAN/DAILY	AUTHORIZED QUAN/ANN	AUTHORIZED CONDITIONS
Lapeer	Bay County	**We have elected to not list specific facilities in this chart to maintain the opportunity to use any facilities each of the counties may have at the time they are needed by Bay County.**			
Leelanau	Bay County				
Manistee	Bay County				
Mecosta	Bay County				
Midland	Bay County				
Missaukee	Bay County				
Montmorency	Bay County				
Osceola	Bay County				
Ogemaw	Bay County				

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

Oscoda	Bay County
Otsego	Bay County
Presque Isle	Bay County
Roscommon	Bay County
Saginaw	Bay County
Tuscola	Bay County
Wexford	Bay County

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 en years. The following pages contain the 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
Whitefeather Landfill
Saginaw Valley Landfill
Northern Oaks Landfill
City of Midland Landfill
Brent Run Landfill
Manistee County Landfill
Glen's Sanitary Landfill
Cedar Ridge Recycling and Disposal Facility
City Environmental Services of Waters
Elk Run Sanitary Landfill
Cove Landfill of Bad Axe

Type III Landfill
Lafarge Type III landfill

Incinerator

Waste-to-Energy Incinerator

Type A Transfer Facility
Hampton Township Transfer Facility

Type B Transfer Facility

Processing Plant

Waste Piles

Other

FACILITY DESCRIPTIONS

Facility Type**: Landfill**

Facility Name: **Whitefeather Development Company**

County: **Bay** Location: Town: **17N** Range: **4E** Section(s): **2**

Map identifying location included in Attachment Section: __ Yes **X** 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 **X** Private Owner: **Republic Services of Michigan, Inc.**

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

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

Site Size:

Total area of facility property:	752	acres
Total area sited for use:	106	acres
Total area permitted:	56.5	acres
Operating:	24.5	acres
Not excavated:	32.0	acres

Current capacity: 4,175,153

__ tons or X yds^3

Estimated lifetime:	18.8	years
Estimated days open per year:	260	days
Estimated yearly disposal volume:	380,000	

__ tons or X yds^3

(if applicable)
Annual energy production:

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

FACILITY DESCRIPTIONS

Facility Type**: Landfill**

Facility **Name: City of Midland Landfill**

County: **Midland** Location: Town: **14N** Range: **2E** Section(s): **12**

Map identifying location included in Attachment Section: __ Yes **X** No

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

X Public __ Private Owner: **City of Midland**

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

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

Site Size:

Total area of facility property:	329.14	acres
Total area sited for use:	64.80	acres
Total area permitted:	110.00	acres
Operating:	20.50	acres
Not excavated:	48.67	acres

Current capacity: _____

__ tons or X yds^3

Estimated lifetime: 55 years
Estimated days open per year: 252 days
Estimated yearly disposal volume: _____

__ tons or X yds^3

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

FACILITY DESCRIPTIONS

Facility Type**: Landfill**

Facility Name: **Taymouth Landfill, Saginaw County**

County: **Saginaw** Location: Town: **10** Range: **5E** Section(s): **15**

Map identifying location included in Attachment Section: __ Yes **X** 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 **X** Private Owner: **Republic Services of Michigan, Inc.**

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

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

Site Size:

Total area of facility property:	138.89	acres
Total area sited for use:	43	acres
Total area permitted:	25	acres
Operating:	15	acres
Not excavated:	10	acres

Current capacity:

1.3 __ tons or X yds^3

Estimated lifetime:	7-8	years
Estimated days open per year:	260	days

Estimated yearly disposal volume:

216,000 __ tons or X yds^3

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

FACILITY DESCRIPTIONS

Facility Type**: Landfill**

Facility Name: **Peoples Landfill**

County: **Saginaw** Location: Town: **10N** Range: **5E** Section(s): **15**

Map identifying location included in Attachment Section: __ Yes **X** 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 **X** Private Owner: **Waste Management of Michigan, Inc.**

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

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

Site Size:

Total area of facility property:	163	acres
Total area sited for use:	110	acres
Total area permitted:	29.1	acres
Operating:	2	acres
Not excavated:	100	acres
Current capacity:	5,301,641	X tons or __ yds^3
Estimated lifetime:	20	years
Estimated days open per year:	254	days
Estimated yearly disposal volume:	1000	X tons or__ yds^3

(if applicable)
Annual energy production:
Landfill gas recovery projects: 3.2 megawatts (Combined with Taymouth)
Waste-to-energy incinerators: N/A megawatts

FACILITY DESCRIPTIONS

Facility Type**: Landfill**

Facility Name: **Saginaw Valley Landfill**

County: **Saginaw** Location: Town: **11N** Range: **3E** Section(s): **1**

Map identifying location included in Attachment Section: __ Yes **X** 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 **X** Private Owner: **Waste Management**

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

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

Site Size:

Total area of facility property:	84.25	acres
Total area sited for use:	50.02	acres
Total area permitted:	50.02	acres
Operating:	35.37	acres
Not excavated:	23.64	acres
Current capacity:	____	___ tons or ___ yds^3
Estimated lifetime:	1	years
Estimated days open per year:	260	days
Estimated yearly disposal volume:	240,000 **X**	tons or __ yds^3

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

FACILITY DESCRIPTIONS

Facility Type**: Landfill**

Facility Name: **Northern Oaks Landfill**

County: **Clare** Location: Town: **19** Range: **4** Section(s): **32**

Map identifying location included in Attachment Section: __ Yes **X** 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 **X** Private Owner: **Waste Management of Michigan, Inc.**

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

* Explanation of special wastes, including a specific list and/or conditions: WWTP filter cake, sludge

Site Size:

Total area of facility property:	480	acres
Total area sited for use:	76	acres
Total area permitted:	76	acres
Operating:	19	acres
Not excavated:	57	acres
Current capacity:	17,014,000	__ tons or X yds^3
Estimated lifetime:	37.6	years
Estimated days open per year:	260	days
Estimated yearly disposal volume:	409,000	__ tons or X yds^3

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

FACILITY DESCRIPTIONS

Facility Type**: Landfill**

Facility Name: **Brent Run Landfill**

County: **Genesee** Location: Town: **9N** Range: **5E** Section(s): **23**

Map identifying location included in Attachment Section: __ Yes **X** 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 **X** Private Owner: **Republic Services of Michigan, Inc.**

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

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

Site Size:

Total area of facility property:	906	acres
Total area sited for use:	160	acres
Total area permitted:	30	acres
Operating:	15	acres
Not excavated:	45	acres
Current capacity:	10,247,000	__ tons or X yds^3
Estimated lifetime:	18	years
Estimated days open per year:	312	days
Estimated yearly disposal volume:	720,,000	__ tons or X yds^3

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

FACILITY DESCRIPTIONS

Facility Type**: Transfer Station**

Facility Name: **Hampton Township Transfer Station**

County: **Bay** Location: Town: **17N** Range: **4E** Section(s): **7**

Map identifying location included in Attachment Section: __ Yes **X** No

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

X Public ___ Private Owner: **Hampton Township**

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

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

Site Size:

Total area of facility property:	6	acres
Total area sited for use:	_	acres
Total area permitted:	_	acres
Operating:	_	acres
Not excavated:	_	acres
Current capacity:	NA	__ tons or X yds^3
Estimated lifetime:	NA	years
Estimated days open per year:	310	days
Estimated yearly disposal volume:	____	__ tons or X yds^3

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

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.

Solid waste is collected and transported by primarily one hauler in Bay County, City Environmental Services. The selected system expects this hauler to remain the primary hauler for the anticipated future. Haulers and services are based on municipal contracts and/or individual contracts, negotiated on a municipal level. Future services and arrangements cannot be predicted.

RESOURCE CONSERVATION EFFORTS:

The following describes the selected system's proposed conservation efforts to reduce the amount of solid wa generated throughout the County. The annual amount of solid waste currently or proposed to be diverted from landf and incinerators is estimated for each effort to be used, if possible. Since conservation efforts are provided voluntar and change with technologies and public awareness, it is not this Plan update's intention to limit the efforts to only w is listed. Instead citizens, businesses, and industries are encouraged to explore the options available to their lifestyl practices, and processes which will reduce the amount of materials requiring disposal.

Effort Description	**Est. Diversion Tons/Yr**		
	Current	**5th yr**	**10th yr**
Commercial diversion (no reliable estimates available)	---------	---------	----------
Community recycling - curbside (includes yard waste where collected)	2,224	2,446	2,691
Community recycling - drop off	---------	---------	---------
Community composting City of Bay City only	450	495	545
Industrial (no reliable estimates available)	---------	---------	---------

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

The majority of opportunity to divert waste from landfills is in the form of yard wastes. Bay County is primarily rural in nature, outside of Bay City itself. Many people compost on their own land, limiting the amount of yard waste available for diversion from landfills.

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. Documentation explaining achievements of implemented programs or expected results of proposed programs is attached.

Technique Description	**Estimated Air Space Conserved Yds/Yr.**		
	Current	**5th Yr.**	**10th Yr.**
Composting	2,500	2,500	2,500
Recycling (Converting 4.5 yards per ton)	10,008	11,009	12,110
Compaction at the collection point in the truck (We are using an estimate of 7:1, with a conversion of 3:1 yards to tons)	102,430	105,503	108,668
Compaction at the landfill (We are using an estimate of 6:1, with a conversion of 3:1, yards to tons)	119,502	123,087	126,779

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

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.

X 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:

X 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:

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

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

RECYCLING AND COMPOSTING

The following is a brief analysis of the recycling and composting programs selected for the County in this Plan. Additional information on operation of recycling and composting programs is included in Appendix A. The analysis covers various factors within the County and the impacts of these factors on recycling and composting. Following the written analysis the tables on pages III-21 through III-23 list the existing recycling, composting, and source separation of hazardous materials programs that are currently active in the County and which will be continued as part of this Plan. The second group of three tables on pages III-24 through III-26 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.

TABLE III-1

RECYCLING:

Program Name	Service Area[5]	Public or Private	Collection Point[7]	Collection Frequency[8]	Materials Collected[9]	Program Management Responsibilities[6] Development	Operation	Evaluation
Recycling	Auburn City	public	c	b	A,B,C,E,F	City	City	City
Recycling	Bangor Township	public	c	b	A,B,C,E,F	Twp.	Twp.	Twp.
Recycling	Bay City	public	c	b	A,B,C,E,F	City	City	Twp.
Recycling	Beaver Township	public	c	b	A,B,C,E,F	Twp.	Twp.	Twp.
Recycling	Essexville City	public	c	b	A,B,C,E,F	City	City	City
Recycling	Frankenlust Township	public	c	b	A,B,C,E,F	Twp.	Twp.	Twp.
Recycling	Fraser Township	public	c	b	A,B,C,E,F	Twp.	Twp.	Twp.
None	Garfield Township	--	-	-	----------		----	-----
None	Gibson Township	--	-	-	----------		----	-----
Recycling	Hampton Township	public	c	b	A,B,C,D,E,F	Twp.	Twp.	Twp.
Recycling	Kawkawlin Township	public	c	b	A,B,C,E,F	Twp.	Twp.	Twp.
Recycling	Merritt Township	public	c	b	A,B,C,E,F	Twp.	Twp.	Twp.
Recycling	Monitor Township	public	c	b	A,B,C,E,F	Twp.	Twp.	Twp.
None	Mount Forest Township	--	-	-	----------		----	-----

[5] Identified 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.

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

[7] Identified by c = curbside; d = drop-off; o = on site; and if other, explained.

[8] Identified by d = daily; w = weekly; b = biweekly; m = monthly; and if seasonal service also indicated by Sp = Spring; Su = Summer;

[9] Identified by the materials collected by listing of the letter located by that material type. A = Plastics; B = Newspaper; C = Corrugate E = Glass; F = Metals; P = Pallets; J = Construction/Demolition; K = Tires; L1, L2 etc. = as identified on page.

Recycling	Pinconning City	public	c	b	A,B,C,E,F City	City	City
Recycling	Pinconning Township	public	c	b	A,B,C,E,F Twp.	Twp.	Twp.
Recycling	Portsmouth Township	public	c	b	A,B,C,E,F Twp.	Twp.	Twp.
Recycling	Williams Township	public	c	b	A,B,C,E,F Twp.	Twp.	Twp.

TABLE III-2

COMPOSTING:

Program Name	Service Area[10] Evaluation	Public or Private	Collection Point[12]	Collection Frequency[13]	Materials Collected[14]	Program Management Responsibilities[11] Development	Operation	
Yard Waste	City of Bay City	public	c	b	G,L	3	3	3
Christmas Tree composting	City of Bay City	public	c	Wi	Trees	3	3	3 Yard
Yard Waste	City of Auburn	public	c	Wi	Trees	3	3	3 Yard
Yard Waste	City of Pinconning	public	c	Wi	Trees	3	3	3 Yard
Yard Waste	Hampton Township	public	c	Wi	G,L,Trees	3	3	3 Yard

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

[11] Identified by 1 = Designated Planning Agency; 2 = County Board of Commissioners; 3 = Department of Public Works; 4 = Environ
page); 5 = Private Owner/Operator; 6 = Other (Identified on page).

[12] Identified by c = curbside; d = drop-off; o = on site; and if other, explained.

[13] Identified by d = daily; w = weekly; b = biweekly; m = monthly; and if seasonal service also indicated by Sp = Spring; Su = Summe

[14] Identified by the materials collected by listing of the letter located by that material type. G = Grass Clippings; L = Leaves; F = Foo
S = Municipal Sewage Sludge; A = Animal Waste/Bedding; M = Municipal Solid Waste; L1, L2 etc. = as identified on page.

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

TABLE III-3

SOURCE SEPARATION OF POTENTIALLY HAZARDOUS MATERIALS:

Since improper disposal of unregulated 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[15]	Public or Private	Collection Point[17]	Collection Frequency[18]	Materials Collected[19]	Program Management Responsibilities[16]		
						Development	Operation	Evaluation

[15] Identified 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 specific municipalities, then listed by its name and respective county.

[16] Identified by 1 = Designated Planning Agency; 2 = County Board of Commissioners; 3 = Department of Public Works; 4 = Environ page); 5 = Private Owner/Operator; 6 = Other (Identified on page).

[17] Identified by c = curbside; d = drop-off; o = on site; and if other, explained.

[18] Identified by d = daily; w = weekly; b = biweekly; m = monthly; and if seasonal service also indicated by Sp = Spring; Su = Summe

[19] Identified by the materials collected by listing of the letter located by that material type. AR = Aerosol Cans; A = Automotive Produ Antifreeze; AN = Antifreeze; B1 = Lead Acid Batteries; B2 = Household Batteries; C = Cleaners and Polishers; H = Hobby and Art Supplies; OF = Used Oil

Household Hazardous Waste	Bay County	public	d	Periodic	B1,B2,C,H,P,PS,PH,OT			
Agricultural	Bay County	public	d	Periodic	PS			
Automotive Batteries	Bay County	private	d	d	B1	5	5	5
Motor Oil	Bay County	private	d	d	U	5	5	5
White goods, heavy metals	Bay County	private	d	d	OT	5	5	5

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

Filters; P = Paints and Solvents; PS = Pesticides and Herbicides; PH = Personal and Health Care Products; U = Used Oil; OT = Other Materials and identified.

TABLE III-4

PROPOSED RECYCLING:

Program Name	Service Area[20] Evaluation	Public or Private	Collection Point[22]	Collection Frequency[23]	Materials Collected[24]	Program Management Responsibilities[21] Development	Operation
Deposit Bottle Collection	Bay County	Private	d	m	bottles	5	5	5
Newsprint collection	Bay County	Private	d	m	newsprint	5	5	5

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

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

[21] Identified by 1 = Designated Planning Agency; 2 = County Board of Commissioners; 3 = Department of Public Works; 4 = Environ page); 5 = Private Owner/Operator; 6 = Other (Identified on page).

[22] Identified by c = curbside; d = drop-off; o = on site; and if other, explained.

[23] Identified by d = daily; w = weekly; b = biweekly; m = monthly; and if seasonal service also indicated by Sp = Spring; Su = Summe

[24] Identified by the materials collected by listing of the letter located by that material type. A = Plastics; B = Newspaper; C = Corrugat E = Glass; F = Metals; P = Pallets; J = Construction/Demolition; K = Tires; L1, L2 etc. = as identified on page.

TABLE III-5

PROPOSED COMPOSTING:

Program Name,	Service Area[25]	Public or	Collection	Collection	Materials	Program Management Responsibilities[26]		
None		Private	Point[27]	Frequency[28]	Collected[29]	Development	Operation	Evaluation

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

[26] Identified by 1 = Designated Planning Agency; 2 = County Board of Commissioners; 3 = Department of Public Works; 4 = Environ
page); 5 = Private Owner/Operator; 6 = Other (Identified on page).

[27] Identified by c = curbside; d = drop-off; o = on site; and if other, explained.

[28] Identified by d = daily; w = weekly; b = biweekly; m = monthly; and if seasonal service also indicated by Sp = Spring; Su = Summe

[29] Identified by the materials collected by listing of the letter located by that material type. G = Grass Clippings; L = Leaves; F = Foo
S = Municipal Sewage Sludge; A = Animal Waste/Bedding; M = Municipal Solid Waste; L1, L2 etc. = as identified on page.

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

TABLE III-6

PROPOSED SOURCE SEPARATION OF POTENTIALLY HAZARDOUS MATERIALS:

Program Name, Evaluation	Service Area[30]	Public or Private	Collection Point[32]	Collection Frequency[33]	Materials Collected[34]	Program Management Responsibilities[31] Development	Operation
Paint Can recycling	Bay County	Private	d	m	paint cans	5	5	5

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

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

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

[32] Identified by c = curbside; d = drop-off; o = onsite; and if other, explained.

[33] Identified by d = daily; w = weekly; b = biweekly; m = monthly; and if seasonal service also indicated by Sp = Spring; Su = Summe

[34] Identified by the materials collected by listing of the letter located by that material type. AR = Aerosol Cans; A = Automotive Produc Antifreeze; AN = Antifreeze; B1 = Lead Acid Batteries; B2 = Household Batteries; C = Cleaners and Polishers; H = Hobby and Art Supplies; OF = Used Oil Filters; P = Paints and Solvents; PS = Pesticides and Herbicides; PH = Personal and Health Care Products; U = Used Oil; OT = Other Materials and identified.

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.

Environmental Groups:
None

Other:
Dow Chemical Company, Household Hazardous Waste collection
Michigan Department of Agriculture, Clean Sweep pesticide 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:	Projected Ann. Tons Diverted:			Collected Material:	Projected Ann. Tons Diverted:		
	Current	5th Yr	10th Yr		Current	5th Yr	10th Yr
A. TOTAL PLASTICS:	42.14	46.35	50.99	G. GRASS AND LEAVES:	54.18	55.00	55.00
B. NEWSPAPER:	30.1	33.11	36.42	H. TOTAL WOOD WASTE:	NA	NA	NA
C. CORRUGATED CONSTRUCTION AND CONTAINERS:	NA	NA	NA	I. DEMOLITION:	21.07	23.18	25.49
D. TOTAL OTHER FOOD PAPER:	9.03	9.93	10.93	J. FOOD PROCESSING:	54.18	54.18	54.18
E. TOTAL GLASS:	18.06	19.87	21.85	K. TIRES:	36.12	36.12	36.12
F. OTHER MATERIALS:	36.12	36.12	36.12	L. TOTAL METALS:	36.12	39.73	43.71

MARKET AVAILABILITY FOR COLLECTED MATERIALS:

All recyclable materials are sold to the secondary market. We have no information as a county on the market availability.

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.

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

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.

Program Topic[1]	Delivery Medium[2]	Targeted Audience[3]	Program Provider[4]
1,2,3,4,5	r,t,n	p,b	DPA
1,2,3,4,5	w,e	s (K-6)	

[1] Identified by 1 = recycling; 2 = composting; 3 = household hazardous waste; 4 = resource conservation; 5 = volume reduction; 6 = other which is explained.

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

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

[4] Identified by EX = MSU Extension; EG = Environmental Group (Identify name); OO = Private Owner/Operator (Identify name); HD = Health Department (Identify name); DPA = Designated Planning Agency; CU = College/University (Identify name); LS = Local School (Identify name); ISD = Intermediate School District (Identify name); O = Other which is explained.

Additional efforts and the above information for those efforts are listed in Appendix E.

TIMETABLE FOR SELECTED SYSTEM IMPLEMENTATION

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

TABLE III-7

Management Components	Timeline
Solid Waste collection, municipalities	ongoing
Recycling, municipalities	ongoing
Composting, municipalities	ongoing
Educational programs, ISD	2000-2005
Source separation, Dow, MDA, private organizations	ongoing

SITING OF WASTE DISPOSAL AREAS NOT APPLICABLE - **ADEQUATE SPACE FOR ESTIMATED WASTE GENERATION IS CERTIFIED IN THIS PLAN**

See page III-7, the facility description of Whitefeather Landfill. This landfill has 4,175,153 yards of capacity or 18.8 years of capacity alone. Bay County requires 120,968 tons of disposal capacity, or roughly 362,904 cubic yards per year. This is 11.5 years, assuming that all Bay County Waste is disposed of in this landfill. The County has access to at least 5 other landfills, totaling 24,543,741 cubic yards of capacity or an additional 203 years of capacity.

SITING REVIEW PROCEDURES, AUTHORIZED DISPOSAL AREA TYPES

All disposal areas besides Transfer Facilities are deemed inconsistent with the plan.

SITING REVIEW PROCEDURES, SITING CRITERIA AND PROCESS

SITING CRITERIA FOR TRANFER FACILITIES:

1. The proposed facility must be located on a Class A, All-Season Road, with the Facility access directly from the Class A, All-Season Roadway; If an additional access approach is proposed for the location, the entire access route to the facility must be upgraded and approved to meet Bay County Road Commission and/or MDOT standards for Class A, All-Season Road by the Facility Owner/Developer expense, prior to any waste being received at the facility.

2. The Facility must meet all applicable state and local laws, zoning and ordinances in effect at the time of application.

SOLID WASTE MANAGEMENT COMPONENTS[35]

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.

IDENTIFICATION OF RESPONSIBLE PARTIES

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

Resource Conservation:

Source or Waste Reduction - Private business and industry

Product Reuse - Private business and industry

Reduced Material Volume - None

Increased Product Lifetime - None

Decreased Consumption - None

Resource Recovery Programs:

Composting - City of Bay City composting and Christmas tree collection, City of Pinconning yard waste, City of Auburn yard waste, Hampton Township yard waste.

Recycling - individual municipalities

Energy Production - None

Volume Reduction Techniques:

None

Collection Processes:

[35] Components or subcomponents may be added to this table.

Private waste haulers and individual municipalities

Transportation:
Private waste haulers and individual municipalities

Disposal Areas:

Processing Plants - None
Incineration - None
Transfer Stations - Hampton Township
Sanitary Landfills - Private operators

Ultimate Disposal Area Uses:

Private disposal operators

Local Responsibility for Plan Update Monitoring & Enforcement:

Townships, Cities and other entities that may contract for waste services

Educational and Informational Programs:

Voluntarily produced in schools.
Designated Planning Agency working with Local environmental organizations.

The management responsibilities for the selected solid waste system are primarily controlled by the Townships and Cities through their waste hauling, recycling and disposal contract with waste operators. Similarly, industrial and commercial entities are responsible for the management of their waste through contractual arrangements or internal recycling, reuse and waste reduction methods. There are no specific institutional arrangements required by the selected system. As such, documentation of acceptance of responsibilities is not contained in Appendix D but exists by virtue of current contracts and waste management practices throughout the county.

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:

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

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

A. Geographic area/Unit of government:
Type of disposal area affected:
Ordinance or other legal basis:
Requirement/restriction:

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

The local regulations may include the following subjects and may be adopted by any municipality in the County. Regulations meeting these qualifications may be adopted and implemented by the appropriate governmental unit without additional authorization from, or formal amendment to, the Solid Waste Management Plan.

Allowable areas of local regulation include:

1. Certain ancillary construction details such as landscaping and screening.
2. Hours of operation.

3. Noise, litter, odor and dust control.
4. Operating records and reports.
5. Facility security.
6. Monitoring of wastes accepted and prohibited.
7. Tipping fees

CAPACITY CERTIFICATIONS

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

See page III-7, the facility description of Whitefeather Landfill. This landfill has 4,175,153 yards of capacity or 18.8 years of capacity alone. Bay County requires 120,968 tons of disposal capacity, or roughly 362,904 cubic yards per year. This is 11.5 years, assuming that all Bay County Waste is disposed of in this landfill. The County has access to at least 5 other landfills, totaling 24,543,741 cubic yards of capacity or an additional 203 years of capacity.

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

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

APPENDIX

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.

No additional information is provided.

DETAILED FEATURES OF RECYCLING AND COMPOSTING PROGRAMS:

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

We do not know what types and/or volumes of recyclable material are available in the waste stream. A waste characterization study has not been done for Bay County; however, we can make estimates using national averages for rural areas. Using these figures, we estimate a theoretical amount of the following types and amount of materials are available. These figures assume a overall waste generation rate of 3 pounds per person per day. These figures do not take into account any industrial or commercial waste generation or recycling, as this is done outside of the management of the planning agency and overall goals of the county for solid waste handling.

Paper	- 39.40 tons per year
Glass	- 18.06 tons per year
Metal	- 36.12 tons per year
Plastics	- 42.14 tons per year
Food waste	- 54.18 tons per year
Yard waste	- 54.18 tons per year

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:

Bay County's selected solid waste handling system does not include getting involved in the equipment selection or location of existing or proposed recycling programs. Recycling opportunities are planned to be increased, but these locations and equipment used will be selected by the Townships and Cities involved and the waste hauler with whom the contract is signed.

Equipment Selection - Not Applicable

Site Availability & Selection - Not Applicable

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.

No formal composting operations are included as part of the selected solid waste management system. Existing yard waste management programs are operated on a very small scale. Product is used locally or for municipal use only.

Existing Programs:

Program Name:	pH Range	Heat Range	Other Parameter	Measurement Unit

Proposed Programs:

Program Name	pH Range	Heat Range	Other Parameter	Measurement Unit

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.

Several coordination efforts are planned for the selected solid waste management system. These include regionally based recycling opportunities through drop-off sites and soliciting a heavy metal collection contractor. This coordination will take place among townships and cities, encouraged by the County.

Townships and cities may also coordinate contracting efforts in areas where the population base can support a trash and/or recycling collection contract, even when it crosses township boundaries.

Educational programs will be coordinated countywide through a proposed school program. Other educational efforts are planned through public television and radio.

COSTS & FUNDING:

The following estimates the necessary management, capital, 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.

System Component[1]	Estimated Costs	Potential Funding Sources
Resource Conservation Efforts	Not available	Not available
Resource Recovery Programs	Not available	User fees
Volume Reduction Techniques	Not available	Private industry is the leader in this area in the County.
Collection Processes	Not available	Townships, cities and other populated areas
Transportation	Not available	Townships, cities and other populated areas
Disposal Areas	Not available	Republic Services of Michigan, Inc. and other landfill owners to which Bay County waste is transported
Future Disposal Area Uses	Not available	Republic Services of Michigan, Inc. and other landfill owners to which Bay County waste is transported.

Management Arrangements	Not available	Not available
Educational & Informational Programs	Not available	Voluntarily produced in schools. Designated Planning agency working with local environmental organizations will be responsible for public education through television and radio.

[1] These components and their subcomponents may vary with each system.

EVALUATION SUMMARY OF THE SELECTED SYSTEM:

The solid waste management system has been evaluated for anticipated positive and negative impacts on the public health, economics, environmental conditions, siting considerations, existing disposal areas, 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:

Waste reduction, pollution prevention, resource conservation, resource recovery, volume reduction, sanitary landfilling, collection processes, transportation, ultimate disposal area uses, institutional arrangements and recycling and composting programs were discussed as they do or do not exist now for each alternative. These factors were used to rank each alternative, although a formal ranking system was not used. Bay County does not require a formal or complicated ranking or evaluation system due to the largely rural nature, well operating systems for waste management and highly successful waste reduction, composting and recycling programs in the population centers and some rural areas. The County did, however, review each of these solid waste management components when considering each alternative.

The selected solid waste management alternative is a combination of two approaches. First we would recommend maintaining the current system of solid waste hauling and disposal efforts, as they are operating well and can expand easily to cover households that currently do not contract for hauling services. Changes in this system that we recommend include additional efforts at **diverting recyclable and reusable materials** from the waste stream through three main methods:

Establish more frequent and diverse household hazardous collection programs. These need to be well publicized and include a variety of household items. These should be located throughout the county as well and be on a staggered schedule.

Yard waste and composting options should be better publicized, and expanded where possible.

Commercial and industrial diversion is going very well. Successful efforts should be advertised and used as examples for other commercial operations where applicable.

This alternative stresses increasing public awareness of recycling, reuse and composting alternatives, **identifying households** in a more consistent manner to improve the efficiency of the current waste hauling system and **decreasing open burning. This is the selected solid waste management system.**

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. This system is easy to use.

2. There is well over sufficient landfill capacity.

3. There is public acceptance.

4. People can reasonably be expected to adhere to the selected system.

5. No significant changes.

6. Economically feasible.

7. No siting considerations.

DISADVANTAGES:

1. Still some trash burning by residents.

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.

RESOURCE CONSERVATION EFFORTS:

No alternative systems were identified.

VOLUME REDUCTION TECHNIQUES:

No alternative systems were identified.

RESOURCE RECOVERY PROGRAMS:

A curbside pick up was discussed for each Bay County resident. All newspaper, plastics and metals would be set out monthly at the curb and a selected hauler would pick up all materials. In Bay County this was deemed ineffective due to the sparse distribution of residents in the rural areas.

COLLECTION PROCESSES:

TRANSPORTATION:

No change from the selected system.

DISPOSAL AREAS:

With an existing landfill within the County it did not make sense to look elsewhere within the County for a new waste facility. There is ample landfill space in the counties named in the Plan to handle Bay County's waste for the next 10 years and beyond.

INSTITUTIONAL ARRANGEMENTS:

There are no institutional arrangements that we know of.

EDUCATIONAL AND INFORMATIONAL PROGRAMS:

Currently and in each of the nonselected systems, there were no educational or informational programs specified.

CAPITAL, OPERATIONAL, AND MAINTENANCE COSTS:

No costs have been estimated because all contracts and decisions are made at the local level and the nonselected systems were unreasonably expensive.

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.

The nonselected systems were largely evaluated as inefficient and unreasonably expensive for the anticipated increase in recycling or volume reduction. As a rural, sparsely populated county, both the selected and nonselected systems are simplistic and straightforward. They are directed more by the private sector than public and the waste collection, transport and disposal systems operates most efficiently this way.

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. Single source hauling is easy to work with.

2. Curbside recycling to every resident would produce greater participation.

3. Increase recycling participation.

DISADVANTAGES:

1. Curbside recycling to all residents too expensive.

2. Decrease in waste generation and disposal is minimal from this system.

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.

The Solid Waste Planning Committee members were appointed at a meeting of the Bay County Board of Commissioners, held on April 14, 1998. The Solid Waste Planning Committee approved the draft plan at a meeting held on January 7, 1999. a copy of the public notice of each Solid Waste Planning Committee meeting is included. The Bay County Board of Commissioners approved the Solid Waste Plan on _____. The date each municipality approved the Plan is listed below:

Municipality	Date
Auburn City	
Bangor Township	
Bay City	
Beaver Township	
Essexville City	
Frankenlust Township	
Fraser Township	
Garfield Township	
Gibson Township	
Hampton Township	
Kawkawlin Township	
Merritt Township	
Monitor Township	
Mount Forest Township	
Pinconning City	
Pinconning Township	
Portsmouth Township	
Williams Township	

The Bay County Environmental Affairs Office is responsible for publishing public notices and carrying out reciprocal agreement negotiations and procurement.

PLANNING COMMITTEE APPOINTMENT PROCEDURE:

The Solid Waste Committee appointments were made by the Bay County Board of Commissioners.

Members of the solid waste industry were solicited by letter from the chair of the Bay County Board of Commissioners on December 18, 1997. They were selected to represent each waste industry operating in the county. Members of industrial waste generators were solicited by letter from the chair as well on December 18, 1997. The representative of an industrial waste generator was chosen from the top three waste generators in the county. Environmental interest groups, the regional planning agency, the township representative and the city representative were solicited in a similar manner by letter dated December 18, 1997.

Members of the general public were solicited through an ad in the Bay City Times. The representative from County government was selected by the Board of Commissioners as the commissioner in whose district the landfill resides.

A copy of the history of appointments to the committee follows.

PLANNING COMMITTEE

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

Four representatives of the solid waste management industry:

1. Jeff Tucker, Tri County Refuse Service, Inc.

2. Dale R. Johnson, Rainbow Waste Services

3. Kim Short, Whitefeather Landfill

4. Larry Farichild, Fairchild Waste Control

One representative from an industrial waste generator:

1. Susan Hewitt, Karn/Weadock Annex

Two representatives from environmental interest groups from organizations that are active within the County:

1. Sue Boies, Lone Tree Council

2. Carl Reinke, MUCC

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

1. Richard L. Byrne, County Commissioner

One representative from township government:

1. Mary Kusterer, Pinconning Township Trustee

One representative from city government:

1. Edward Golson, City of Bay City

One representative from the regional solid waste planning agency:

1. Sue Fortune, ECMPDR

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

1. Leo Rokosz
2. Judy Barber
3. Vacant

APPENDIX D

Plan Implementation Strategy

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.

The County will have no direct role in the implementation of the Plan. The selected solid waste management system is discussed on page II-17 in the Selected Solid Waste Management Alternatives section as the second alternative.

Resolutions

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

None.

Listed Capacity

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

Waste Management of Central Michigan, Inc. is providing a letter documenting access to all their facilities.

Maps

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

Inter-County Agreements

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

Saginaw County is the only intercounty agreement and follows.

Special Conditions

Special conditions affecting import or export of solid waste.

None to date.

BAY COUNTY SOLID WASTE MANAGEMENT PLAN UPDATE COMMITTEE

Meeting minutes of the September 24, 1998 meting held at 3:00 PM at the Bay County Building

Attendance: Richard Byrne, Judy Barber, Mary Kusterer, Valerie Keib, Kim Short, Jeff Tucker, Sue Fortune, Carl Reinke, Leo Rokosz, L. Cnudde, Cindy Winland
Excused: Ed Golson, Susan Hewitt
Absent: Dale Johnson, Larry Fairchild

Order of Business

1. Call to Order

Chair Byrne called the meeting to order at 3:00 PM and a roll call was taken by Valerie Keib. A quorum was declared present.

2. Approval of Minutes

Meeting minutes from the August 27, 1998 meeting were reviewed. Leo Rokosz moved to accept the minutes as written, Leonard Cnudde supported the motion. The motion carried.

3. Plan Update

Richard Byrne introduced Cindy Winland, the consultant being hired by Bay County through ECMPDR to the committee. The goal is to stay on the original schedule of the committee to complete the Plan.

Cindy Winland distributed copies of the proposed Work Plan she had prepared for the SWUC which follows the MDEQ guidelines for Plan preparation. Cindy presented her background and experience with solid waste planning and management to the committee.

Cindy reviewed the Work Plan which shows that some steps have been completed by the SWMP Committee. Approximately 1/3 of the database (compiling of information) has been completed.

Valerie reviewed the information presented in the Work Plan with comments from Cindy Winland. MDEQ requirements were discussed as well as the software format.

Auburn, Essexville, Bangor, Bay City, Frankenlust, Pinconning Township, have responded to requests for information. Consumers Power and Lone Tree council have also provided input. These municipalities were thanked. Other municipalities have been contacted again for this information.

Cindy discussed the possibility of whether or not siting criteria are a step that this committee wants to address. It is not required due to the extended landfill capacity at Whitefeather, and there will be substantial time that would need to be devoted to this.

Discussion of siting procedures followed, and some options were discussed and reviewed. Siting procedures for this format are only for a landfill as required by MDEQ. Incineration banning was discussed and Cindy indicated that if we state only landfills and ban incineration then incineration siting criteria do not have to be addressed in this update process. Cindy will contact the MDEQ to ensure that this is accurate. It was noted that Saginaw County has recommended banning incineration in their current update process.

Some discussion of November and December meeting times was discussed as the 4th Thursday of these months fall on holidays. More frequent meetings were discussed. Cindy stated that approximately 7 meetings will be needed to complete the process, barring any complications. Cindy asked that as the committee meets please call ahead with questions. The next meeting was scheduled for October 8, 1998 at 3:00 PM. Be ready to ask questions on information sent out with agendas so that at the meeting time will be productive. Much of the information in the format is repeated from county to county state wide and we can receive this for our plan, is desired, and focus on local issues.

The committee was asked to respond in round table discussion to questions regarding goals and objectives for the update, by Cindy.

- Do we want to ban incineration? To be discussed.
- Recyclables and solid waste are all trucked. Bay City, Hampton Township and Monitor Township all have curbside pickup. Monitor Township has one contract for composting/recyclable and solid waste.

Cindy asked the group to address deficiencies and problems.

- Need composting facilities
- Need clear market for recycled goods, this is 100% market driven
- Solid Waste recyclables are, the committee believes, all hauled to Saginaw at this time for Bay County.
- Can we try to eliminate the need for land filling recycled goods by educational processes.
- Scrap tires are collected by Mosquito Control
- Household hazardous waste is limited by Dow Chemical's restrictions, more information is needed from Bay County's Public Health Department. This is not a critical/severe issue.
- Open burning
- Open dumping is a problem, along shorelines, some municipal contracting has helped to reduce this problem, as have trashcans at drive-through fast food windows.
- Some discussion of used white goods (steel, appliances)
- Nickel, cadmium, mercury, A/C and refrigerator units as well as other appliance disposal issues (i.e. batteries) were discussed, more public education was mentioned as a way to address this.

Cindy asked the group to list complaints. None were raised.

Cindy asked the group to discuss goals.

- Not keep all waste in Bay County?

- Ban incineration of municipal wastes, Type II, Type III?
- Notify municipalities of the need for their response and participation
- Encourage business to reuse local recyclable products, Kmart/Meijers
- GM and Consumers wastes are not pare of the solid waste stream for Bay County, they handle their waste under separate DEQ regulatory program.
- Road hauling routes?
- County does not want to engage in reciprocal agreements

4. Public Input

No one from the public was in attendance.

5. Adjourn

Sue Boise moved to end the meeting. Motion supported by Leo Rokosz and the motion carried. Meeting adjourned at 4:05 PM.