



**The Grand Traverse Band of
Ottawa and Chippewa Indians**

2605 N. West Bay Shore Drive • Peshawbestown, MI 49682-9275 • (231) 534-7750

Certification of Tribal Council Action

Regular Session of March 21, 2012

I hereby certify as the Tribal Council Secretary that the foregoing Motion was Approved and Adopted at the Regular Session of the Grand Traverse Band of Ottawa & Chippewa Indians Tribal Council

**Review of Written Management Reports
NREC – Integrated Solid Waste Management Plan**

Motion made by Tribal Council Member Rohl and Supported by Tribal Council Member Napont to approve the Integrated Solid Waste Management Plan.

**5 – FOR; 0 – AGAINST; 1 – ABSENT (Bailey); 0 – ABSTAINING
Motion Carries**


George M. Antoine, GTB Tribal Council Secretary

cc: Shawnee John, NRD



**Grand Traverse Band of Ottawa and
Chippewa Indians**

2605 NW Bay Shore Drive
Peshawbestown, MI 49682
(231) 534-7500

**Natural Resource and Environmental Committee
Regular Session
March 8, 2012
Natural Resources Department**

II. Old Business

1. Integrated Solid Waste Management Plan

Motion to support the Integrated Solid Waste Management Plan

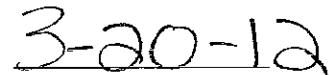
9-For; 0-Against; 0-Abstain; 2-Absent (TOM ANTOINE; SANDY WITHERSPOON)

Motion Carries

I, Shawnee John certify that the above motion was made and adopted at the Natural Resource and Environmental Committee Regular Session, held on March 8, 2012 at the Natural Resources Fisheries Management Building in Peshawbestown, Michigan.



Shawnee John
Administrative Assistant NRD


Date

**GRAND TRAVERSE BAND
OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED WASTE MANAGEMENT PLAN**

**PROJECT #3207
FINAL DRAFT**

DECEMBER 2010

**Prepared By Kristine L. Petoskey, Environmental Consultant
Templates used: EPA Region Draft April 2007 Integrated Waste
Management Planning Method & TSWAN**

TABLE OF CONTENTS

1.0	DESCRIPTION OF COMMUNITY SERVICE AREA	1
1.1	POPULATION AND DEMOGRAPHICS	1
1.2	COMMUNITY ASSETS AND RESOURCES.....	2
1.3	HOUSEHOLDS AND HOUSING.....	3
1.4	POPULATION PROJECTIONS AND ESTIMATED GROWTH RATE	4
1.5	ECONOMY	5
1.6	CLIMATE.....	6
1.7	GEOGRAPHY AND LAND USE	7
1.8	GEOLOGY AND NATURAL RESOURCES.....	7
2.0	DESCRIPTION OF THE TRIBE’S SOLID WASTE PROGRAM STRUCTURE AND ADMINISTRATION	9
2.1	PROGRAM ADMINISTRATION AND MANAGEMENT.....	9
2.2	REGULATORY REQUIREMENTS (CODES & ORDINANCES).....	12
2.3	ENFORCEMENT.....	13
3.0	DESCRIPTION OF THE TRIBE’S CURRENT AND PROPOSED WASTE MANAGEMENT PRACTICES.....	15
3.1	CURRENT WASTE MANAGEMENT PRACTICES.....	15
3.1.1	Waste Stream Characterization	15
3.1.1.1	Generators (Residential, Commercial, and Industrial).....	15
3.1.1.2	Weight/Volume	16
3.1.1.3	Compositions and Waste Stream Analysis.....	17
3.1.1.4	Future Generation and Growth Rate.....	18
3.1.2	Open Dumps and Uncontrolled Waste Sites	19
3.1.3	Waste Collection, Transfer, and Disposal.....	21
3.1.4	Special and Hazardous Waste	22
3.1.5	Waste Reduction: Source Reduction, Recycling, & Composting	34
3.1.6	Facility Descriptions and Capacities	40
3.1.7	Regional Infrastructure.....	46
3.1.8	Current Partnerships	47
3.1.9	Past/Current Public Involvement and Community Education.....	47
3.2	PROPOSED WASTE MANAGEMENT PRACTICES.....	49
3.2.1	Special Considerations	49
3.2.1.1	Limitations and Inefficiencies of the Current Program.....	49
3.2.1.2	Equipment and Facility Needs.....	49
3.2.2	Alternatives Analysis.....	51
3.2.2.1	Capital, Operational, and Maintenance Costs	52
3.2.2.2	Closure Care and Costs	63
3.2.2.3	Real Cost of In-Kind, Off-the-Book Transactions	64
3.2.2.4	Cost-effective Analysis	64

3.2.2.5	Overall Feasibility	67
3.2.2.6	Selected Alternative.....	68
3.2.3	Proposed and Future Waste Management Practices.....	68
3.2.3.1	Proposed Waste Collection, Transfer, and Disposal	68
3.2.3.2	Proposed Special and Hazardous Waste.....	69
3.2.3.3	Proposed Waste Reduction: Source Reduction, Recycling, and Composting.....	69
3.2.3.4	Potential Partnerships	69
3.2.3.5	Compliance and Enforcement	70
3.2.3.6	Proposed Public Involvement and Community Education.....	70
3.2.4	Implementation.....	71
3.2.5	Tribal Solid Waste Management Plan Review and Updating.....	71
4.0	DESCRIPTION OF THE FUNDING AND SUSTAINABILITY/LONG-TERM GOALS OF THE TRIBE'S SOLID WASTE PROGRAM	72
4.1	FINANCIAL IMPLEMENTATION	72
4.1.1	Funding the Plan.....	72
4.1.2	Revenue Generators.....	76
4.1.3	Fee Structure.....	76
4.1.4	Financial Sustainability	76
4.2	LONG-TERM GOALS AND STRATEGIES.....	77
4.2.1	Long-Term Goals and Priorities.....	78
4.2.2	Improvements Beyond Basic Compliance	79
4.2.3	Strategies for Implementation and Maintenance.....	79
5.0	DEMONSTRATION OF APPROVAL OF PLAN BY APPROPRIATE GOVERNING BODY	83
5.1	BY WHOM.....	83
5.2	DATE.....	83
5.3	DEMONSTRATION OF COMMUNITY INVOLVEMENT IN THE PLANNING PROCESS	84

APPENDICES

- A REGIONAL CONTACTS**
- B FURTHER RESOURCES**
- C APPROVAL BY THE GOVERNING BODY: GRAND TRAVERSE BAND OF
OTTAWA & CHIPPEWA INDIANS**

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

1.0 DESCRIPTION OF COMMUNITY SERVICE AREA

This section discusses the following community and service areas:

- Population and demographics
- Community assets and resources
- Households and housing
- Population projections and estimated growth rate
- Economy
- Climate
- Geography and land use
- Geology and natural resources.

1.1 POPULATION AND DEMOGRAPHICS

The Grand Traverse Band was federally-recognized under the authority of the Indian Reorganization Act of June 18, 1934, (48 Stat. 984), as amended. They were federally-restored to a previous status as an Indian Tribe on May 27, 1980. The Tribe is located in the northern lower peninsula of Michigan in the counties of Antrim, Benzie, Charlevoix, Grand Traverse, Leelanau, and Manistee. The acreage includes 2,562 square miles. The Natural Resources and local economy include: treaty-based hunting, fishing, tourism, recreation, casinos, resort, hotels, golf courses, freshwater lakes, streams, rivers, wetlands, forests, native plants, environmentally-sensitive areas, and culturally-preserved areas. There are 4,102 total members of which 686 members live on the reservation lands. The income sources include casinos, restaurants, hotels, gas station, golf courses, resort, small retail shops, and rental housing. Further information can be accessed at <http://gtbindians.org/>.

The total population of the Grand Traverse Band is 4,102 members, based on data from the Grand Traverse Band Membership office, per data received on October 25, 2010. The table below indicates the breakdown of the current population of the reservation, including total Tribal enrollment, members living on the reservation, and non-Tribal members living on the reservation.

Grand Traverse Band Reservation Population, 2010

Total Enrollment	Members Living on Reservation	Non-members Living on Reservation	Total Reservation Population
4,102	686	0*	686

Only GTB Tribal members are assigned reservation lots. Any non-native occupants within these households are not tracked by the Tribe.

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

Measurable Outcomes

The housing populations will be updated every five years after the one year update to ensure the projections are on track and the projected solid waste needs are accurate.

1.2 COMMUNITY ASSETS AND RESOURCES

Cultural Traditions

The Grand Traverse Band has strong cultural and traditional beliefs in regard to environmental protection and preservation. These beliefs are represented in every action taken by the Tribe. The philosophy is to always consider those seven generations ahead and to remember and respect those seven generations back who did things in a good way for us today. It is with this in mind, that it is easy to understand that managing the solid wastes needs is integral to the basic existence of the Tribe and is incorporated into everything that is done.

Educational Ethic

The Grand Traverse Band strongly values education. A culture which embraces education so highly is very receptive to continually furthering their knowledge. The Tribe supports educational outreach especially in the areas of the environment, including solid waste management practices. Community involvement and support is high, increasing the success of a solid waste management plan.

Community and Cultural Assets and Resources

There are several community and cultural assets and resources at the Grand Traverse Band, which contribute to the success of a solid waste management plan. Examples include, but are not limited to the following (in alphabetical order):

Anishinaabek Family Services	Food and Beverage Departments
Anishinaabemowin Program	Guest Services
Architect/Project Planning Program	Housing Department
Automotive Department	Information Technology Department
Benodjenh Headstart/Early Headstart	Life Long Learn Department
Communications Department	Maintenance Departments
Conservation Department	Marketing Departments
Elder's Advisory	Membership Department
Education Department	Natural Resources Department (NRD)
Eyaawing Museum	Natural Resources Environment Committee
Facilities Department	Public Works Department
Family Health Clinic	Tribal Council

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

Many community events are good sources for reaching Tribal membership, a few examples include:

Anishinaabemowin Program Gatherings	NRD Fair and Feast (annual)
Elders Advisory (monthly)	NREC Meeting
Eyaawing Cultural Events	Traditional Pow Wow (annual)
Health Fair (annual)	Tribal Council sessions (monthly)
Membership Meeting (annual)	

Measurable Outcomes

The Environmental Director conducts solid waste educational outreach for the Tribal community and staff on a regular basis by attending community events and by providing educational materials (brochures, newsletter articles, and e-mail notices). The Director reports the outreach in EPA progress reports on a regular basis, in accordance with the grant.

1.3 HOUSEHOLDS AND HOUSING

Housing

The existing number of households on Grand Traverse Band reservation land is 254. This includes 152 rental units and 102 privately owned homes on reservation land in the six county service area. The largest populations are located on the main reserve in Peshawbestown. The table below indicates the types and numbers of existing housing units on the Grand Traverse Band reservation.

Grand Traverse Band Reservation Housing, 2010

TOTAL # UNITS	Rental Units		Owned Homes	
	# Units	% of Total	# Units	% of Total
254	152	60%	102	40%

Fee Structure

Renters pay their waste and recycling costs as part of their monthly rent, separate from water/sewer and heat. Housing is available as single units, 2-4 bedrooms, duplexes, and apartments. Housing trends are tracked to easily predict waste and recycling current and future needs.

Private homeowners are responsible for contracting with local waste haulers for waste disposal needs. They have the availability to access county recycling sites in their specific county. There are two options available for county recycling in the six county service area: centrally-located recycling sites and curbside pickup.

Commercial waste fees are built into each separate budget for each casino and the governmental operation.

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

Source

Rental information was gathered from the Tribal Housing Department. Private homeowner information was gathered from the May 2005 plat maps provided by the Land/Road Manager, Rob Kalbfleisch. The number of members per household for rentals and owned homes is based upon the numbers of members and number of rental units in Tribal housing.

Measurable Outcomes

The status of Tribal housing, in regard to the number of units, number of occupants, and capacity and assess the number of owned homes will be updated every five years after the one year update.

1.4 POPULATION PROJECTIONS AND ESTIMATED GROWTH RATE

Population Projections

The table below utilizes the population projections from Section 1 and reflects the total waste generation over the 50-year planning period.

Population and Solid Waste Generation Projections

YEAR	MEMBERSHIP POPULATION	RESERVATION POPULATION
2010	4,102	686
2015	4,128	690
2020	4,154	695
2025	4,180	699
2030	4,206	703
2035	4,232	708
2040	4,258	712
2045	4,284	716
2050	4,310	721
2055	4,336	725
2060	4,362	729

Over the past three years, the Grand Traverse Band reservation has only increased at an average annual rate of 0.6%. Based on this rate, the fifty year (2010 to 2060) population projection for

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

members who live on Grand Traverse Band reservation trust land, predicts a growth of approximately 43 people.

Population and Growth Source

Population data was obtained from the Tribal Membership office, which publishes its population updates twice annually. Data was available from 2007 to 2010.

Measurable Outcomes

The Tribal membership data and the population growth will be compared to the projected numbers to make sure it is accurate every five years after the one year update.

1.5 ECONOMY

Commercial Economy

The Grand Traverse Band Tribe operates two casinos, two hotels, one museum, and one resort which attract visitors from outside the reservation year round. The year-round population of the Grand Traverse Band reservation is 685 persons. Additionally, during peak tourist season, populations increase exponentially. For example, it is estimated that 300,000 visitors attend the annual National Cherry Festival in Traverse City, alone. According to the Grand Traverse Band Casino marketing department, 1,052,191 persons visited the Turtle Creek Casino and 303,313 persons visited the Leelanau Sands Casino in 2010 (fiscal year October 2009 - September 2010), for a total of 1,355,524 visitors in 2010. This is similar to 2009, which had a total of 1,319,912 visitors. Further, the Tribe is the largest employer in the northwestern lower peninsula of Michigan, employing 182 government employees and 876 gaming employees.

Poverty and Unemployment

The Tribe's historic reservation of Peshawbestown, Michigan is located in an area where the poverty level for a household of four is \$19,100.00 and the national poverty level is \$21,200.00. The poverty level for the Tribe exceeds the national level by 10% or equal to but less than twice the national poverty rate. This data was derived from the Department of Health and Human Services reported 2008 national poverty levels and the Department of Housing and Urban Development's 2008 adjusted home income limits for Michigan.

These headquarters are located in an area where the local unemployment rate exceeds the national unemployment rate by 51%. This is twice the national average but less than three times the national average. This figure was derived from the U.S. Department of Labor's reported national unemployment rate of 5.0% for April 2008 and the State of Michigan's Department of Labor and Economics report an unemployment rate for the northwestern lower peninsula of Michigan for April 2008 of 9.8%.

Industrial Economy

There are no industrial sources on reservation lands.

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

Economic Information Resources

Information was collected from the following sources:

- Casino visitors and demographics (Marketing Department),
- Gaming staff (Gaming Human Resources), and
- Local economy, demographics, and Government staff data (Grants Department).

Measurable Outcomes

The number of Government and Gaming staff and the unemployment data will be updated every five years after the one year update.

1.6 CLIMATE

According to the National Water Summary for 1988-89 published by the U.S. Geological Survey (USGS), approximately 75 percent of Michigan's moisture is derived from the Gulf of Mexico's tropical maritime air masses. The North Pacific Ocean and the Atlantic Ocean's polar maritime air masses lose most of their moisture before they reach the Great Lakes region. Similarly, the Arctic Ocean and polar continental air masses from northern Canada's arctic air masses contribute very little moisture.

The Great Lakes are a regional moisture source. The temperature of the lakes changes very slowly and this has an effect on climate. It delays the start of summer and winter, affecting wind, precipitation, and temperature.

On average, Michigan receives an average of 31 inches of precipitation, between 30 (SE Michigan) and 160 (N Upper Peninsula) inches of snowfall, 8 miles per hour winds (predominantly westerly), and temperature ranges from 24 to 63 degrees Fahrenheit.

The following table presents the seasonal ranges of climate data for the main reservation in Peshawbestown, Michigan (<http://www.city-data.com/city/Suttons-Bay-Michigan.html>).

Seasonal Climate Data, Peshawbestown, Michigan

Seasons	Temperature (F)	Precipitation (In)	Wind (MPH)	Snowfall (In)
Spring (March-May)	24 to 58	1.5 to 2.8	8.2 to 9	0 to 12.8
Summer (June-August)	58 to 63	2.8 to 3.6	7.2 to 8.2	0
Fall (September-November)	32 to 63	2.3 to 3.6	7.2 to 9.3	0 to 14
Winter (December-February)	24 to 32	1.4 to 2.3	9 to 9.3	14 to 12.8

10-year storm event susceptibility means a ten percent chance of occurrence each year, while a 100-year storm event means a one percent chance. According to the USGS, from 1903 to 1989, there were no 10-year or 100-year storms in the northwestern lower peninsula of Michigan

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

(<http://mi.water.usgs.gov/fdfloods.php>). The significant events typically occur in southern Michigan and the Upper Peninsula because of the amount of clay. This region is predominantly sandy, which buffers the effect of severe storms.

Measurable Outcomes

The climate data will be updated to maintain accuracy over the long term every five years after the one-year update.

1.7 GEOGRAPHY AND LAND USE

The Grand Traverse Band's reservation is located in the northwest section of the lower peninsula of Michigan. The Tribe is set within the woodlands of Leelanau County and includes views of West Grand Traverse Bay and Lake Michigan. The most distinct features of this region have been formed by glacial activity. Repeated glacial advances and retreats have created a terrain that is generally level to gently rolling and created a variety of distinct landform features throughout the region.

The Grand Traverse Band's service area encompasses six counties: Antrim, Benzie, Charlevoix, Grand Traverse, Leelanau, and Manistee, with a land area of 2,562 square miles. All six counties are designated as rural, according to the U.S. Department of Agriculture. The region is heavily wooded with a diversity of natural resources for hunting, fishing, recreation, agriculture, and year-round tourism. Table 1-3 contains a breakdown of land use on the Grand Traverse Band Reservation.

Land use in Grand Traverse Band Reservation

Land use	Square Miles
Forest lands	1,537
Agriculture (orchard, crop, hay)	641
Residential areas	384

Source: Tribal Natural Resources staff

Source

Geological and land use data was obtained from the Tribal Natural Resources Department and Grants Department.

Measurable Outcomes

The land use data will be updated every five years after the one year update.

1.8 GEOLOGY AND NATURAL RESOURCES

Landfill Feasibility

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

Information about the geological and engineering properties of the surface and subsurface is particularly important when considering landfill site selection, closure of existing dumps, and economic feasibility studies.

There are no plans for constructing a permanent structure, such as a landfill. The basis for this is that the Grand Traverse Band does not generate the volume which would warrant the need for their own landfill, they are not remotely located far from viable community landfills, there are no historic and cleanup landfills on the reserve, and, further, they value the natural pristine quality of the natural resources.

Measurable Outcomes

The landfill feasibility will be updated every five years after the one year update or in the event the Tribe decides a landfill becomes a viable possibility.

2.0 DESCRIPTION OF THE TRIBE'S SOLID WASTE PROGRAM STRUCTURE AND ADMINISTRATION

This section discusses program administration and management, regulatory requirements (codes and ordinances), and enforcement.

2.1 PROGRAM ADMINISTRATION AND MANAGEMENT

Administration

Administration includes the planning, development, contracting, legal, technical, record keeping, staffing, and public education responsibilities that are involved in the management of the Tribal solid waste system performed by the solid waste managers and/or recycling coordinators.

Tribal Personnel & Responsibilities

The roles and responsibilities involved in the administration of solid waste management is diverse and complex, and have grown more so within the past ten years. In addition, roles and responsibilities will grow as programs develop.

Solid Waste Managers/Recycling Coordinators:

- Dan Hughes, Leelanau Sands Casino Maintenance Supervisor (Gaming)
- Jim Gaskin, Turtle Creek Casino Maintenance Supervisor (Gaming)
- Tom Shomin, Facilities Manager (Government)
- Loi Chambers, Division IV Business Manager (Family Health Clinic, Government)
- Steve Ferrenga, Corporate Architect (C&D, Gaming)
- Joan Cotter, Interim Housing Director (Government)
- Dwayne Burfield, Automotive Program Director (Government)
- Desmond Berry, Environmental Director (Government)

Their responsibilities in regard to solid waste management generally include:

- **Budgeting:** Prepares an annual budget of anticipated capital and operating expenditures, projects anticipated revenues/losses from disposal fees and available funding.
- **Planning:** Conducts any plan development, contracts for outside services (if needed), assigns staff to the solid waste and recycling committees, represents the Tribe to the public, presents planning documents and recommendations to the Tribe.
- **Financing:** Produces projections on needed revenues, and requests available funding, as needed.
- **Implementation/Development:** Arranges for development of new facilities and programs by developing contracts, plans specifications and bid documents, and provides contract management.
- **Liaison:** Coordinates with the local Health Department on ordinances related to solid waste regulations as necessary to implement the solid waste program. Functions as the clearinghouse for all solid waste issues.

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

- **Operations:** Develops, manages, and monitors the contract for the waste disposal by private enterprise contractors.
- **Record Keeping:** Tracks the contractor's operating reports, maintains waste reporting and other databases and reports, and maintains the overall expenditure records, and tracks expenditures and revenues. (No database tracking is currently being utilized.)

Education Outreach Coordinator

The Grand Traverse Band Education Outreach Coordinator consists of:

- Desmond Berry, (Government) Environmental Director

His responsibility in regard to solid waste and pollution prevention consists of:

- **Public & staff education and outreach:** Prepares and provides public information through local media, workshops and seminars, provides published information on the solid waste system, and is the information center for recycling, hazardous waste, and other waste management issues within the reservation.

Grand Traverse Band Tribal Council

The Grand Traverse Band Tribal Councilors include:

- Derek Bailey, Tribal Chairman
- Sandra Witherspoon, Tribal Council Vice-Chairman
- Robert Kewaygoshkum, Tribal Council Treasurer
- George Antoine, Tribal Council Secretary
- David Arroyo, Tribal Councilor
- Brian Napont, Tribal Councilor
- Jane Rohl, Tribal Councilor

Their responsibilities in regard to solid waste management include:

- Review and approve prepared budgets, capital and operating expenditures, revenues/losses, and grant funding.
- Review and approve prepared implementation plans, plan development updates, contractual needs, staffing needs, and plans for public educational outreach, planning documents, and technical staff recommendations.
- Review and approve financing, revenues, and available grant funding, as appropriate.

All Tribal staff members are subject to annual reviews. Note that there are no dedicated "solid waste" staff or budgets. Solid waste responsibilities are incorporated into other position responsibilities. Similarly, solid waste budgets are integrated into departmental budgets. All gaming and governmental entities run separately and do not currently have close communication in regard to an entire Tribal solid waste program. All gaming and government department are subject to routine audits.

GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS INTEGRATED SOLID WASTE MANAGEMENT PLAN

FEDERAL, STATE, AND OTHER AGENCIES INVOLVED

The United States has a unique legal relationship with Tribal governments based on specific constitution, treaties, statutes, executive orders, and court decisions. Under the American legal system, Indian Tribes have sovereign powers separate and independent from the federal and state governments. This means that Tribal governments have the same powers as the federal and state governments to regulate their internal affairs, with a few exceptions. For instance, Tribes have the power to form a government, to decide their own membership, the right to regulate property, the right to maintain law and order, the right to regulate commerce, and so on.

Because of the unique nature of Tribal sovereignty and specific federal legislation recognition, various governmental agencies are involved in assisting Indian Tribes. Agencies assisting Tribes with solid waste management needs and concerns are listed below.

United States Environmental Protection Agency (EPA)

The EPA is entrusted with the responsibility to protect human health and the environment. Working on a government-to-government basis with tribes, the EPA gives special considerations to Tribal interests in making agency policy, and to insure the close involvement of Tribal governments in making decisions and managing environmental programs affecting reservation lands. In 1984, EPA became the first federal agency to adopt a formal Indian Policy of working with federally recognized Tribes on a government-to-government basis. This policy is intended to provide guidance to EPA staff and managers in dealing with Tribal governments and in responding to the problems of environmental management on Indian reservations in order to protect Tribal health and environments. For further information, go to the website: <http://www.epa.gov/indian>.

American Indian Environmental Office (AIEO)

The AIEO coordinates an agency-wide effort to strengthen public health and environmental protection in Indian Country. AIEO oversees development and implementation of the Agency's Indian Policy and ensures that the agency-wide implementation of its Indian Program is consistent with the administration's policy to work with Tribes on a government-to-government basis to protect Tribal health and environments. For further information, go to the website: <http://www.epa.gov/aieo/index.htm>.

Bureau of Indian Affairs (BIA)

The BIA is responsible for the administration and management of 55.7 million acres of land held in trust by the United States for American Indians, Indian tribes, and Alaska Natives. There are 562 federally recognized, 1, Tribal governments in the United States. Developing forestlands, leasing assets on these lands, directing agricultural programs, protecting water and

1 "Federal recognition" means these Tribes have a special legal relationship with the United States government--a government-to-government relationship.

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

land rights, developing and maintaining infrastructure and economic development are all part of the agency's responsibility. For further information, go to the website: [Uhttp://www.bia.govU](http://www.bia.gov).

Indian Health Services (IHS)

An agency within the Department of Health and Human Services, the IHS is responsible for providing federal health services to American Indians and Alaska Natives. The IHS is the principal federal health care provider and health advocate for Indian people, and its goal is to raise their health status to the highest possible level. The Sanitation Facilities Construction Program (SFC) within the IHS, provides assistance for the cooperative development and continued operation of safe water, wastewater, and solid waste systems, and related support facilities for American Indian and Alaska Native homes and communities. For further information, go to the website: [Uhttp://www.ihs.govU](http://www.ihs.gov).

Measurable Outcomes

The staff and Tribal Council positions will be updated every three years after the one year update.

2.2 REGULATORY REQUIREMENTS (CODES AND ORDINANCES)

Pertinent Laws & Regulations

Federal and State

Native American Tribes play an increasingly critical role in regulating the environment on Indian lands. Although Tribes are increasing their own regulatory authority, the EPA retains jurisdiction over all pollution sources until a program has been delegated to the Tribe. Indian Tribes must qualify for the "delegation" of a program under the various environmental protection laws administered by the EPA. A list of Federal laws and regulations concerning solid waste management issues is included in Appendix B-1.

State power over activities on Indian reservations generally is narrow. Although Tribes are required to follow federal laws and regulations, Tribes may incorporate state laws and regulations (when applicable) when addressing environmental issues. There is potential for overlap and conflict among Tribal, state, and federal regulations.

The Michigan Department of Natural Resources and Environment (DNRE) is the regulatory agency which is responsible for waste issues. These waste programs include: groundwater discharge, hazardous waste, hazardous and liquid industrial waste, medical waste, radiological protection, recycling, scrap tires, and solid waste. The DNRE also provides permit/license application forms; guidance documents; state, federal and local statutory and regulatory information; and grant and loan information. A list of state laws and regulations in Michigan is included in Appendix B-2.

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

Tribal Codes

The Grand Traverse Band Tribe has established its own codes relative to solid waste management, which are enforceable by the Tribal Game Wardens. A description of the Grand Traverse Band's Tribal solid waste management codes and regulations is included in Table 1-2.

Grand Traverse Band Tribal Laws and Codes for Solid Waste Management

Law and Code Number	Description
9GTBC, § 107(j)(2)	Littering and Burning of Trash
9GTBC, § 107(j)(3)	Dumping of Hazardous Material
14GTBC § 801-810	Hazardous Material Releases

Deficiencies of Codes and Ordinances

There are no deficiencies in the existing Tribal ordinances and codes, however, new ordinances and codes are developed and approved when plans or existing conditions exist. Therefore, there are no contingency health and safety plans, no codes or ordinances for permanent structures not planned, such as landfills, transfer stations, etc. There is also not enough waste and recycling generated to warrant the planning of permanent structures.

As the Tribe has grown, the solid waste and recycling needs and capacities have been added to existing programs and assigned in addition to other staff responsibilities. Because of the lack of dedicated staff and budget, it is more difficult to ensure consistency and track data. Each casino and the governmental operation are run under separate budgets, staff, and have individual needs.

Measurable Outcomes

The Environmental Director will report any enforcement issues or collaborative measures in the PPG progress report, under solid waste management. Any additions or deletions to the codes and ordinances pertaining to solid waste will be updated every five years after the one year update.

2.3 ENFORCEMENT

The Tribal Conservation Department is responsible for enforcement of all Tribal codes and ordinances. The Game Wardens have the responsibility to monitor, inspect, and enforce. Game Wardens most commonly deal with environmental violations to the burn ban, incidences of illegal dumping, and accidental hazardous spills. There is no laboratory budget, so instances where sampling is warranted, funds need to be allocated from other sources.

Game Wardens work in conjunction with many other Tribal (Maintenance staff, Fire Department staff, Architect, Facilities staff, and Natural Resources staff) and non-Tribal staff (DNRE staff, EPA staff, and local officials).

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

Measurable Outcomes

The Environmental Director will report the number of code or ordinance violations, number of illegal dumping incidences, and the associated fines enforced in the PPG progress report, under solid waste management.

3.0 DESCRIPTION OF THE TRIBE'S CURRENT AND PROPOSED WASTE MANAGEMENT PRACTICES

This section discussed the current and proposed waste management practices.

3.1 CURRENT WASTE MANAGEMENT PRACTICES

This section discusses the following topics regarding current waste management practices:

- Waste Stream Characterization
- Open dumps and uncontrolled waste sites
- Waste collection, transfer, and disposal
- Special and hazardous waste
- Waste reduction: source reduction, recycling, and composting
- Facility descriptions and capacities
- Regional infrastructure
- Current partnerships
- Public involvement and community education.

3.1.1 Waste Stream Characterization

This section discusses the following elements of waste stream characterization:

- Generators (residential, commercial, and industrial)
- Weight/volume
- Compositions and waste stream analysis
- Future generation and growth rate

3.1.1.1 Generators (Residential, Commercial, and Industrial)

Residential Generators

The cost and choice of contractor for residential solid waste is the responsibility of home owners. The solid waste needs of families in Tribal housing are the responsibility of the Housing Department. The cost is factored into their monthly rent.

Commercial Generators

Commercial generators (solid waste) include the following:

- Governmental Operations (also special wastes: tire waste, vehicle fluid waste, medical waste, and white good waste)
- Gaming Operations (also special wastes: e-waste, C&D waste, cooking oil waste, and white good waste)
 - Leelanau Sands Casino
 - The Lodge Hotel

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

- Eagletown Market
- Double Eagle Restaurant
- Turtle Creek Casino
- Turtle Creek Hotel (and restaurants)

Industrial Generators

There are no current or future industrial generators on Tribal lands and none locally which would contribute to the Tribal solid wastes.

Measurable Outcomes

The vicinity and affect of any local industrial generators and/or any changes to the current waste types generated will be assessed and updated every five years after the one year update.

3.1.1.2 Weight/Volume

The table below utilizes the population projections from section 1.4 and reflects the total waste generation over the 50-year planning period.

Population and Solid Waste Generation Projections

Year	Reservation Population	Solid Waste Generated (tons)
2010	686	1,856
2015	690	1,867
2020	695	1,880
2025	699	1,891
2030	703	1,902
2035	708	1,916
2040	712	1,926
2045	716	1,937
2050	721	1,951
2055	725	1,962
2060	729	1,972

Over the past three years, the Grand Traverse Band reservation has increased at an average annual rate of 0.6%. Based on this rate, the fifty year (2010 to 2060) population projection for members who live on Grand Traverse Band reservation trust land, predicts a growth of

GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS INTEGRATED SOLID WASTE MANAGEMENT PLAN

approximately 43 people. In order to maintain current levels of service, the Grand Traverse Band and its members would need to provide waste management programs for an additional 116 tons generated by 2060.

Measurable Outcomes

The waste generation rate will be updated to accurately predict the 50-year projected needs every five years after the one year update.

3.1.1.3 Compositions and Waste Stream Analysis

Commercial Solid Waste

The commercial solid waste is not documented (tracked) year to year by either of the government or gaming entities. The Maintenance Supervisor for the Turtle Creek Casino reported that waste volumes are continuing to gradually decrease as he is able to introduce additional recycling programs. The Leelanau Sands Casino reports that volumes have and will remain to be fairly steady. As with the nature of a tourism business, waste volumes fluctuate with the economy. Both supervisors confidently predict that the casino tourism and solid waste volumes will remain fairly consistent over the next three to five years.

Residential Solid Waste

The residential waste is the responsibility of each household and is generally disposed of by local waste haulers via curbside service. Because the waste haulers vary per location and because they vary per the choice of each household, the residential solid waste volume has been based on the number of households and an average household volume according to EPA data.

Another service the Grand Traverse Band offers is an annual spring clean-up event. Tribal households are encouraged to take advantage of the opportunity to dispose of most bulky household furniture and miscellaneous items free of charge. They are asked to pile items at the end of their driveway for pick up. The date is announced in the newsletter and via staff e-mail as to the scheduled dates for each road. Individual Tribal members also take advantage of this opportunity to gather scrap metal, appliances, and other materials for their own profit prior to the scheduled Tribal pick up days. At 57 tons per year, this service is well-utilized by the membership.

Industrial Solid Waste

There is no current and expected future industrial solid waste generated on Tribal lands.

Disposed Solid Waste

The majority of solid waste from the Grand Traverse Band reservation is generated by the main reservation in Peshawbestown and transported for disposal to the Glen's Landfill in Leelanau County.

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

In 2010, the amount of commercial waste generated on the Grand Traverse Band reservation was 1,493 tons, which consisted of 917 loose tons per year and 576 compacted tons per year. In 2010, the amount of residential waste generated was 363 tons per year. The total amount of residential and commercial solid waste generated on Grand Traverse Band reservation land in 2010 was 1,856 tons per year.

Diverted Waste Volumes

Commercial recycling consists of medical waste, automotive oil, automotive coolant, automotive tires, cardboard, and computer equipment. A total of 444 tons of material was diverted in 2010. Residential recycling consists of fiber, tin, plastic, and glass. A total of 188 tons of material was diverted in 2010. Because Tribal Members utilize publically accessible county recycling sources, an independent Tribal volume is not known, so instead, an average per person volume is used, based on EPA data averages. The total amount of commercial and residential materials diverted in 2010 was 632 tons.

Waste Generated, by Sector

Sector	Tons Disposed	Tons diverted	Tons generated (Disposed + Diverted)
Residential	363	188	551
Commercial	1493	444	1,937
Total	1,856	632	2,488

Measurable Outcomes

The diverted and disposed wastes will be updated every five years after the one year update.

3.1.1.4 Future Generation and Growth Rate

Solid Waste Generation Rate

The generation rate for the year 2010 was 2.7 tons per person per year (t/pp/yr) and is calculated using the following formula:

$$\text{Generation Rate} = \frac{\text{Waste Generation (tons)}}{\text{Population (persons)}} = \frac{1,856}{686} = 2.7055392 \text{ t/pp/yr}$$

No off reservation sources current or predicted are expected to impact reservation waste volumes.

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

Measurable Outcomes

The waste volumes, population data, and potential outside contributors will be updated every five years after the one year update.

3.1.2 Open Dumps and Uncontrolled Waste Sites

Types of Illegal Dumping

Sources of illegal dumping on the Grand Traverse Band reservation include the following:

Occasional Problems with Illegal Dumping: Although not a common occurrence, the reservation does experience illegal dumping along roadsides and in rural areas. These dumping areas are cleaned up soon after reporting and signage is posted to prevent future occurrences.

People observing illegal dumping of solid waste (the action, the presence of improper materials in collection containers, or waste materials dumped in inappropriate locations) on the reservation's property are to notify the Tribal Game Wardens, who, in turn enforce this Tribal ordinance.

Existing Conditions

There are currently no known illegal dumps on the Grand Traverse Band reservation. All former dumps have been cleaned up to date.

Historical Illegal Dumping Sites

Historical sites were identified, posted, and cleaned-up. These sites included: in an open field behind the Strongheart Center (household dumping) and behind Automotive building (vehicles and parts). No burning at open dumps has been reported or discovered. Any burning on Tribal land must be under a burn permit.

Junk Vehicles/Bulky Items

Junk vehicles/bulky items consist of furniture, mattresses/box springs, large appliances, and other large items not contained in waste bags. Typically, these wastes are generated through discarding old furniture, appliances, or vehicles with the replacement of new items.

Often times, Tribal members or area residents do not know how to properly dispose of these items, and often abandon them along a roadside or in a rural area. If not disposed of properly, junk vehicles/bulky items can easily become eyesores around the reservation.

Occasional Problems with Junk Vehicles/Bulky Items: Although not a common occurrence, the reservation does experience large items along roadsides and in rural areas. These dumping areas are cleaned up soon after reporting.

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

Actions for Cleanup

To successfully deal with illegal dumping problems, the Grand Traverse Band Tribe enacted an ordinance against illegal dumping and has implemented a comprehensive approach that includes:

Site Cleanup and Monitoring

Site cleanup and monitoring includes planning, budgeting, and implementing cleanup projects at current sites and the monitoring of these sites to prevent future illegal dumping. Proper planning is a key element in the success of cleanup efforts. The Grand Traverse Band Tribe does not have funding available for transportation and disposal of the removed waste; however, they have staff to monitor and address illegal dumping on a case-by-case basis. When a site is identified the Environmental Director, supported by Federal grant EPA General Assistance Program funding, works in conjunction with local and federal staff to address site assessment and cleanup. Although no funding is set aside for this purpose, existing funds may be able to be redirected, if approved by the Tribe and EPA.

Community Outreach for Illegal Dumping

Educating Tribal members, visitors, and the surrounding community members about proper waste disposal will help limit future illegal dumping incidents. Tribal members are more likely to support solid waste management programs if they understand the new waste disposal options and the dangers of open and illegal dumping.

Although limited funding is available to actively target this type of education and outreach, Grand Traverse Band environmental staff members are readily available to the community during annual Tribal events, through periodic newsletter articles, and daily in the office. In addition, staff members monitor and distribute environmental information from the media and meetings, as appropriate. The following measures are currently being implemented by the Grand Traverse Band Tribe to educate Tribal members on new waste disposal options and the dangers of open and illegal dumping:

- Participate in annual Tribal events, such as Heritage Days, Health Fair, Pow Wow, and Fair & Feast, which promotes communication, education, and the availability of staff to membership.
- Attend meetings and forward information to other Tribal staff and tribal members through e-mail and Tribal newsletter media.
- Make educational publications available in the Natural Resources office, at Tribal events, and in Tribal buildings.
- Utilize Tribal staff during spring cleanup events to remove trash from identified dump sites.

Another deterrent to illegal dumping is the opportunity to participate in the annual spring cleanup offered free of charge to Grand Traverse Band members. As stated earlier, this service is well-utilized by the membership.

Further information on education and outreach efforts are included in Section 3.1.9.

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

Surveillance & Control Program for Illegal Dumping

Policies regarding illegal dumping and littering are in place, which supports monitoring actions, program enforcement, and program measurement. With these components in place, the efficiency of the program is evident in the status of the low incident and infrequency of occurrence of open and illegal dumping sites.

Enforcement for Illegal Dumping

The establishment of solid waste Tribal codes, ordinances, and regulations are the foundation for enforcement actions against illegal dumping and set the stage for strong support from Tribal Council members. Beyond that, support is needed to remind Tribal members, visitors, and the local community that illegal dumping is prohibited.

The Grand Traverse Band Tribe has implemented the following enforcement measures as deterrents for illegal dumping:

- Post signs prohibiting illegal dumping at rural locations frequented in the past,
- Investigate reported or discovered dump sites by Tribal Game Wardens,
- Issue tickets for violators by Tribal Game Wardens, and
- Work with local and federal staff, as needed.

Community Survey

Information in regard to any known open dumps was requested in a community survey as part of this report. Survey was conducted at the annual tribal Health Fair, August 2010. Of the forty-seven completed surveys, no known open dumps on reservation land were reported.

Measurable Outcomes

The Grand Traverse Band Tribe utilizes the following methods to measure the effectiveness of deterrents to illegal dumping:

- The lack of existing open or illegal dump sites,
- The frequency of members reporting possible sites,
- The increase in annual Spring Clean up utilization,
- The increase in Tribal members routinely collecting metal scrap, and
- The infrequency of new dump sites.

The Environmental Director will report the number of illegal dumping violations as well as any illegal dump sites as well as the plan, budget, financing, and implementation of its subsequent clean up in the EPA PPG progress report, under solid waste management.

3.1.3 Waste Collection, Transfer, and Disposal

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

Current Collection Systems

Residential Curbside Collection Is Provided Through Contracted Services: Home-owners are responsible for placing their trash at curbside for waste collection on their assigned waste collection days. Housing renters are responsible for placing their waste and recyclables in the bins adjacent to their housing units. A contracted waste hauler (Kalchik's Disposal Services) collects and transports the waste to an appropriate disposal facility (Glen's Landfill) located off the reservation (in Traverse City, Michigan).

Commercial Collection Is Provided Through Contracted Services: Tribal governmental and gaming entities (includes casinos, hotel, and the gas station) are responsible for disposing of their waste in a waste collection containers, typically located adjacent to their building. Contracted waste haulers (American Waste and Kalchik's Disposal) collect and transport the waste to an appropriate disposal facility (Glen's Landfill) located off the reservation (in Traverse City, Michigan).

Special Waste Collection

See section 3.1.4 below.

Measurable Outcomes

As long as contractor fees remain acceptable, this is an acceptable and effective practice. Current and predicted waste volumes do not warrant the construction of permanent structures, such as Tribal transfer stations and landfills. This status will be assessed and updated every five years after the one year update.

3.1.4 Special and Hazardous Waste

Introduction

Wastes that require special handling or consideration when it enters the solid waste management system are labeled special waste. These wastes may include, but are not limited to:

- Construction and Demolition (C&D) Debris
- Household Hazardous Waste (HHW)
- Electronic Wastes (E-Waste)
- Scrap Tires
- Medical/Infectious Wastes

Any other special wastes encountered on the Grand Traverse Band reservation are dealt with on a case-by-case basis.

Construction and Demolition Waste

GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS INTEGRATED SOLID WASTE MANAGEMENT PLAN

Introduction

Construction and demolition (C&D) debris is generated by the construction, demolition, and renovation of existing structures, clearing of land, removal or construction of roads and utilities, and other activities that produce bulky wastes. General characteristics, regulatory requirements, landfill management options, and recycling opportunities for C&D debris differ from those for MSW, and therefore, should be managed differently.

Some C&D debris may be classified as hazardous waste because it contains hazardous materials, such as lead or chromium, or has been contaminated by other hazardous waste. Hazardous C&D debris must be disposed of in a hazardous waste landfill. Other toxic materials, such as asbestos and polychlorinated biphenyls (PCBs), must also be managed in accordance with federal regulations, as spelled out by the Toxic Substances Control Act (TSCA).

Sources and Composition

C&D debris is generated from a variety of construction and demolition activities. Sources and representative composition are discussed in this subsection:

- **Demolition Debris:** Demolition debris is generated from demolishing buildings, other structures, and roadways. Demolition material composition is similar to that of construction debris, except that wall and other structural materials, such as concrete, steel, and masonry, are present in larger quantities. Additional sources include materials from foundations and other substructures when buildings are completely removed.
- **Renovation Debris:** Renovations generate a combination of materials from demolition and removal activities and shipping cartons, scrap, and excess materials from construction sites. Recycling of renovation debris has additional challenges because the waste may be a combination of old materials and new scrap and waste materials that require different recovery approaches. For example, painted lumber removed during renovation may have to be managed differently than scrap from uncoated lumber used for the construction phase.
- **Construction Debris:** Construction debris is discarded material generated from exterior and interior construction. This waste includes packaging and containers that manufacturers use to ship building materials, wood scraps, drywall, masonry, paint and other coatings, roofing scrap, and numerous other materials. Table 5-1 presents a list of typical construction debris materials.

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

Typical Construction Debris Materials

MATERIALS	CONTENT EXAMPLES
Wood	Forming and framing lumber, stumps, plywood, and laminate scraps
Gypsum	Sheetrock, drywall, plaster
Metals	Pipe, rebar, flashing, steel, aluminum, copper, brass, stainless steel
Plastics	Vinyl siding, doors, windows, floor tile, pipes
Roofing	Asphalt and wood shingles, slate, tile, roofing felt
Inert	Asphalt, concrete, cinder blocks, rock, earth
Brick	Bricks and decorative blocks
Glass	Windows, mirrors, lights
Misc.	Carpeting, fixtures, insulation, ceramic tile, and paper

Source: <http://www.epa.gov> website, 2004.

- **Land Clearing Debris:** Land clearing waste is generated by site clearing activities prior to site work and construction of structures. Trees, stumps, brush, soil, and rock, as well as litter (i.e., tires, metal, and paper) may be on the site.
- **Road Materials:** Road demolition materials include asphalt, concrete, rock, and soil generated by removal of roadways, curbs, gutters, and sidewalks, or waste generated by construction of similar improvements. Materials generated by these types of projects are fewer in number but they are heavier.

C&D Existing Practices

Factors affecting quantities of debris generated, collected, and disposed of include the type of construction (i.e., office buildings, recreational facilities, and housing) and the type of project (i.e., new construction, remodeling, renovation, road repair).

Generation

C&D debris is generated from a variety of construction and demolition activities. Sources and representative composition are discussed in this subsection. Depending on the type and amount of activities occurring on a reservation, the amount of C&D debris generated can vary greatly. Small quantities of C&D debris are generated on the reservation. All C&D debris are generated by contractors. The Tribal Corporate Architect provides direction and oversight of the contractors' methods and efficiency. It is Tribal policy to protect the environment and at the same time minimize costs associated with C&D activities, so it is policy to meticulously liquidate everything, from furnishings, materials, to scrap.

Projects that have occurred over the last few years include a new casino, new hotel, hotel renovations, hotel demolition, and a casino demolition. There are on average four projects a

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

year. Future projects under consideration include new Tribal Member housing development, new Natural Resources storage and work facility, and Tribal Member housing renovations.

Collection

A variety of practices exist for the collection of C&D debris. In general, contractors perform the majority of construction, demolition, and renovation activities.

Contractors are responsible for providing their own containers. In general, construction contractors generating C&D debris provide their own containers. The material is typically collected in open-top roll-off containers. Normally, roll-off containers are 20-, 30-, and 40-cubic yard units.

Disposal

Managing C&D debris is the responsibility of the Corporate Architect.

All C&D debris is taken off the reservation: Tribal members and contractors must transport all C&D debris off the reservation for disposal at area landfills.

Contracted Services

Many Tribes choose to use private contractors for the disposal C&D debris due to the materials' size and weight. Other Tribes having proper equipment and facilities often use their own Tribal members for disposal services. The Grand Traverse Band utilizes private contractors.

On-Call Services and Agreements: Various haulers perform C&D debris collection on the reservation. Contracts are set up on an as-needed basis. The cost for the service varies and is competitive. Terms of the contract vary based on the complexity and size of the job.

Contract Surveillance

Contract surveillance is crucial to making sure the contractor is adhering to the contracts for services performed.

Have Contract Surveillance: The Tribal Corporate Architect oversees and monitors the performance and adherence of the contractor to the C&D debris contract.

DIVERSION STRATEGIES

Diversion strategies vary depending on the method of recovery (manual or mechanized) and the level of sorting of the material.

The Contractor is Responsible for the Method of the Diversion Activities: The Tribal Corporate Architect oversees and directs the efficiency and safety of the contractor.

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

PROGRAM DEVELOPMENT

The major potential benefits of C&D debris recycling are to reduce the cost of materials used in construction and to reduce the volume and cost of disposal of waste materials. Other benefits that can be gained through waste management include a more accurate prediction of waste generation rates for building projects, increased revenue from the sale of the recovered materials, and the conservation of valuable natural resources.

The Grand Traverse Band reservation currently practices the following implementation measures:

- Strive to separate types of C&D debris (i.e., concrete, asphalt, wood, soil, etc.) for reuse or recycling.
- Incorporation of recycling clauses into contracts that requires Tribal members/contractors to separate out and recycle or reuse much of the C&D debris generated on various projects. Reservations can develop specific criteria for minimum levels of salvage or recycling, in lieu of generalizations such as “to the maximum possible”.
- Have the Corporate Architect attend pre-construction meetings for projects. This representative should provide information and guidance regarding the reservation’s requirements for disposal, recycling, or reuse of C&D debris.
- Develop a standard technique for estimating quantities of C&D debris that are reused and recycled. This would aid in tracking tonnage in the event that weights from the contractor cannot be obtained.
- Provide incentives for materials recovery. Providing incentives to contractors and crews can create project buy-in.
- Construction and Demolition (Gaming side) engineering staff conduct liquidation sales prior to construction/demolition of all (remainder is recycled or disposed of, as needed):
 - Furniture,
 - Fixtures,
 - Appliances,
 - Construction materials, and
 - Scrap materials.

Monitoring and Data Tracking: There is no data tracking of type and quantities of C&D. It is Tribal policy to utilize sales (reuse) and recycling of C&D materials. Documentation in a database would demonstrate that this is being followed and would provide accurate data to add to the integrated waste management plan. No C&D recycling and reuse volumes were available for inclusion of this plan. There is a need for this data.

Household Hazardous Waste

Introduction

Hazardous wastes generated by Tribal residences are exempt from federal laws and regulations; these wastes are classified as household hazardous waste (HHW). HHW can include mercury and mercury-containing items (thermostats, thermometers, and fluorescent bulbs), paints (latex or oil-based), electronic wastes, organic solvents, household cleaners, fuels, lead-acid batteries,

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

motor oil, antifreeze, herbicides and pesticides. Table below shows common household items containing potentially hazardous ingredients that are commonly found throughout the home.

Common Residential HHW Items

CLEANING PRODUCTS	INDOOR PESTICIDES	AUTOMOTIVE PRODUCTS	WORKSHOP/PAINTING SUPPLIES
Oven cleaners	Ant sprays and baits	Motor oil	Adhesives and glues
Drain cleaners	Cockroach sprays and baits	Fuel additives	Furniture strippers
Wood & metal cleaners & polishers	Flea repellents and shampoos	Carburetor and fuel injection cleaners	Paint strippers and removers
Toilet cleaners	Bug sprays	Air conditioning refrigerants	Stains and finishes
Tub, tile, shower cleaners	Houseplant insecticides	Starter fluids	Paint thinners and turpentine
Bleach (laundry)	Moth repellents	Automotive batteries	Oil or enamel based paint
Pool chemicals	Mouse and rat poisons and bait	Antifreeze	Photographic chemicals
		Transmission and brake fluid	Fixatives and other solvents

LAWN & GARDEN	MISCELLANEOUS	FLAMMABLE PRODUCTS
Herbicides	Batteries	Propane tanks and other compressed gas
Insecticides	Mercury thermostats or thermometers	Gas cylinders
Fungicides/wood preservatives	Fluorescent light bulbs	Kerosene
	Driveway sealer	Home heating oil
		Diesel fuel
		Gas/oil mix
		Lighter fluid

Source: Environmental Protection Agency website: www.epa.gov

HHW can harm the environment and human health if it is not properly handled and disposed, for example:

- **Product Use:** Some pesticides, when used improperly (for example, at high application rates), may enter surface waters and kill aquatic life and contaminate drinking water
- **Product Storage:** Improperly stored products can result in accidental poisonings of children and animals. Similarly, storage of flammable products (solvents, fuels, and oil-based paint) in homes may start fires, add to the fuel load of buildings, and endanger firefighter safety

GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS INTEGRATED SOLID WASTE MANAGEMENT PLAN

- **Waste Handling:** There have been several reported incidents at solid waste facilities where collection workers have been injured or endangered as a result of hazardous waste disposal from households. For example, some pool chemicals are highly reactive and can release a poisonous gas. Alternatively, flammable products may ignite inside the collection vehicle or disposal facility
- **Product Disposal:** Many hazardous products, unless segregated and collected separately from other wastes, can damage the environment, including contamination of soil and water, and pollution of air. Environmental damage can occur in several ways, including direct releases to the environment (dumping outside), releases from disposal sites (landfills and incinerators), and releases from wastewater treatment facilities. Used oil dumped on the ground, automotive batteries thrown in a roadside ditch, and herbicides dumped down the storm drain are all examples of direct releases that may harm the environment. Even disposal of some types of HHW in lined landfills can result in environmental damage. For example, mercury disposed of with regular garbage will eventually leach out of the landfill. If properly contained and monitored, the leachate can be treated on-site or sent to a wastewater treatment facility.

Existing Programs

Household Hazardous Waste (HHW) collection programs ensure the materials are properly handled and sent to facilities designed to treat or dispose of hazardous waste. HHW collection programs include one-day periodic events throughout the year, curbside programs, or permanent community collection facilities. More than 3,000 HHW collection programs exist in the United States.

No HHW Program, but partner with local community: The Grand Traverse Band Tribe does not provide a HHW program, but does partner with the local community for HHW events. Tribal residents are encouraged to take their HHW to their local county collection events for proper disposal. Most counties offer these events two to three times a year for a large variety of HHWs. Tribal residents are notified of upcoming HHW events via posters, global employee e-mail announcements, and Tribal newsletter articles.

Although there are no individual Tribal HHW events, the public annual Leelanau County collection in Peshawbestown (main reservation) collected 15,980 pounds in 2008, 48,461 pounds in 2009 (a record for Leelanau County), and 21,585 pounds in 2010.

Additionally, the Tribal Environmental staff members have developed and continue to maintain a close working relationship with the Leelanau County Solid Waste staff, including supporting Leelanau County through the allocation of two percent monies, which assist in off-setting recycling costs.

Contracted Services and Agreements

Many Tribes choose to use private contractors for HHW disposal. Contractors hired to manage an HHW collection program are trained in hazardous waste handling and manifesting requirements, and can be available on an as-needed basis. This can be an ideal solution for

GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS INTEGRATED SOLID WASTE MANAGEMENT PLAN

reservations with periodic collection events which do not require full time staff to manage the program on a year-round basis.

The Grand Traverse Band Tribe does not use services by outside contractors for HHW management services on the reservation.

Currently No Contracted Services and Agreements. The Tribe does not use services by outside contractors for HHW management services on the reservation. Tribal members are notified of upcoming county recycling events in the six county service area via Tribal newsletter, posters, and e-mail.

Contract Surveillance

Contract surveillance is crucial to making sure the contractor is adhering to the contracts for services performed.

No Contracted Services and Agreements, so No Contract Surveillance Needed: The Tribe does not use services by outside contractors for HHW management services on the Tribal reservation, therefore, there is no need for contract surveillance.

Program Development

The primary goal of the Grand Traverse Band Tribe is to minimize environmental and health impacts associated with HHW. Efforts are directed at educating the public about the potential hazards of household products, as well as proper handling and disposal methods.

Designing and Operating a Permanent HHW Collection Structure

Some Tribes opt to construct their own permanent structure for HHW collection; however, the Grand Traverse Band does not have the population or volume needed to justify its own permanent structure.

According to the Michigan Department of Environmental Quality (MDEQ), the facility requirements are very complex and they recommend that interested parties should call to discuss how the Part 111 and Part 121 requirements applies to your operation. A MDEQ Waste and Hazardous Materials Division (WHMD) Hazardous Waste Program permit engineer can be reached at 517-373-9875. In addition, information regarding other MDEQ permits and operating licenses can be found at <http://www.michigan.gov/deq/0,1607,7-135-6830-89034--,00.html>. An additional reference guide called the Michigan Manufacturers Guide to Environmental, Health and Safety Regulations can be found at http://www.michigan.gov/deq/0,1607,7-135-3307_3668_4148-15820--,00.html.

HHW Program Marketing

Some of the most common types of marketing techniques used for HHW programs are web access as well as printed materials to communicate collection times, days, and locations. Some of the communities utilize public access television as well as print media advertising. Education

GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS INTEGRATED SOLID WASTE MANAGEMENT PLAN

is essential to a program's success. Many people are not unaware of the potential dangers of their household waste, nor do they realize that a program exists for disposal of such items. Educational materials should describe non-toxic alternatives to toxic chemical use, proper disposal methods, and HHW facility, location and services.

Strategies for Reduction

The best way to handle residential HHW is to reduce the amount initially generated by using the entire purchased product, giving leftover products to someone else to use, or purchasing products that are less hazardous. Below are some strategies for minimizing HHW:

- Use and store products containing hazardous substances carefully to prevent any accidents at home. Never store hazardous products in food containers; keep them in their original containers and never remove labels. Corroding containers, however, require special handling.
- When leftovers remain, never mix HHW with other products. Incompatible products might react, ignite, or explode, and contaminated HHW might become non-recyclable.
- Remember to follow any instructions for use and disposal provided on product labels.
- Use safer alternatives.
- Buy only what is needed and that can be used up.
- If products are left over, give them to friends, neighbors, or charitable institutions to use up.
- Recycling is an economical and environmentally sound way to handle some types of household hazardous waste, such as used automobile batteries and oil. Auto parts stores and service stations frequently accept used automobile batteries, and 80 percent of these batteries are currently recycled.

Electronic Wastes

Background

Electronics are quickly becoming a significant portion of the materials sent to local landfills every year. Known as E-Waste, items like radios, fax machines, telephones, cellular telephones, computers and Personal Digital Assistants (PDAs) are fast becoming an item of concern in the waste stream. Advances in technology, as well as the decreasing price of most electronics, has led to an increase in the amount of outdated items that require proper disposal. Components in a number of electrical devices are known to contain one or more of the following substances: mercury, lead; cadmium; embedded batteries; and polychlorinated biphenyls (PCBs). The largest concern with e-waste is the CRT component. CRTs are cathode ray tubes, found in televisions and computer monitors, and contain high levels of lead and mercury. Some states have banned CRTs from landfills, thereby increasing the need to find appropriate diversion options.

Existing Programs

No E-waste Program, but partners with local community (residential e-waste) and maintains departmental collection and donation (commercial e-waste).

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

Residential E-waste

The Grand Traverse Band Tribe does not provide an e-waste program, but does partner with the local community for e-waste events. Tribal residents are encouraged to take their e-waste to their local county collection events for proper disposal. Most counties offer these events two to three times a year for a large variety of electrical devices. Tribal residents are notified of upcoming e-waste events via posters, global e-mail announcements, and Tribal newsletter articles.

For example, the county (Leelanau) collection conducted on the main reservation in Peshawbestown collected 1,800 pounds in 2008, 4,950 pounds in 2009, and 1,820 pounds in 2010. All Leelanau county e-waste is donated to the Traverse City Goodwill Industries.

Commercial E-waste

The Grand Traverse Band Tribal Information Technology Department collects and donates all decommissioned government and gaming computers, monitors, and printers periodically throughout the year. In 2010, approximately 100 hard drives, 15 monitors, and 20 printers were donated to Goodwill Industries, for a total weight of 1.85 tons.

Scrap Tires

Introduction

Scrap tires are generated from passenger cars, trucks, or farm equipment when tires are changed because they are worn or damaged. Often scrap tires are accumulated by commercial businesses that sell or change tires. Scrap tire piles are not treated as hazardous waste.

A tire's physical structure, durability, and heat-retaining characteristics make tire stockpiles a potential threat to human health and the environment. The curved shape of a tire allows rainwater to collect and creates an ideal habitat for disease carrying pests such as rodents and mosquitoes.

Prone to heat retention, tires in stockpiles also can ignite, creating fires that are difficult to extinguish and can burn for months, generating unhealthy smoke and toxic oils. Illegal tire dumping pollutes ravines, woods, deserts, and empty lots. However, once a tire fire occurs, tires break down into hazardous compounds including gases, heavy metals, and oil, which may then trigger other cleanup requirements.

Existing Program

Some organizations encourage proper tire disposal by allowing citizens to drop off limited numbers of tires at recycling centers, or conduct tire amnesty days where any citizen can bring a limited number of tires to a drop-off site free of charge. State or federal scrap tire programs may provide financial help to fund such events.

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

No scrap tire program, but partners with local community (residential) and maintains departmental collection and donation (commercial).

Residential Scrap Tires

The reservation does not provide a scrap tire collection program, but does partner with the local community when they have tire collection event or a tire amnesty day. Residents are encouraged to take their tires to these events for proper disposal.

Commercial Scrap Tires

The Tribal Automotive Department uses a contractor to dispose of used tires in its business. In 2010, a total of approximately 400 tires were collected and disposed, weighing approximately 5.5 tons.

Contracted Services and Agreements

The Grand Traverse Band, like many Tribes, chooses to use a private contractor for scrap tire disposal. Contractors hired to manage scrap tires collection and disposals are trained in hazardous waste handling and manifesting requirements, and can be available on an as needed basis.

Currently Has Contracted Services and Agreements: The Tribal Automotive Department uses services by an outside contractors for scrap tire management services on the reservation.

Contract Surveillance

Contract surveillance is crucial to making sure the contractor is adhering to the contracts for services performed.

Uses Contracted Services and Agreements, so Contract Surveillance is Needed: The Tribal Automotive Department uses services by an outside contractor for scrap tire management services on the reservation. The Automotive Supervisor is responsible for contract surveillance.

Program Development

Programs designed for scrap tire management may include permanent drop-off collection sites, fees for collection and disposal and other options. In order to develop a program that meets the needs of the reservation, a number of factors were considered, including the types and quantities of tires generated on the reservation, availability of collection, hauling, and processing operations, and available markets or permitted disposal sites.

Medical and Infectious Waste

GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS INTEGRATED SOLID WASTE MANAGEMENT PLAN

Introduction

Basically, infectious waste is waste that can pass on infectious diseases to people or animals, such as sharps (including hypodermic needles, syringes and lancets), blood or human tissue. Medical waste is infectious waste plus any non-infectious waste that may be mixed with them. Medical waste does not include pharmaceuticals.

Medical and infectious wastes are generated by medical facilities, healthcare facilities, laboratories, veterinary clinics, and hospitals. The Michigan Medical Waste Regulatory Act, Part 138 of Act 368 (MWRA), defines and regulates medical waste in Michigan.

These wastes are defined as:

- **Infectious waste:** solid waste that contains pathogens with sufficient virulence and in sufficient quantity that exposure of a susceptible human or animal to the solid waste could cause the human or animal to contract an infectious disease.
- **Medical waste:** infectious waste, as defined above, and other waste that contains or may be mixed with infectious waste.

Existing Program

Like many medical facilities, the Grand Traverse Band Family Medical Clinic generates medical and infectious wastes in their daily practice. In 2010 they generated 0.3 tons of medical/infectious waste. They contract with a trained outside contractor to collect, transport, and dispose of their medical and infectious wastes.

Contracted Services and Agreements

Many Tribes choose to use a private contractor for medical and infectious waste disposal. Contractors hired to collect, transport, and dispose of this type of waste are specially trained hazardous waste handling and chain-of-custody procedures.

Currently Has Contracted Services and Agreements: The Tribal Family Health Clinic uses services by an outside contractor, Stericycle, for medical and infectious waste collection services on the reservation. The contract includes set pickups and is on-going in length. On-call services are also available if requested.

Contract Surveillance

Contract surveillance is crucial to making sure the contractor is adhering to the contracts for services performed.

Uses Contracted Services and Agreements, So Contract Surveillance is Needed: The Tribal Family Health Clinic uses services by an outside contractor for medical and infectious waste collection services on the reservation. The Division IV Business Management Manager is responsible for contract surveillance.

GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS INTEGRATED SOLID WASTE MANAGEMENT PLAN

Measurable Outcomes

A community survey will be conducted in regard to the special waste types and volumes. This input will be incorporated into this plan within one year of implementation (see Section 5.3 Demonstration of Community Involvement in the Planning Process, Community Survey). Additionally, the Director will update the special waste volumes in this section every five years after the one year update.

3.1.5 Waste Reduction: Source Reduction, Recycling, and Composting

Current Practices

Recycling and Buy Recycled Policies

On December 29, 1999, the Grand Traverse Band Tribal Council adopted the policy entitled Recycling and Buy Recycled. It states that "Tribal Council is committed to effective purchasing, waste management, and other practices conducted in a manner that uses natural resources efficiently to protect the environment, and end the unnecessary wast of natural resources. The Grand Traverse Band closes the recycling loop when it recycles discarded materials and uses items manufactured from recycled materials."

"These policies and procedures establish procurement practices that ensure that the Band will reduce waste, use recycled-content products, reuse materials, and recycle the waste that can be recycled. They also integrate sound management practices into the Band's operation."

"These policies and procedures also are intended to bring the Band into compliance with the federal Resource Conservation and recovery Act (RCRA, Pub L. 91-512 of 1970), as amended, as well as Executive Orders 11625, 12138, and 12432, Office of Management and Budget Circular A-102 concerning purchasing policies of federal grant recipients, and the U.S. Environmental Protection Agency policies on grant recipient use of recycled materials to be promulgated under Section 6002 of RCRA."

This policy covers the following topics:

- Increasing the use of recycled content products,
- Employee Orientation,
- Planning for the conservation of natural resources,
- Renovation and construction projects,
- Environmental stewardship guidelines for construction projects,
- Eliminating toxics/hazardous waste, and
- Disposal

Source Reduction

A source reduction program has been established. Tribal government staff members follow a well-established source reduction program. Tribal gaming staff members have an interest, but lack current capacity to implement. Turtle Creek casino currently recycles its confidential shredded paper and is working towards building in a cost-effective means to provide complete office paper recycling. Leelanau Sands Casino does not provide office paper recycling. Both

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

casinos recycle their waste cooking oil for a small profit and excess pallets are given away for free.

Reuse

Reuse program established. Residents/businesses follow a well-established reuse program, which is well-documented in the table below.

Waste Reduction Strategies

The Natural Resources Environmental Director works with Tribal departments, business entities, and members to assist in implementing and/or providing training in source reduction and reuse initiatives.

A Grand Traverse Band success story is the development of a Tribal Green Team for each of the government and gaming sides. Although these groups have the support of their management and the expertise of the Environmental department, they are encouraged to use their own ideas and departmental knowledge in the areas of reduction, reuse, and recycling. The formation of this team promotes ownership, pride, and motivation within the group and cooperation and collaboration with their co-workers.

It is important to note that waste reduction and reuse strategies can be difficult to quantify because the goal is to not produce waste; thus, waste reduction/diversion quantities should be estimated in a straightforward, defensible manner to show waste reduction quantities. This type of data (i.e. reuse by sales of materials, furniture, etc.) will be requested from the Implementation Committee for input in a centralized database. It can then be incorporated into this plan for more accurate future planning.

Below are the source reduction and reuse strategies of the Grand Traverse Band:

Source Reduction and Reuse Strategies

Administration & Offices	Eliminate unwanted mail and facsimiles by asking for mailing list removal.
	Utilize double-sided copies (policy). This is evident at the highest levels of government, for example, Tribal Council minutes are distributed electronically in double-sided PDFs.
	Utilize e-mail and departmental bulletin boards for global communications and notifications, resulting in a reduction in paper use.
	Reuse file folders, report binders, and file boxes.
	Preferentially purchase recycled products (policy).
	Order general office supplies in bulk and distribute in small quantities.
	Notify Tribal staff and Membership when trees are cleared, available for ceremonial or household heating.
	Reuse non-confidential spent office paper in scrap pads produced by the communications department.
	Encourage staff to periodically clean out their desk of unneeded office supplies for redistribution to other staff.

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

Administration & Offices (Continued)	Use a small fax post-it instead of a separate cover sheet when sending faxes.
	Minimize waste by sending mailings to heads-of-household versus individuals.
	Reuse loose scrap paper as sketchpads for children, utilized by the Tribal Head Start program.
	Save and reuse packing material from incoming packages and boxes.
	Distributed ceramic coffee mugs to educate and encourage staff to use durable drink ware over disposable alternatives.
	Minimize waste through reuse of printer cartridges, rejuvenated by Information Technology staff, when possible. If impossible, spent cartridges are returned to the manufacturer.
	Minimize waste by having Information Technology staff reuse and/or rebuild computer, printers, and monitors, when possible. When spent, these items are donated to charity.
	Purchase durable equipment, especially electronics. High quality, long-lasting equipment that can be repaired easily result in fewer discards. These items will stay out of the waste stream longer. In addition, the higher initial costs are often off-set by lower maintenance and disposal costs. Since these items are replaced less frequently, cost savings can be realized. This line of thinking is encouraged by Information Technology staff.
	Rent equipment for short-term use. Purchase equipment for long-term use.
Non-Administration Applications	Utilize native landscaping in planning because native plants are better adapted to their environment, which minimizes watering, fertilizing, and pesticide use.
	Use native medicinal plants in landscaping and community gardens, which can be additionally harvested by Tribal members.
	Utilizing environmentally-friendly cleaning products minimizes harsh chemical use and improved water solubility, resulting in less water use and less negative environmental impact.
	Powering-down of office computers, implemented to occur automatically by Information Technology staff (policy) saves energy and wear on electronics.
	Encourage staff to turn off lighting when leaving a room, leaving for the day, and powering down electronic office equipment.
	Conserve energy through installation of programmed thermostats.
	Conserve energy through switching to more energy efficient lighting, economically through gradual replacements.
	Conserve energy through the introduction of motion detection lighting.
	Reduce waste through the sale of unwanted governmental office and hotel furniture, appliances (refrigerators, stoves, etc), electronics (televisions, DVD players, VHS players, etc), linens (towels, bedding, curtains, shower curtains, etc.) offered first for use in the office by staff, then for personal use by Tribal Members, then to the general public. Once all sales exhausted, the rest is donated to charity.

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

Non-Administration Applications (Continued)	Use electronic media (hard-drives, portable document files, and floppy disks) for document and data archival over paper files. Use server over disks for archival.
	Provide staff to use durable silverware, dishes, and cook ware. Provide a lunchroom kitchen, a sink, and cabinetry.
	Refrain from mowing around wet and semi-wet areas to slow down erosion and allow for better water retention and less of a need to water during dry periods.
Tribal Members	Donate used children clothes, shoes, coats, and furniture to the Head Start program and distribute them to other Tribal families.
	Donate used glasses for reuse or parts to the Optical Department.
	Utilize reusable cloth grocery bags to minimize use of plastic and paper bags.
	Donations of household items and clothing to the Tribal Elders yard sale encouraged reuse and waste reduction. Profits reduced program costs. The sale was rejuvenated with additional local donations as it traveled to each of the Tribal satellite offices. In the end, remaining items are donated to charity.
	Purchase household items in bulk to reduce packaging waste. Tribal staff and Tribal members utilize stores like Sam's Club to reduce costs, buying in bulk.
	Utilize resale shops for purchase and donation.
	Utilize individual yard sales to minimize waste and promote reuse.
Share magazines and newspapers with co-workers, community groups, work places, medical clinic, and community-accessed department or building.	

RECYCLING RATES

Residential Recycling Rate

The recycling rate is the ratio of recycled materials to the total waste stream. Because Tribal member households are individually responsible for their own recycling and because they generally utilize publically located recycling centers, no individual residential recycling rates can be calculated.

The 2009 Grand Traverse county recycling rate of 25 percent is similar to the 2008 national EPA average rate of 33.2 percent, but because Grand Traverse county speculates that their four year (2006-2009) drop-off recycling rate is skewed by the addition of new drop-off locations in the adjacent Antrim county and the addition of curbside recycling, the annual EPA recycling rates will be used for the purpose of this report. Overall, county recycling continues to increase in volume.

According to EPA, Americans recycled at a rate of 33.2 percent (2008). Over the past 48 years, the recycling rate has increased from 5.6 percent in 1960 to 33.2 percent in 2008, which is an average annual increase of 0.575 percent. Based on this EPA trend, recycling rates for 2009 (33.8 percent) and 2010 (34.4 percent) are calculated. So, the current Grand Traverse Band residential reservation recycling rate to be used is 34.4 percent.

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

Commercial Recycling Rate

The commercial recycling rate can be quantified. The materials recycled include: medical waste, automotive oil, automotive coolant, automotive tires, cardboard, and computer equipment. In 2010 a total of 148.15 tons of recyclable material was diverted and a total of 1,436 tons of solid waste was disposed. Therefore, the commercial recycling rate for 2010 is 9.7 percent.

Identification of Recyclable Materials

Recyclable materials were identified and separated into three tiers using the following criteria:

- **Tier 1:** Materials feasible (i.e., current market, ease of collection, size of waste stream) for current regular recycling programs.
- **Tier 2:** Materials that can be recycled, but for which there are limitations in collecting or marketing on a regular basis. These materials may be collected for recycling on an irregular basis, seasonally, at special events, or at selected locations as feasible or necessary.
- **Tier 3:** Materials for which recycling may become feasible in the future.

The identified list of materials by tier is presented below:

Tiered Designation of Recyclable Materials

Tier 1: Routine Collection	Tier 2: Limited Collection	Tier 3: Potentially Recyclable
Aluminum	Automotive Fluids	Plastic Grocery Bags
Tin	Pesticides	Waxy-coated boxes/papers
Steel	Compact fluorescent light bulbs	Mattresses
Glass, clear	Incandescent light bulbs	Tires
Glass, colored	Fluorescent light bulbs	Glass, windows/plate glass
Plastics: #1, #2, #5	Batteries	
Phone books	Plastics: #3, #4, #6, & #7	
Cardboard/boxboard	Vehicle batteries	
Office paper	Headlamp mercury switches	
Newspapers	Metal, other	
Magazines/catalogs/junk mail	Construction/demolition debris	
E-waste: computers/monitors	Non-vehicle batteries	
Brush/yard debris	Cell phones	
	Unused/expired medication	
	Household hazardous waste	
	Cleaning products	
	Oil-based paints	
	Appliances	
	Ink cartridges	

GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS INTEGRATED SOLID WASTE MANAGEMENT PLAN

Recycling Outreach and Community Involvement

For a recycling program to remain successful, the recycling coordinator must ensure continued awareness of the program including types of materials collected and proper methods to be used for recycling the various materials. Resources to aid in this approach include techniques such as flyers and brochures, workshops, print ads, and presentations. Further information on outreach and education can be found in section 3.1.9.

The following educational outreach techniques are current being used to promote recycling:

- Environmental staff members educate Tribal members and staff at annual Tribal events, such as the Heritage Days, Tribal Health Fair, Tribal Pow Wow, and Natural Resources Fair and Feast.
- Environmental staff inform Tribal members and staff of local recycling events, recycling locations, materials and techniques to recycle through Tribal newsletter articles and staff e-mail
- Environmental staff established government and gaming “Green Teams” to enable staff to start, expand, and/or enhance their own recycling efforts and policies, and are available to all Tribal members and staff for questions or concerns in regard to recycling. These Green Teams also rejuvenate residential and staff recycling through personal involvement and communication.

Recycling Program Monitoring and Incentives

The two casino Maintenance Supervisors and the Environmental Director are responsible for monitoring the effectiveness of their individual recycling programs. The key indicators are bin contamination, recycling volume increases or decreases, and profitability.

The methods used are described below:

- Because the casino Maintenance Supervisors coordinate directly with recycling contractors, it is easy to obtain information on bin contamination and recycling volumes. Both parties benefit in the profitability of a success program. Supervisors can also self-monitor bin content, and because their recycling units are only used by casino staff, they have the ability to modify staff recycling techniques and efforts by fellow management contacts.
- Because the bins are not exclusive to Tribal members, the Environmental Director receives less reliable data and has less ability to correct contamination issues. Instead, the Director maintains open communication with the county staff, casino Maintenance Supervisors and Tribal members and staff as to the program efficiency and issues. The Director has the ability to address Tribal Council on any policy or staffing issues.
- Environmental staff members conduct periodic Tribal member and staff surveys to better understand the needs, concerns, and level of understanding in regard to recycling.

Measurable Outcomes

As detailed above, the two casino Maintenance Supervisors and the Environmental Director are responsible for measuring the effectiveness of their individual recycling programs. The methods used are described below and are quantifiable:

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

- The two casinos are very cost-orientated, which assists in their ability and priority to increase recycling efficiency and decrease costs. Disposal and recycling costs, recycling revenue, and the contaminate incidence in the recycling units are clear indicators of the level of a program's success or failure rate.
- The Environmental Director maintains communication with the local county recycling coordinator as to whether there is recycle bin contamination, issues, or needs. The Director also supports the county's two percent application submittals for funding assistance. In addition, the Director has an open communication with Tribal members and staff by being in frequent attendance of Tribal and community events, as well as available in the office for any needs.

The status of the recycling efforts will be updated every five years after the one year update.

3.1.6 Facility Descriptions and Capacities

Available Solid Waste Inventory & Equipment

Has Limited Solid Waste Collection Equipment: No equipment is available for residential solid waste collection. Residents are expected to outsource to contracted services for their waste disposal needs. As for commercial solid wastes needs, the Grand Traverse Band owns limited solid waste management equipment, which is not dedicated to only use for solid waste and recycling.

The Leelanau Sands Casino has a thirty-one yard trash compactor and Turtle Creek has a forty-yard trash compactor to minimize bulk of their solid waste. There are no other types of solid waste equipment owned and operated by the Tribe. All other equipment needs are met via outside contractors.

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

Equipment Available for the Solid Waste Collection Program

Program Element	Bought/Leased	Year	Cost	Remaining Life (years)
Equipment:				
31-yard municipal solid waste compactor	Bought	Unknown	Unknown	20+
40-yard municipal solid waste compactor	Bought	2008	Unknown	20+
Vehicles:				
½ - ton pickup truck *	4	1993, 1996, 2001, 2003	80,000	1+
1 - ton pickup truck *	3	1996, 1999 (2)	60,000	3+
2 - ton dump truck *	1	1999	35,000	5+
1 - ton van *	1	1993	15,000	1+
Kubotas, Diesel *	2	2008, 2010	34,000	5+
Structures:				
None				

* The vehicles listed above are also used for governmental maintenance staff in recycling-related duties.

Existing Solid Waste Facilities

This section includes a description of the existing solid waste facilities utilized by the Grand Traverse Band Tribe for solid waste transfer, processing, composting, and disposal.

Solid Waste Transfer Stations

No transfer station facility and no future plans: Due to lack of funding resources and the current adequate method of waste collection, the reservation does not plan to pursue the option of building a transfer station.

Landfills

No Landfill and No Future Plans: Due to lack of funding resources and the current adequate method of waste collection, and the large upfront cost of construction, the reservation does not plan to pursue the option of building a landfill.

Recycling Facility

Established Recycling-Type Facilities: The following list residential and commercial recycling.

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

Drop-Off Center (Residential): Drop-off facilities are generally located in centralized areas that members can easily access (i.e. grocery stores, shopping areas, Tribe-sponsored sites, transfer stations, or residential/business areas).

Tribal members utilize county recycling drop-off facilities for their household recyclables. There are eight sites in Antrim County, seven sites in Benzie County, six sites in Charlevoix County, eight sites in Grand Traverse County, and seven sites in Leelanau County. Each recycling center varies, but the acceptable materials range from: newspaper, white office paper, cardboard, tin, aluminum cans, clear glass, colored glass, horticultural plastic, stretchy plastic bags, and all types of plastics. Signs are posted at each site detailing the types of accepted materials. Additional information is located on each county web site.

Some drop-off sites are free while others are covered by county taxes. Uniquely, Leelanau County covers its operational cost of an additional site in Peshawbestown via Tribal two percent funding. Leelanau County requests this funding on an annual basis and uses it to off-set and to expand upon county recycling costs to the public, Tribal government, and Tribal community members in Peshawbestown. The Tribe also allows the county use of a corner of a centrally-located overflow parking lot near the Tribal casino and gas station for the location of this additional site. Leelanau County is the only county to pursue this type of assistance to date. Additionally, Leelanau County has offered to partner by sharing the cost of additional recycling dumpsters with the Tribe if they decided to add additional recycling locations.

Contractual Haulers (Commercial): The casinos and the government side all utilize separate contractors to pick up their recycling. Leelanau Sands Casino has its loose cardboard pickup for a fee. Turtle Creek utilizes a cardboard compact baler for a \$10 per bale profit and contracts to have its confidential paper removed and shredded for a fee. The government side contracts to have its confidential and non-confidential paper and cardboard removed and shredded for a fee.

Available Inventory for Recycling Programs

Have Available Inventory Of Equipment. The types of available equipment owned or used in the recycling program operated by the Grand Traverse Band Tribe for the collection, processing, and storage of materials is included in the table below.

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

Types of available Equipment for the recycling Program

Description of Equipment	Quantity	Date of Purchase	Cost	Remaining Useful Life
VEHICLES				
½ - ton pickup truck *	4	1993, 1996, 2001, 2003	80,000	1+
1 - ton pickup truck *	3	1996, 1999 (2)	60,000	3+
2 - ton dump truck *	1	1999	35,000	5+
1 - ton van *	1	1993	15,000	1+
Kubotas, Diesel *	2	2008, 2010	34,000	5+
BALERS				
Vertical cardboard baler	1	2008	\$2-3,000	20+
RECYCLING CONTAINERS				
55-gallon brown plastic	12	2006	\$600	10 +
55-gallon blue plastic recycler frames with plastic collection bags	25	2008	\$1,250	5+
55-gallon, blue plastic recycle bins (Profile, 1-yr rental)	20	2010	2,400	5+
3-gallon desk-side containers	400	2003-2008	\$2,000	5 +
6-8-yard roll-off covered dumpster (Leelanau county)	1	2000	\$450-600	1 +
30-yard roll-off covered dumpster (Leelanau county)	2	Unknown (received from another hauler)	\$8-10,000	1+

- The vehicles listed above are also used for governmental maintenance staff in recycling-related duties.

Residential Recycling Collection Facilities

This section presents a description of how recyclable materials are collected from residents.

Drop-Off Services Are Provided: Residents must take their recyclables to a county drop-off location. There are centrally located areas with containers where Tribal members and the general public deposit their recyclables. See Chapter 3 Section 2, for more information on the county drop-off locations. Some counties also offer curbside recycling in more heavily populated areas.

As programs grow and expand, more cost-effective means are continually developed. For example, in 2011 Grand Traverse County is going to discontinue community-located recycling centers and instead offer curbside pickup to an expanded service area. Conversely, Leelanau County is not able to offer curbside recycling at the main reservation in Peshawbestown, but

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

would agree to partner with the Tribe in splitting the cost of additional drop-off dumpsters if the Tribe was looking to offer additional drop-off locations.

Commercial Recycling Collection Facilities

This section describes how recyclable materials are collected from commercial businesses on the Reservation.

Collection Is Provided Through Contracted Services: The two casinos and their enterprises plus the gaming side entity are individually responsible for placing their recyclables in a designated collection container, typically located adjacent to their building. A contracted hauler collects and transports the recyclables to an appropriate processing facility located off the reservation. This also includes the special wastes as described below and in Chapter 5. In addition, all three entities independently contract to have their office paper recycled and shredded.

Other Recycling Programs

This section includes a description of other recycling programs presently operating on the Grand Traverse Band Reservation.

Other current recycling programs include:

- Automotive Department recycles:
 - Automotive oil (1,200 gallons were recycled in 2010, recycled for heating oil),
 - Automotive coolant (150 gallons were recycled in 2010, recycled product is purified for resale),
 - Automotive tires (400 tires were recycled in 2010, recycled tire is used to make asphalt),
 - Scrap metal (An unknown volume of scrap metal was recycled in 2010, scrap is donated to a local scrap yard in exchange for free pick up)
- Tribal Council initiated a new office policy via resolution in 1999:
- Governmental "Recycle and Buy Recycled" office policy
- Environmental Department collect select Tier II materials and recycle them at seasonal local county collections, as a service to membership:
 - Incandescent light bulbs,
 - Compact fluorescent light bulbs, and
 - Household batteries.
- Information Technology staff donates the following to Goodwill:
 - Computers,
 - Monitors, and
 - Printers.
- Tribal staff periodically do a charitable pop can drive for sports programs.
- Tribal members individually periodically collect scrap metal and appliances for recycling throughout the reservation.
- Environmental Director initiated independent staff called "Green Teams" in both the government and gaming entities to enhance and expand reduction, reuse, and recycle policy efforts.

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

Past recycling programs include:

- Automotive Department:
 - Replaced mercury switch headlamps out of vehicles free of charge, collected switches were properly recycled
- Environmental Department:
 - Conducted a mercury for non-mercury thermometer exchange program via education outreach, collected mercury thermometers were properly recycled,
 - Conducted an incandescent and compact fluorescent bulb exchange via education outreach, collected bulbs were properly recycled,
 - Utilized grant funding for a residential Pay-As-You-Throw program for the main reservation households,
 - Purchased three-gallon desk recycling bins and distributed them to the government and gaming staff offices and strategically placing additional bins adjacent to office equipment, in order to enhance the office recycling, and
 - Purchased two recycling bins for the Tribal gas station to initiate and support their recycling efforts.
 - Supported Leelanau County in their application for Tribal two percent monies. Their application was awarded, which funded the county recycling location in Peshawbestown and expanded the materials list to include colored glass.
 - Green Teams for the Government and Gaming sides were added to enhance and motivate staff about existing recycling programs.

Compost Facility

No Compost Facility, But Had Backyard Composting Programs: None of the local counties or waste haulers currently provide a composting service; however, some offer information on how to compost your own household waste via their web sites. In the past, Grand Traverse County has offered free compost material on Earth Day. The only current program for yard waste is also through Grand Traverse County, which offers a seasonal brush drop off site for a fee.

For a number of years, the Grand Traverse Band distributed backyard-composting bins to Tribal members free of charge through grant funding in order to educate and promote backyard composting among its members. The use of these bins was twofold. It reduced the volume and cost of residential trash removal and it produced a soil amendment product that improved the consistency of the soil in members' gardens. Although this grant funding is no longer available, the program was a success, as a number of members continue to utilize compost bins while others continue to request bins.

Reservation households are prohibited from burning trash or yard waste by Tribal ordinance, which is strictly enforced by Tribal Game Wardens. The only exception is by permit issued by the Tribal Fire Station and monitored by Tribal Game Wardens and Tribal Firemen.

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

Measurable Outcomes

The effectiveness is easily measurable by the number of programs and materials collected increases. The Environmental Director reports the status of solid waste programs to EPA via periodic progress reports. In addition, changes to these programs will be updated every five years after the one year update.

3.1.7 Regional Infrastructure

Residential and Commercial Solid Waste Collection and Transfer: Contractors are used for this service.

Commercial and Residential Recycling Collection and Transfer: It is the responsibility of the resident homeowners to take their recycling to a community county recycling center. It is the responsibility of the Housing Department to collect Tribal resident recycling. All commercial recycling is collected and transferred by contractors.

Contracted Services & Agreements

The following describes the contracted services or agreements between private haulers and the reservation.

Have Contracted Services and Agreements: The government and gaming entities all utilize contractors for their waste and recycling needs.

- **Walt Kalchik's Disposal Service:** This is the primary residential and commercial waste hauler for the main reservation. Residents are individually responsible for their own household waste disposal cost and month to month contractual responsibilities. This hauler also provides commercial services the governmental offices, Eagle Town Market, Police Department, Elder's Complex, Maintenance Department, Benodjenh Head start, and the Lodge Hotel. The contract includes set pickups for residential and commercial locations. The contracts are on-going in length.
- **Waste Management:** The secondary hauler for the government is Waste Management, who services the commercial waste needs of the Leelanau Sands Casino, including their solid waste compactor. The contract includes set pickups for commercial locations. The contract is on-going in length.
- **Profile:** This is the primary recycler for the government. They shred confidential and non-confidential paper and collect cardboard. The contract consists of on-call pickups and is on-going in length.
- **American Waste Disposal Services:** This is the commercial waste and recycling hauler for the Turtle Creek Casino. The contract consists of on-call pickups and is on-going in length.

Contract Surveillance

Contract surveillance is crucial to making sure the contractor is adhering to the contracts for services performed. This section describes how contract surveillance is performed on the reservation.

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

Uses Contract Surveillance: There are three staff members who perform solid waste and recycling contract surveillance for the Grand Traverse Band: Jim Gaskin (Turtle Creek Casino and Hotel), Dan Hughes (Leelanau Sands Casino, Hotel, and Eagle Town Market), and Tom Shomin (Government Offices). The contract surveillance representatives monitor solid waste and recycling contractual services. If the contractors are not completing the required services, the representatives notify the individual contractor of the problem directly.

Local Landfills

Glen's Landfill is the local landfill utilized for all residential and commercial solid waste. Glen's Landfill has a life capacity of 100 years. In addition, in 1997, all new landfills were prohibited for five years (<http://static.record-eagle.com/2007/jan/06landfill.htm>). At that time the future needs of the area will be reassessed.

Measurable Outcomes

As long as contractor rates and the local landfill have capacity at reasonable rates, the above practices are effective and monetarily quantifiable. This status will be updated every five years after the one year update.

3.1.8 Current Partnerships

Examples of the partnerships in regard to solid waste include:

- U.S. EPA (current PPG funding)
- Leelanau County Solid Waste Council (supported by Tribal two percent funding to expand recycling types at the Peshawbestown site)
- Leelanau Clean Water (supported by December 2010 Tribal two percent funding for the purpose of hosting a clean water/clean boat workshop, providing a new boat wash on a major lake, upgrade the Little Glen Lake boat wash, and hold an invasive aquatic plant survey workshop, for the sum of \$9,930.

Measurable Outcomes

Reporting the number of successful programs and partnerships is easily quantifiable and confirms continued success. The Environmental Director reports on these in EPA progress reports. In addition, these partnerships will be updated every five years after the one year update.

3.1.9 Past/Current Public Involvement and Community Education

Existing Program

The following best describes the existing public education and outreach program at the Grand Traverse Band:

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

Some public education and outreach program: The only educational outreach is performed by the Environmental Director using low cost outreach methods to educate residents, businesses, and visitors about pollution prevention and solid waste. This is conducted under the General Assistance Program (GAP) portion of the PPG grant, in which there is a limited budget. The work plan and task list is as follows:

- **End Environmental Outcome:** increase recycling through promotion of recycling and purchasing policies.
- **Intermediate Environmental Outcome #1:** Maintain existing recycling and “buy recycled” programs.
- **Commitments:** Assess existing purchasing policies on buying recycled products. If necessary, develop recommended changes to purchasing policies. Examine options for recycling at Tribal events. Assess effectiveness of current office paper recycling program and recommend changes, if necessary.
- **Environmental Outputs:** Report on the purchasing policy and office paper recycling program effectiveness. Provide recycling options at Tribal events, such as the Pow Wow, Natural Resources Fair & Feast, and the Grand Traverse Band Health Fair.
- **Intermediate Environmental Outcome #2:** Maintain existing recycling options for Tribal Members in/near Peshawbestown.
- **Commitments:** Contract with Leelanau County or a local contractor to assist in keeping recycling drop-off bins in Peshawbestown.
- **Environmental Outputs:** Report on the effectiveness of recycling at the Peshawbestown drop-off site.

Future Expansion of Solid Waste Program

Prior to implementing changes or expansions to the solid waste management and/or recycling programs under the above listed grant, the Environmental Director would ensure that material, personnel, and budgetary resources are in place, as well as Tribal Council and Agency approvals. Community surveys would be completed if the changes affected residential households and involved their participation.

Past Expansions of Solid Waste Program

The following are examples of past responses to staff and community feedback and requests:

- In response to requests from Tribal staff and the community to assist in recycling, large (approximately 50-gallon sized) recycling receptacles were purchased to better facilitate office and event recycling of plastic and tin/aluminum.
- In response to staff requests, small (3-gallon) office recycling bins were purchased for placement at staff desks and in community office locations.

Measurable Outcomes

Report on program effectiveness information presented to the community, for example bin contamination and recommendations for better technique, recycling types and volumes, program partnerships, and program successes. The Environmental Director reports on these in EPA

progress reports. In addition, these partnerships will be updated every five years after the one year update.

3.2 PROPOSED WASTE MANAGEMENT PRACTICES

This section discusses the following proposed and future waste management practices:

- Special considerations
- Alternatives analysis
- Proposed and future waste management practices
- Implementation.

3.2.1 Special Considerations

Special considerations discussed in this section are limitations and inefficiencies of the current program, and equipment and facility needs.

3.2.1.1 Limitations and Inefficiencies of the Current Program

Some of the limitations and inefficiencies of the current system include:

- Turtle Creek Casino, Leelanau Sands Casino, and the governmental operations each have their own separate budgets, goals, vendors, and equipment and do not collaborate on a regular basis
- Solid waste and recycling equipment and budgets are not dedicated or stand alone
- The casinos do not have grant funding, but instead, operate at their own costs, efficiency and cost-savings are motivators
- The Casinos lack office reduction/reuse/recycling policies and capacity, although Turtle Creek is working towards cost-effectively adding it

Measurable Outcomes

Report on the above or other staff concerns every five years after the one year update.

3.2.1.2 Equipment and Facility Needs

Solid Waste System Needs

Upon review of the existing collection and disposal and the inventory of solid waste facilities system for both the gaming and government sides of operations, no immediate major changes to the solid waste management programs are warranted. Both casinos predict stability in their solid waste volumes and needs and continually assess and expand their programs independently as capacity is needed, space is available, and opportunities become economically feasible. The same is true of the government side of operations. Overall, the Grand Traverse Band's needs are being adequately met, but improvements to the existing programs are the current goal.

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

Needs and Recommendations

With program growth, needs arise for additional funding, staff, and facilities. The following section describes current and future needs the Tribe has for the solid waste and recycling programs in the Gaming Operations, Governmental Operations, and for Residential Populations (see section 3.2.2.4 for the implementation costs of these recommendations).

- **Gaming Operations:**
 - Add full recycling at all Gaming entities. They lack the capacity and funding to implement their business and staff recycling needs (all office paper, glass, plastics, and tin/aluminum). Use the negotiation of the Tribe to get the best solid waste and recycling costs, with the goal of at least breaking even.
 - Implement a Gaming administrative policy in the areas of reduce, reuse, recycle, and buy recycled policies for staff and customers.
 - The Turtle Creek Casino Maintenance Supervisor is currently in negotiations with a new recycling contractor (Bay Area Recycling). This new agreement will allow the casino to cease delivery of their shredded confidential paper to the transfer station, for which they were charged a fee. According to the new agreement, the recycler will pick up their shredded recycling and pay for the privilege. In addition, if approximately (still in the planning stages) eleven 55-gallon bins can be secured at no cost, office recycling can be initiated for Turtle Creek. This would add to the volume of paper and enhance the profitability of the recycler to pick up the paper beyond the three month free trial period at no continued cost to the Tribe. Further, the Turtle Creek Maintenance Supervisor believes the new recycling contract will facilitate an agreement for recycling plastics and glass, at little to no cost. If successful, this may be implemented at the other casino and their associated entities.
 - Offer beverages on the gaming floor in reusable glasses instead of disposable cups and use wooden stir sticks instead of plastic.
 - The Maintenance Supervisor at Turtle Creek had an innovative idea for minimizing cost of their trash disposal cost. He added two drains to the trash compactor, one to the bin and one connected to a pan underneath. The liquid drains to the sewer while sitting, during compaction, and during emptying. This simple measure has saved thousand in disposal costs. This Supervisor should be recognized for this innovative cost savings and this measure should be implemented at Leelanau Sands Casino in their solid waste compactor.
- **Government Operations:**
 - Add an additional commercial recycling locations at both casinos, one location for the government side, and one location each of the Benzie, Traverse City, and Charlevoix satellite office.
 - Encourage and support area counties apply for two percent funding.
- **Gaming and Governmental Operations:**
 - Require all Maintenance Supervisors meet on a regular basis, share information resources and technologies, and negotiate as a single group, as a sovereign nation. An example would be to negotiate the best recycling profit on spent restaurant cooking oil. Also begin to track types and quantities in a database for trends analyses (on-line versions available through the State of Michigan as well

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

- as other sites).
- Request Green Teams offer staff training in the areas of reduction, reuse, and recycling. This could rejuvenate the Green Teams and encourage co-worker cooperation versus mandating a new policy.
- Negotiate waste hauling fees by weight instead of by number of pickups or locations. Many times waste bins are emptied regardless of being full. Also, evaluate if locations need to be picked up more than once a week. For example, Kalchik's picks up the household size waste bin at the Natural Resources office twice weekly, sometimes only containing a single bag of trash.
- Require Purchasing Managers to meet on regular basis to share information resources and negotiate as one sovereign nation.
- Require Purchasing Managers to utilize on-line databases for environmental information for products and services, for example, an EPA web site: <http://yosemite1.epa.gov/oppt/eppstand2.nsf>. This and other sites offer vendors, products, and office practices in the area of recycling.
- **Residential Households:**
 - Add three additional county residential recycling locations (main reserve, 2 and Benzie, 1), utilizing three 6/8-yd dumpsters at each location, with on-call pickups.
 - Negotiate reduced waste disposal costs (being a large customer with buying power) for residents, who are responsible for their own disposal costs.
 - Increase recycling volumes and participation of residential recycling through education outreach.
 - Negotiate with county recyclers to offer more types of recyclables or locations closer to Tribal member housing.
 - Negotiate residential waste pickup charged per bag instead of a standard household dumpster, which costs the same whether the dumpster is full or not. Many times they are not full. This type of pay-as-you-throw program would greatly encourage residents to recycle since they can easily see a direct and immediate cost or cost saving through action or inaction.

When alternative solutions to the current needs become available, the solid waste program managers will need to evaluate and make recommendations to Tribal Council. Upon approval, these recommendations may become part of this plan.

Measurable Outcomes

Report on any changes or expansions to the solid waste and recycling programs every five years after the one year update.

3.2.2 Alternatives Analysis

This section discusses the following topics of alternatives analysis:

- Capital, operational, and maintenance costs
- Closure care and costs
- Real cost of in-kind, off-the-book transactions

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

- Cost-effective analysis
- Overall feasibility
- Selected alternative.

3.2.2.1 Capital, Operational, and Maintenance Costs

This section provides the information and cost estimates to alter, extend, modify, or add to the existing solid waste management systems and facilities as needed. Continual assessments of the individual solid waste management programs will allow for growth and expansion.

Major Program Costs

The major costs associated with managing solid waste include²:

Program planning	Operation and maintenance
Facility design and construction	Personnel training and administration
Equipment purchases	Landfill closure and post-closure care
Cleanup	

Program Development

One important aspect that many times is overlooked is planning for now and in the future. Tribes must take the time to project what is to happen 5, 10, even 20 years into the future. In order to do that, Tribal members must be informed of what is happening currently on the reservation and determine what long-term goals they wish to set, which makes it even more important for communication and resource-sharing among government and gaming staff, with the addition of data tracking year to year.

The next two tables provide information on the economic feasibility and program considerations of the some of the most common collection and disposal options for long-term planning and expansion.

² USEPA Tribal Decision-Maker's Guide to Solid Waste Management

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

Weighing Waste Collection Options

Collection Options	Cost- Effective		Criteria Important To Tribes		
	Cost-Effective for Tribe	Affordable for Community Members	Convenience for Community Members	Minimizes Litter, Odor, Dust, Noise, and Vermin	Potential for Source Reduction and Recycling
<p>Curbside Collection</p> <p>(Individual household or shared with neighbors)</p>	<ul style="list-style-type: none"> • Cost-effective if paid for by Tribal members through fees. • Tribally operated service can lower costs, but requires investment in collection vehicle and staff 	<ul style="list-style-type: none"> • Typically costs more than drop-off sites or transfer stations. • Tribal subsidies can make it affordable for community members. • Community participation increases as disposal options become more affordable. 	<ul style="list-style-type: none"> • Extremely convenient for community members. • Minimal effort to place trash outside of a home or business for collection. • Fosters high participation rates and reduces illegal dumping incidents. 	<ul style="list-style-type: none"> • Waste is stored outside for a short time before it is collected, reducing litter, odor, and vermin problems. • Noise and dust from collection vehicles are limited. 	<ul style="list-style-type: none"> • Convenience encourages recycling. • Combining with Pay-As-You-Throw waste disposal creates incentive for recycling. • Requires separate containers and possibly separate collection vehicles. • Sorting of recyclables needed before sale to processors.
<p>Drop-Off Sites</p>	<ul style="list-style-type: none"> • Costs for transporting waste from consolidated points (drop-off sites) to transfer station/ landfills are lower than costs transporting waste from individual homes and businesses to transfer station/ landfills. 	<ul style="list-style-type: none"> • If not subsidized, Tribal members will pay more for curbside collection than to use drop-off sites or transfer stations. • Direct access to a single, centrally located transfer station is less expensive than consolidating and transporting materials from multiple drop-off sites. 	<ul style="list-style-type: none"> • Less convenient than curbside pickup service, but more convenient than direct access to transfer station. • Convenience increases with multiple drop-off sites. • As convenience increases, participation increases and illegal dumping decreases. 	<ul style="list-style-type: none"> • Storing large quantities of waste at one site for more than a few hours can produce litter, odor and vermin problems. • Litter can accumulate if sites are not cleaned frequently. • Staffing, fencing, or enclosed sites minimizes these problems. • Appropriate site selection can minimize noise and dust impacts. 	<ul style="list-style-type: none"> • Separate collection bins required eliminating need for sorting of recyclables before sale to processors. • Providing free recycling with Pay-As-You-Throw waste disposal creates incentive to recycle. • Convenience dependent upon number of sites, locations, and hours of operation. • Arrange for direct pickup from sites by processors.

Weighing Waste Collection Options (Continued)

Collection Options	Cost- Effective		Criteria Important To Tribes		
	Cost-Effective for Tribe	Affordable for Community Members	Convenience for Community Members	Minimizes Litter, Odor, Dust, Noise, and Vermin	Potential for Source Reduction and Recycling
Direct Access to Transfer Station	<ul style="list-style-type: none"> • If the Tribe does not operate its own transfer station, it can enter an agreement with a surrounding town or county. • Tribe can compensate surrounding town or county for direct access to a transfer station off the reservation. • Collection costs increase if Tribe compensates town or county from Tribal funds. 	<ul style="list-style-type: none"> • Tribe can reduce the tipping fees or solid waste fees it charges Tribal members. • Tribe does not have to pay for transportation to a consolidation point. • Although these costs are not reflected in the tipping fees or solid waste fees, tribal members absorb them. 	<ul style="list-style-type: none"> • Not convenient if transfer station is located far away from the Tribal members who will be using it. 	<ul style="list-style-type: none"> • Storing large quantities of waste at one site for more than a few hours can produce litter, odor and vermin problems. • Litter may accumulate if sites are not cleaned frequently. • Staffing, fencing, or enclosing sites minimizes these problems. • Appropriate site selection can minimize noise and dust impacts. 	<ul style="list-style-type: none"> • Requires separate areas and containers for recyclables. • Combining free recycling with Pay-As-You-Throw waste disposal creates incentive to recycle. • Can sort to reduce contamination, bale for easier handling, or store at facility until find acceptable market price.

Source: Tribal Decisions-Maker's Guide to Solid Waste Management

GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS INTEGRATED SOLID WASTE MANAGEMENT PLAN

Weighing Waste Disposal Options

Disposal Options	Short-Term Startup Costs	Long-Term Operation/Maintenance Costs	Costs for Individual Tribal Members	Minimizes Controversy Over Siting	Minimizes Liability	Minimizes Litter, Odor, Dust, Noise, and Vermin
Outsourcing: Using a transfer station or landfill located off the reservation	Low. No funds required for planning or construction	Low. No equipment for the Tribe to maintain	Low to High. Tribe has no control over transfer station or landfill tipping fees, unless it has a long-term contract	Tribe does not have to site a transfer station or landfill on Tribal land.	The town, county, state, or company that operates the facility is liable for any health and environmental problems.	Outsourcing reduces potential health, environmental, and aesthetic problems associated with storing large quantities of waste in a single location on the reservation.
Building a transfer station	Moderate. Tribe must obtain funding for transfer station equipment. Building a transfer station costs less than building a landfill.	Moderate. Requires continuous funding for operation and maintenance.	Low to Moderate. Tribe sets disposal rates for residents; however, Tribe is subject to tipping fee increases because it transports trash to a landfill or incinerator.	Requires less space and is easier to site than a landfill. Residents sometimes object to siting a transfer station close to their community.	Tribal liability for any problems that might occur at the transfer station. People may leave hazardous waste or start fires at small, un-staffed transfer stations.	Trucks entering and leaving can produce dust and noise. Waste can produce foul odors and attract vermin. Paving nearby roads and building an enclosed facility and fencing the site can reduce impacts.
Building a landfill	High. Even if Tribe obtains a waiver from some federal requirements, costs can be high.	High. Unless Tribe obtains a waiver from some federal requirements, it is expensive to operate and maintain a landfill both while open and after closure.	Low to High. Tribe dictates disposal rates for residents. If the landfill is too expensive to operate and maintain, then higher rates might be needed.	Typically, residents object to siting a landfill near their community.	Tribe assumes liability for problems associated with the landfill during both active life and the post-closure care period.	Building a landfill and disposing waste on a daily basis produces dust, noise, odors, and litter. It also attracts birds, animals, and vermin. Paving nearby roads and covering waste each day prevents impacts.

Source: Tribal Decisions-Maker's Guide to Solid Waste Management

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

Planning a waste collection system also should include consideration of how to manage recyclable materials and special wastes. Collecting recyclables will be feasible for some Tribes and can offer benefits such as lowering disposal costs, preserving resources, supplying the Tribe with manufacturing feed stocks and materials such as compost, and generating revenue. Other Tribes however, might find that collecting recyclables is not feasible or too expensive, especially if they are located far from processing centers and markets.

Operation Costs

Assessing a Tribe's waste is the first step in the development and operation of collection and disposal systems. It can also assist in the decision as to whether or not to collect recyclable materials; compost organic wastes; or to develop a management system for household hazardous waste, bulky items, and construction and demolition debris. The Table below shows an example of operating costs for a solid waste management system, for future consideration.

Some Tribes prefer to hire private haulers or contract with local waste management districts to provide service for reservation residents, which is currently the case for Grand Traverse Band reservation residents.

Estimated Annual Operating Costs for Solid Waste Management Systems*

Labor:	
Administration	\$10 per hour
Other	\$5 - \$7 per hour
Benefits	30% of salary
Vehicles:	
Maintenance	\$0.20 – 0.35 per mile
Fuel	\$0.10 – 0.20 per mile
Roll-off containers	\$100 - \$300 each load
Contingency	\$10,000 - \$30,000 per year
* In addition, there will be annual capital costs for items such as household containers (5-year average life expectancy), roll-off containers (10-year life expectancy), buildings (25-year life expectancy), or collection trucks (150,000 miles life expectancy).	
Source: Tribal Decisions-Maker's Guide To Solid Waste Management	

Collection Costs

Decisions about what materials to collect, as well as how to collect, transport, and ultimately dispose of them, are all interrelated. The next table compares some of the capital costs associated with drop-off sites and curbside collection systems in rural areas. Tribal collection

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS INTEGRATED
SOLID WASTE MANAGEMENT PLAN**

can be affected by factors outside the scope of the Tribe's control. Winter weather can make rural curbside collection impractical in some areas.

Estimated Waste Collection Capital Costs*

	Waste Drop-Off Sites	Curbside Collection
Site Development		
Household solid waste	\$3,000 - \$4,000	
Other solid waste	\$30,000 - \$40,000	\$30,000 - \$40,000
8 cubic yard drop-off container (e.g., green box)	\$4,000 - \$5,000 each	N/A
Large plastic container (<90 gallons)	N/A	\$50
40-cubic yard roll-off container (for bulky items and C&D)	\$3,000 - \$5,000	\$3,000 - \$5,000
30-cubic yard front loading packer/collection truck	\$100,000 - \$110,000	\$40,000 - \$60,000
Other equipment	\$25,000 - \$30,000	\$0
Maintenance shop (optional)	\$40,000 - \$50,000	\$40,000 - \$50,000
Transfer station	\$200,000 - \$400,000	N/A

* Source: Tribal Decisions-Maker's Guide To Solid Waste Management

Planning a waste collection system also should include consideration of how to manage recyclable materials and special wastes. Collecting recyclables will be feasible for some Tribes and can offer benefits such as lowering disposal costs, preserving resources, supplying the Tribe with manufacturing feed stocks and materials such as compost, and generating revenue. Other Tribes, however, might find that collecting recyclables is infeasible or too expensive, especially if they are located far from processing centers and markets. It is currently most cost-effective for Tribal members to utilize county services and local recyclers.

Transfer and Disposal Options

For Tribes that choose to locate solid waste facilities, such as landfills or transfer stations, on Tribal lands, there is often a gap between the time that a Tribe closes its open dumps and opens a new transfer station or landfill. If residents do not have a convenient and affordable waste disposal alternative in the meantime, they might resort to illegal dumping. There are no Tribal landfills or transfer stations operated by the Grand Traverse Band at this time.

Transfer Stations

Although the Grand Traverse Band has no immediate needs for a transfer facility, the following information can be used for assessing future needs and cost-effectiveness of such a facility.

A transfer station is a facility where waste materials are taken from smaller collection vehicles and placed in larger vehicles for transport to their ultimate site of disposal-often a landfill. It is

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS INTEGRATED
SOLID WASTE MANAGEMENT PLAN**

important to know how much you are generating and what you are generating when you choose a transfer station design.

Although these transfer station facilities require funds for construction, they can lower waste management costs over the long term. Typically, transfer stations are less expensive than landfills because they require less money for construction, operation and maintenance, and do not require the expensive closure and post closure care that landfills do. A waste assessment should be used to estimate waste generation rates and properly size transfer stations. Transfer stations can be designed for versatility, to accept anywhere from 1 ton of waste per week to several hundred tons of waste per day.

The following table presents construction and equipment costs and the expected life for the common structures and equipment used at a transfer station.

Transfer Station Construction and Equipment Costs and Life Expectancy*

Item	Cost	Life (years)
Ramp and retaining wall	Varies with size	25
Building	\$42 per square foot	25
Fencing – chain link (installed)	\$10 per linear foot	20 - 30
Rolling gate (chain link)	\$400 each	20 – 30
Fencing – wood (installed)	\$9 per linear foot	15
Crushed rock	\$10,760 per acre (\$2.25 per square yard)	5
Concrete (6 inches thick, no labor)	\$46,760 per acre (\$9.50 per square yard)	25
Concrete (4 inches thick, no labor)	\$10,760 per acre (\$6.50 per square yard)	25
Asphalt (7 inches thick, no labor)	\$10,760 per acre (\$13 per square yard)	10 – 15
Stabilization (8 inches deep)	\$10,760 per acre (\$3.50 per square yard)	10 – 15
Dumpster (6-8 cubic yards)	\$450 - \$600	5
Roll-off boxes, 40 cubic yards, open top	\$3,200 - \$5,000	10
Roll-off boxes, 42 cubic yards, closed top	\$4,250 - \$6,400	10
Stationary compactor, 2 cubic yards	\$6,000 - \$9,000	10
Roll-off truck with hoist	\$60,000 - \$83,000	10
Yard waste chipper	\$20,000 - \$25,000	10
* These costs are provided as reasonable examples. Source: Tribal Decisions-Maker's Guide To Solid Waste Management		

Landfills

An onsite landfill can be a technically and economically feasible option for a Tribe under certain circumstances, such as if the Tribe is located far from available waste management facilities or generates enough waste to make an onsite facility viable. An important factor to remember when

GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS INTEGRATED SOLID WASTE MANAGEMENT PLAN

making this decision is that costs for a Subtitle D compliant landfill include not only construction and operation and maintenance, but also closure and post-closure care expenses.

Costs for a Subtitle D compliant landfill includes not only construction and operation and maintenance, but also closure and post closure care expenses. Many Tribal members often object to siting a landfill close to their homes or businesses. Building an economically viable small landfill that meets federal regulation requirements is challenging to most tribes because they do not generate enough waste to make building a large landfill worth the cost and effort. The Tribal Association of Solid Waste and Emergency Response (TASWER) and Solid Waste Association of North America (SWANA) estimate that the typical cost of construction per acre of landfill space is between \$150,000 and \$250,000. Tribes generating less than 100 tons of waste per day will find building and operating a Subtitle D compliant landfill is not an economically feasible option.

The federal government created two exemptions to regulations for tribes; one for small communities in cold regions and one for small communities in dry regions. These exemptions are based upon weather related issues such as rainfall and snowfall amounts. Though most Tribes do not qualify for these two exemptions, Tribes can apply to the EPA for site-specific flexibility.

The Tribe is not located far from waste haulers nor is its waste volumes substantial, therefore, the option to build and fund a landfill is not a viable option at the Grand Traverse Band reservation at this time. Another consideration is would the Tribe want to expend its funding to support a landfill and have to decide if they would turn away additional funding by accepting nonTribal trash or landfill materials which may prove to be a hazard in future years. Tribal decisions are often made with the consideration of seven generations into the future and tend to be extensively protective of the environment. This may not be a risk the Tribe may want to undertake or seemingly promote, and instead focus its funding and efforts on recycling, reduction, reusing, and environmental protection.

Recycling Facilities

The major costs of a recycling facility are capital costs to set up the program, and operation and maintenance costs to keep the program running, such as new equipment purchases and staff salaries. Money to pay for these expenses can come from user fees, Tribal general funds, and some federal and state grants and loans.

The amount of funding available will affect the type of collection program to be implemented and the size and type of facility a Tribe needs. Tribes might be limited by how much members are willing to pay for recyclable collection services. In addition, if a Tribe, such as Grand Traverse Band, has a small population, the economic feasibility of the recycling program is limited, especially when given other Tribal concerns and priorities. Currently, it is the financial responsibility of individual households whether they want to utilize county recycling services or contract with individual contractors.

Composting Facilities

Composting is the controlled decomposition of organic materials, such as leaves, grass and food scraps, by microorganisms. The result of the decomposition process is compost: a crumbly, earth-smelling, soil-like material. Residents are usually required to either leave yard trimmings at the curbside for collection or drop off waste at a designated site. Factors to consider when selecting a drop-off site are similar to those for choosing a recyclables drop-off site, including convenience for Tribal members and low impact of odors, dust, or noise on Tribal members. Tribes will need to train and hire staff to run the facility.

Currently, Grand Traverse Band members have the option to utilize county or private contractor services or to purchase and utilize their own household composters. No composting is currently being conducted by the Gaming and Governmental operations, with the exception of government Facilities Department offering Tribal members cedar trees for ceremonial use or ceremonial fires or chipping up downed trees for ground cover.

HHW Program Types

Many options exist for operating a HHW collection program. Below are three types of HHW programs and the effectiveness of their programs.

1. **Periodic Collection Programs:** Periodic collection events are defined as one-day collection events that do not require permanent structures. These collections are usually operated by contractors and held at municipal facilities such as transfer stations, public works facilities, school parking lots, etc.

On the scheduled collection day, the contractor sets up a receiving area at a pre-designated site. The event is frequently scheduled during the weekend, and is organized by employees and volunteers. In some instances, residents must pre-register so that communities can estimate the waste types and quantities that will be received. At the end of the event, the collected waste is transported to designated disposal facilities.

One-day events have low fixed costs because they do not require a permanent structure. However, participation rates and amounts collected can be affected by weather on collection day, travel distance, promotion level, receiving area wait time, and ease of access to event location.

2. **Semi-Permanent Collection Programs:** Semi-permanent programs are defined as HHW collection operations that are held at a regularly scheduled time, but that have no permanent structures or facilities associated with that collection day. For example, a semi-permanent collection facility can be located at a landfill and operate on a year-round basis collecting wastes every Sunday. The collection site houses no permanent structures. Temporary storage lockers can be set up on-site and are maintained by Tribal members or a private contractor.

GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS INTEGRATED SOLID WASTE MANAGEMENT PLAN

In a study conducted by the Maine Department of Environmental Protection, it was estimated that one-day collection events had the lowest cost, but also have the lowest amount of HHW collected. These collections also required the highest cost for program promotion and advertising, and had the lowest customer satisfaction rate of any type of HHW collection program³PT.

- 3. Permanent Collection Programs:** Permanent HHW collection programs are increasing in number across the country as many communities have transitioned to providing more convenient collection options for their residents. Permanent programs are defined as having an established location with a permanent structure(s) dedicated for the collection of HHW. It is common for permanent programs to have a covered shelter area, cabinets for storage of flammable and reactive materials, drum storage pads, and office space for managing paperwork.

Hours of operation vary depending on the size and participation rates of the community. Most permanent programs provide at least three days a week for acceptance, often operating some time during the weekends. Contractors, reservation employees, or a combination of both can staff these programs. Many permanent programs also choose to continue with periodic community collection days. While this provides additional convenience for residents, it also has a significant cost factor.

Program Costs

The table below shows an estimated breakdown of costs between the three different HHW collection programs. Tribal run programs are compared with contractor run programs to show the difference in costs. HHW program cost savings could be realized by partnering with neighboring communities, sharing contract and marketing expenses, and establishing periodic collection events, which are generally less expensive than a permanent facility.

³ Files. Andrew and Criner, George, "Poison Control," June 1, 2003 edition of *WasteAge Magazine*.

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

Estimated Costs for Different HHW Collection Program

HHW Collection Options	Estimated Participants [~]	Estimated Annual Tonnages [□]	Tribal Staffing	Annual Disposal Costs [*]	Total Costs [^]	Annual Management Costs [*]	Total Costs [°]	Pros of Program	Cons of Program
Periodic	3,200	195	N/A	N/A	N/A	\$256,672	\$256,672	Low capital & operating costs	High level of marketing effort for collection events
Semi-Permanent (2x/mo)	5,100	311	1 Full-time	\$279,990	\$348,640	\$409,071	\$414,071	Medium level of convenience to residents	Difficult to advertise the program; medium level of capital & operating costs
Permanent (5 days/wk)	12,500	775	1 Full-time 1 Part-time	\$697,230	\$808,280	\$1,018,667	\$1,023,667	High level of convenience for residents & increased collection of materials	High capital & operating costs

[~] Estimated participation was determined by comparing HHW collection programs throughout the region and country. Rates were applied based on averages between various Tribal populations. Programs that operate a collection on a weekend day often have a higher participation rates than those who operate only during the week.

[□] Estimated tons were determined by HHW programs throughout the country.

^{*} Based on evaluation of similar programs throughout the region and country, HHW disposal rates by county-operated programs equal approximately \$900 per ton.

[^] Costs include estimated salaries, training, and medical costs, supply costs, annual equipment and replacement and maintenance funds, and annual residual disposal costs as annual disposal costs.

[°] Costs include estimated annual equipment and replacement and maintenance funds as annual maintenance costs.

Public Participation

Public participation rates in communities with permanent drop-off programs tend to be higher than communities with periodic collection programs. The convenient hours of the permanent program together with the ability to drop off materials on a year-round basis provides residents with additional incentive to utilize the program.

E-waste Collection Events

There are four main factors to consider when planning your own electronics waste collection event:

- **Market:** The most important determination in the feasibility of a collection event is the existence of a market to accept the materials collected. If it is too far to

GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS INTEGRATED SOLID WASTE MANAGEMENT PLAN

recycle, it may not be economically feasible to host an event. Therefore, a location must be selected that will attract the highest number of participants in a short amount of time.

- **Staffing:** An adequate number of staffing is needed for the event. Either the Tribe or a contractor can provide staff. If the contractor provides trained staff, the Tribe's liability can be reduced significantly.
- **Event Location:** The right event location can “make or break” the event. There needs to be adequate space for traffic queuing, material collection and sorting, and be visible and easily accessible for the majority of the population served. The event can be held in any large lot. Partnering with an electronics retailer may prove beneficial to both the event and retailer, as the influx of vehicles can drive traffic to the store. The partner can also provide discount coupons to promote the event and increase traffic to the store. Other items to consider in choosing a location are insurance, indemnifications, and/or access rights required by the property owner for the event.
- **Advertising:** Advertising is crucial to ensure a successful event. All forms of media can be used to promote the event: print; electronic; radio; and television. Press releases can be prepared and distributed to local newspapers for publication as an article or in a calendar section.

If possible, the event location can also be used for promotion prior to the event. Posters can be placed near the entrance, banners can be placed in the parking lot, and flyers can be distributed at point-of-sale locations. The same flyers can also be distributed at community centers, such as libraries, schools, and event centers.

These are the major solid waste options to consider if the time comes to expand the Tribal solid waste and recycling program. This information will provide a basis for cost-effective analysis and accurate bookkeeping. EPA provides links to documents with instructions for developing Full Cost Accounting (FCA) for solid waste management (<http://www.epa.gov/epaoswer/non-hw/muncpl/fullcost/epadocs.htm>). Comparing waste management alternative costs using FCA will allow development of a comprehensive budget and effective financial planning when an alternative is chosen.

Measurable Outcomes

When expansion is being considered, this section can be used to initiate the process. The various stages can be reported. The status of this expansion will be assessed every five years after the one year update.

3.2.2.2 Closure Care and Costs

There are no current or future plans for a landfill on the Grand Traverse Band reservation; therefore, closure care and cost are not applicable. Further the Traverse City area is under a 5-year ban on landfill construction.

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

3.2.2.3 Real Cost of In-Kind, Off-the-Book Transactions

Staff members of federally-recognized Tribes are eligible for training at institutions, such as the Institute for Tribal Environmental Professionals (ITEP) and (the Tribal Solid Waste Advisory Network (TSWAN). Programs vary, but usually lodging and per diems are reimbursable. This has a value of approximately \$100 per staff member per day, for a total value during a 4-day training of \$400.

Measurable Outcomes

This value is quantifiable by reporting the number of staff attending such trainings and the length of the trainings. This information will be updated every five years after the one year update.

3.2.2.4 Cost-effective Analysis

The documented waste and recycling volumes of the Grand Traverse Band do not make it feasible to add any permanent structures to facilitate current or future needs. Therefore, the recommendations are focused at enhancing and expanding current programs. The needs and recommendations detailed in Section 1 are listed below with an associated cost to implement.

Recommendations and Associated Costs

	Recommendation	Implementation Measures	Associated Costs
Gaming Operations	Implement full recycling program in compliance with the Tribal Recycling and Buy recycled policy (December of 1999)	Implementation Committee collaborate to determine needs and funding.	Unknown
	Implement a reduce, reuse, and recycling policy for staff and customers	Utilize Green Teams to implement, if approved by each management.	Negligible
	Start a no cost 3-month trial with Bay Area for pickup of office paper at Turtle Creek. Collaborate successes and/or failures with the other casino.	Maintenance Supervisor work with Bay Area or others. Approximately 11 recycling bins needed (need funding). Utilize existing staff.	11 50-gallon bins at \$1,270.

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

	Recommendation	Implementation Measures	Associated Costs
Gaming Operations (Continued)	Improve & document (in a centralized database) C&D reduction, recycling, and reuse practices.	Establish a database and enter data	Negligible if part of project management
	Offer durable drink ware at the casinos and wooden coffee stir sticks at businesses to reduce waste & expendables cost.	Implement if cost-effective and have capacity. Consider composting the stir sticks, if feasible.	Negligible (trade-off for labor and water usage)
	Add fluid drains to the Leelanau Sands waste compactor to minimize disposal costs (saved thousands in waste disposal costs at Turtle Creek.	Have the two casino Maintenance Supervisors collaborate on this alteration.	Negligible
Governmental Operations	Add commercial recycling locations at both casinos/hotels and government location (6 large/3 small dumpsters) and Grand Traverse, Benzie, and Charlevoix offices (9 small), for a total of 6 large and 12 small dumpsters.	Negotiate with counties to see if they will agree to split the dumpster cost and add to their route (and if fee involved) or negotiate with local recyclers.	6 30-yd and 12 6/8-yd dumpsters at a cost of \$52,050-\$65,400 (full cost).
	Encourage recycling & save money by requiring renters to use budget bag/tag Vs providing waste services, incentive: reduce rent (by current waste fee)	Determine if economically feasible (what fees in the rent are charged Vs cost), if feasible conduct community survey for support	Unknown
	Reduce medical waste volume and increase recycling in health clinic	Assess current practices and enhance (ideas from staff (i.e. recycle exam table liners, shred/recycle confidential, etc.)	Negligible
	Collect Tribal pharmaceutical waste (routinely or seasonally)	Determine if feasible, vendor cost, (Stericycle, others)	Unknown

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

Governmental Operations (Continued)	Recommendation	Implementation Measures	Associated Costs
	Encourage and support service area counties to apply for two-percent funding.	Contact each county not currently receiving funding.	Negligible
Gaming and Governmental Operations	Require all Implementation Committee members to meet on a regular basis, share information resources and technology, and negotiate as a sovereign nation. Also track types and volumes in an annual central database.	Meet to determine goals, timelines, and feasibility, including the use of a centralized database and possibility of using a dedicated staff member	Unknown
	Request Green Teams to educate and motivate co-workers about reduction, reuse, and recycling ideas and techniques.	Provide them with the materials and information needed.	Negligible
	Negotiate waste haulers to charge by weight or by budget bag/tags instead of number of pick ups or locations.	Negotiate with contractors, as a single entity.	Negligible
	Negotiate medical and infectious waste hauler rates as a single entity (gaming & health clinic accounts) for best rate	Negotiate with Stericycle and other vendors	Negligible
	Require all purchasing managers to collaborate on a regular basis to share information resources and to negotiate as one sovereign nation.	Provide them with the materials and information needed.	Negligible
	Require all purchasing managers to utilize on-line databases for recycling vendor and product.	Provide them with the materials and information needed.	Negligible

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

	Recommendation	Implementation Measures	Associated Costs
Residential Population	Add 3 additional county residential recycling locations (3 6/8-yd dumpsters per site, 9 total) near residential reservation sites (main reserve (2 sites) and Benzie (1 site), 9 at full price is \$4,050-5,400 or half price at \$2,025-2,700	Negotiate with counties to share in the cost of the dumpster, as proposed by Leelanau County. On-call pickups when full. Possibly negotiate combined commercial and residential use.	Assuming split with each county 50/50: \$2,025-2,700
	Negotiate reduced residential waste rates for all Tribal members, as a sovereign nation (i.e. budget bag/tag discount to all members).	Determine feasibility when negotiating with waste contractors, then present to Tribal Council.	Negligible
	Motivate and increase recycling volumes through educational outreach	Utilize global staff e-mail, newsletter articles, and brochures at Tribal offices and Tribal events.	Per PPG, GAP funding

The Gaming and Government Operations are represented in the Implementation committee members, who will be asked to consider the above recommendations as it applies to their needs, prioritize, set short and long-term goals, and to implement them to meet the Tribe's needs. For the more complex projects, a feasibility study can be conducted. Consider using the EPA's online tool entitled "Full Cost Accounting (FCA) for solid waste management", which is located at the following web site: <http://www.epa.gov/epaoswer/non-hw/muncpl/fullcost/epadocs.htm>.

Measurable Outcomes

Report any expansions or changes to existing programs and its actual or expected cost-savings every five years after the one year update.

3.2.2.5 Overall Feasibility

The feasibility of proposed management alternatives is not limited to whether these can be funded; many other considerations have been evaluated before selecting and implementing a preferred alternative. Alternatives have been compared on the basis of cost, technical implementation, cultural acceptance, environmental impact, institutional implementation, time-frame, and effectiveness. Because each of the Gaming and Governmental operations current is managed independently, each must choose the best and most cost-effective measures for expansion and/or change. Changes, which involve the Tribal residents or are a major impact to the overall Tribal operation, would benefit

greatly from input and informed support from the Tribal membership via public surveys, feedback, and involvement.

Measurable Outcomes

Report on any changes or expansions and whether the public was involved in the process every five years after the one year update.

3.2.2.6 Selected Alternative

The current priorities for the Grand Traverse Band are to cost-effectively expand and enhance its existing disposal and recycling programs. Most Tribal members are also members of the public community. In 2007, a 5-year ban on constructing new landfills in the Traverse City area was passed by the local legislative leaders. In addition, not only does Glen's Landfill have an estimated 100-year lifespan, the Tribal staff and reservation households do not generate enough waste volume to justify the cost of building and permanent solid waste structures, such as transfer stations or landfills. Instead the Grand Traverse Band chooses to expand and enhance its existing programs and support like-minded communities, such as county solid waste councils.

Measurable Outcomes

Monitor public trends towards solid waste management, especially landfills, and periodically verify Tribal waste generation volumes. Update every five years after the one year update.

3.2.3 Proposed and Future Waste Management Practices

This section discusses the following proposed and future waste management practices:

- Proposed waste collection, transfer, and disposal
- Proposed special and hazardous waste
- Proposed waste reduction: source reduction, recycling, and composting
- Potential partnerships
- Compliance and enforcement
- Proposed public involvement and community education.

3.2.3.1 Proposed Waste Collection, Transfer, and Disposal

As stated above, the most cost-effective plan for the Grand Traverse Band is to expand and enhance its existing solid waste programs.

Measurable Outcomes

Update any modifications and enhancement measures every five years after the one year update.

3.2.3.2 Proposed Special and Hazardous Waste

The Grand Traverse Band does not have the population or volumes of special and hazardous waste generated which would make it cost-effective to manage their own special and hazardous wastes. Residents and staff utilize a variety of community resources for their special and hazardous waste disposal needs (see Section 3.1.4). Past events have been well-attended and successful. Grand Traverse Band Environmental staff members utilize their PPG grant to ensure proper notice to regarding pollution prevention and solid waste events are well-advertised.

Measurable Outcomes

Report the Tribally advertised and encouraged community special and hazardous waste collection events available to Tribal members in the six county service area. The Environmental Director reports on these in EPA progress reports. In addition, these partnerships will be updated every five years after the one year update.

3.2.3.3 Proposed Waste Reduction: Source Reduction, Recycling, and Composting

The Grand Traverse Band practices a wide variety of waste reduction and recycling practices. It is recommended that the Tribe continue to enhance these measures, including adding these policies to the gaming operations. Existing funding supports this strategy. The Tribe is always looking to expand capabilities in this area and striving to do so economically, which strengthens its long-term success.

Measurable Outcomes

The Environmental Director reports on the expansion of the existing waste reduction, recycling, and composting efforts in EPA progress reports.

3.2.3.4 Potential Partnerships

Potential partnerships may include, but are not limited to the following:

- Solid Waste Councils and staff for Antrim, Benzie, Charlevoix, and Manistee (goal support and encourage application for two percent monies)
- Michigan Tribal Environmental Group staff (goal assist others in this process and collaborate ideas regarding solid waste management)

- TSWAN (goal to receive low to no cost training and assistance to further the existing Tribal solid waste programs)

Measurable Outcomes

The effectiveness of new potential partnerships can be measured in the number of counties applying for two percent monies and the number of Tribal staff receiving training and assistance. The Environmental Director reports on these partnerships in EPA progress reports.

3.2.3.5 Compliance and Enforcement

The ordinances and codes approved by the Grand Traverse Band were put in place to protect human health and the environment. There are very few instances of compliance and enforcement issues. In the past, the Tribe has worked to clean up dump sites, posted signage to prevent future dumping, offers a free annual spring cleanup event, all which have been effective measures. Whenever enforcement and compliance assistance has been requested, EPA staff and the tribe have worked together for the greater good.

It is evident that the Tribe has the support of the community in the lack of compliance and enforcement issues, lack of burn ban violations, lack of open dumps, and well attended successes of annual spring cleanup events. Further evidence of the program successes is that the 2010 community survey, no open dumps were reported and the main concerns were with expanding recycling options. Any reported issues are followed up and pursued.

Measurable Outcomes

The effectiveness of this component is measurable by the lack of compliance and enforcement issues, as stated above, along with community support. The Environmental Director reports on any code or ordinance issues in EPA progress reports.

3.2.3.6 Proposed Public Involvement and Community Education

Community support and buy-in are crucial elements in successfully operating an organized solid waste management system and maintaining compliance. Since no major changes, for example constructing permanent structures, are warranted in the existing solid waste system, an effort to motivate and update staff and the community on their successes is most valuable. A cost-effective means of reaching the most people would be through Tribal newsletter articles and the development of a new environmental brochure, which has the option of being available in Tribal offices, mailed to members, or distributed at community gatherings. This can be accomplished during the review process of this report, if approved.

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

Measurable Outcomes

The number of brochures printed and the number distributed (and the means) will be reported by the Environmental Director in EPA progress reports.

3.2.4 Implementation

This heading has been inserted as a placeholder. Appropriate information will be added by EPA. This section should include a discussion of community involvement.

3.2.5 Tribal Solid Waste Management Plan Review and Updating

Periodically reviewing to update the Tribal Solid Waste Management Plan every 5-10 years is good standard practice.

4.0 DESCRIPTION OF THE FUNDING AND SUSTAINABILITY/LONG-TERM GOALS OF THE TRIBE'S SOLID WASTE PROGRAM

This section discusses financial implementation and long-term goals and strategies.

4.1 FINANCIAL IMPLEMENTATION

This section discusses the following aspects of financial implementation:

- Funding the Plan
- Revenue generators
- Fee structure
- Financial sustainability.

4.1.1 Funding the Plan

Type of Assistance and Funding

There are two primary sources of solid waste funding. Most Tribes require a combination of both sources to support their solid waste programs.

- **Internal:** Types of internal sources may include allocations from the Tribal general fund, solid waste service user fees, revenue generated from the sale of recyclable materials, and tipping fees from accepting waste at a transfer station or landfill.
- **External:** Types of external sources may include grants or loans from state or federal agencies. There are also a number of private organizations that provide grants to Indian Tribes for solid waste and other environmental programs. A complete listing of the grant resources and information on how to apply, is contained in the document: Grant Resources for Solid Waste Activity in Indian Country, put out by the EPA, Office of Solid Waste and Emergency Response.

External Funding

State Financial Assistance

Each state has many options for seeking financial assistance for solid waste and recycling program uses. Tribes must research their state to find contacts and options that exist.

State of Michigan: There are a number of grants available through the state of Michigan. Some require a match while others do not. Here are a couple of the currently available Michigan grants, which can be found at <http://www.michigan.gov/deq>, search by grant title:

- Clean Michigan Initiative Brownfield Redevelopment Grants, \$1 million dollars per project (ongoing)

GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS INTEGRATED SOLID WASTE MANAGEMENT PLAN

- Site Assessment Fund Grant, \$1 million per community (ongoing)
- There are several listed in the Michigan Department of Environmental Quality Online Grants and Loans Catalog:
- Brownfield Development Grants (3), \$1 million per project (ongoing), Pages 5-10
- Community Pollution Prevention Grant, \$250,000 (on-going)
- Scrap Tire Market Development Grant, \$500,000, (on-going)
- Scrap Tire Cleanup Grant, \$ per ton, total available funding is \$2 million (on-going)

Federal Financial Assistance

There are a number of federal agencies that provide funding for Tribal solid waste programs. The primary sources include:

- Department of Agriculture (USDA)
- Department of Housing and Urban Development (HUD)
- Department of Health and Human Services (HHS)
- Environmental Protection Agency (EPA)

Some federal agencies offer financial assistance to Tribes for waste management projects. Most of the grants and loans available provide money for planning, outreach and education, construction, or equipment purchase. A few grant programs allow funds to be used for program or facility operation and maintenance:

- Catalogue of Federal Domestic Assistance (CFDA): Database of all federal assistance programs including grants and loan programs. Available to state, local, and Tribal governments. After identifying potential sources of funding through CFDA, Tribes should then go directly to the funding agencies for application information. For further information, go to www.cfda.gov.
- USDA Rural Development Solid Waste Management Grants: Helps applicants to reduce or eliminate pollution of water resources and improve planning of management of their solid waste sites. For further information, go to <http://www.rurdev.usda.gov>. Interested Tribes may submit a pre-application using form SF 424.1, "Application for Federal Assistance (non-construction), between October 1 and December 31, to the USDA Office in your state or the USDA, Rural Development National Office in Washington, D.C.
- Bureau of Indian Affairs Guarantee Loans: The program was established by the Indian Financing Act of 1974 to stimulate and increase Indian entrepreneurship and employment through establishment, acquisition or expansion of Indian-owned economic enterprises. Loans may be made to finance Indian-owned businesses organized for profit, provided that eligible Indian ownership constitutes not less than 51 percent of the business. For further information, go to <http://www.doi.gov/bureau-indian-affairs.html>.
- Indian Health Services, Tribal Management Grant Program: Assist federally-recognized Tribes and Tribally-sanctioned Tribal organizations in assuming all or part of existing IHS programs, services, functions, and activities through a Title I

GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS INTEGRATED SOLID WASTE MANAGEMENT PLAN

contract and to assist established Title I contractors and Title V compactors to further develop and improve their management capability. For further information, go to: <http://www.ihs.gov/NonMedicalPrograms/tmg/index.asp>.

- EPA American Indian Environmental Office Grants: Find information on the grant tutorial, headquarters grant application requirements and forms for environmental programs. For further information, go to <http://www.epa.gov/indian/tgrant.htm>.

In addition, EPA Region 5 is developing an on-line federal resource guide for Tribal integrated waste management. This guide compiles various federal financial, technical assistance, and direct implementation resources that support or impact Tribal integrated waste management, including some of the programs this report mentions in this section. EPA will provide the Tribes with the URL once it is finalized and posted on the EPA website.

There are many state and federal funding sources for Tribal solid waste programs. The Grand Traverse Band has developed this working document supported by EPA funds, while working in cooperation with Indian Health Services. It has been developed as a living document meant to be modified as the Grand Traverse Band solid waste program grows.

Researching Funding Opportunities

There are many ways to learn about what funding opportunities are available to Tribes. A few of the more common methods include:

- Announcements from federal agencies.
- Internet searches.
- Communication with other Tribes.
- Communication with regional agency representatives.

Announcements from Federal Agencies

Most federal agencies announce grant and loan availability in the Federal Register and provide information on their websites. Some agencies send out announcements and solicitations for their grant programs. The Interagency Work Group, for example, mails and annual announcement and solicitation for its open dump cleanup grants.

Internet Searches

Many Tribes learn about grant programs by conducting simple Internet searches. USDA's Rural Development grants, for example, are accessible through websites that include descriptions of the grant programs, applications, instructions for applying, and contact information for state and regional representatives.

Communication with Other Tribes

Another way to learn about available grants is by talking with other Tribes, either through conversations or networking at conferences and meetings. Conversations with neighboring Tribes are a primary source of grant information for some Tribes. Sharing information and experiences can be mutually beneficial. Some Tribes even exchange successful grant applications to help improve future applications.

Communication with Regional Agency Representatives

Tribes should speak directly with regional agency representatives from EPA, HIS, BIA, USDA, and HUD. Some Tribal solid waste managers have noted that this is a crucial part of securing funds for Tribes.

Funding Opportunities, Current or Future

The following are current and future funding opportunities:

- Tribal Council is considering pursuing a Part 121A Brownfield Redevelopment grant, \$200,000 (January 31, 2010) for property clean up and redevelopment, project application not yet determined.
- Performance Partnership Grant (on-going) in part supports solid waste management and recycling.

The Grand Traverse Band relies on a combination of internal and external funding sources to meet its solid waste management needs.

Internal Funding Utilized

Tribal members living on the reservation contract with local waste haulers and have access county recycling sites. Tribal Housing residents pay a fee for waste and recycling as part of their rent. The governmental operation contracts with local waste and recycling haulers to service these individuals as well as all governmental offices. Each casino contracts with various waste and recycling haulers. All budgets are separate and the solid waste and recycling expenditures are integrated into the entire operating budget.

External Funding Utilized

The Environmental Department operates under the government side on EPA funds. The solid waste and recycling funding supports the existing programs, their expansion, and general needs, including educational outreach. The budget for the grant is independent of the governmental budgets.

Measurable Outcomes

The Environmental Director reports on any new funding opportunities or sources being in EPA progress reports.

4.1.2 Revenue Generators

The only current revenue generators are the Tribal housing units. Their waste and recycling fees are incorporated into their monthly rent. Housing is near capacity with waiting lists for availability. Additionally, new housing expansion is currently under construction. This will provide future long-term base revenue generation, assuming the population grows as projected and housing remains near capacity.

Measurable Outcomes

Monitor housing capacity to gauge the stability of revenue generated by renters. The number of occupied and available units can be compared to the cost of waste services to quantify efficiency. This data will be updated every five years after the one year update.

4.1.3 Fee Structure

Some Tribes develop a system for collecting revenue and user fees, charging different fees for different types of users. For example, commercial users may be charged by weight while residential users are charged a standard monthly fee. EPA provides links to resources used in developing a fee structure (<http://www.epa.gov/epaoswer/non-hw/payt/top15.htm>). At the Grand Traverse Band, the only users for which a fee is charged is the housing rental units. As previously stated, they are charged a standard monthly fee incorporated into their monthly rent. Commercial generators each have their own budgets and contractors.

Measurable Outcomes

Report on new revenue generators. Develop a fee structure if the system is expected to expand to include commercial revenue generators. Any new sources will be updated every five years after the one year update.

4.1.4 Financial Sustainability

BUDGETING & FINANCING

After choosing a waste collection and disposal option, you must figure out how to finance the option.

GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS INTEGRATED SOLID WASTE MANAGEMENT PLAN

Residents work directly with a private hauler or local government for services: It is the responsibility of Grand Traverse Band households to contract for waste and recycling services. In the past a Pay-As-You-Throw program was established on the main reservation, but funding was not continued by the government after the initial grant funding ended.

Government and Gaming Operations work directly with their own private haulers for services: Each operation has its own budget, management, and contractors.

Funding and Other Non-Monetary Resources

The following are viable options. Since internal funding is limited, the Grand Traverse Band considers other sources of funding as needs arise and capacity is available.

Identify and pursue existing and potential funding and non-monetary resources for developing and implementing solid waste systems. These resources may be local county or city support; state or federal grant programs, contributions or donations from private entities, in-kind contributions, or any other resources, including volunteer activities. These may include, but are not limited to, funds from the EPA and State Department of Ecology, such as:

- Identify and pursue existing and potential funding and non-monetary resources for training, technical assistance, planning, implementation, closure, and post-closure activities. These resources can be found through support and assistance from the EPA, BIA, HIS, and the USDA Rural Development offices. Funding can be used for any of the following:
- Closing open dumps
- Cleaning up waste on Tribal land
- Developing safe solid waste management practices

As detailed in section 3.1.9, the Grand Traverse Band utilizes EPA funds for its pollution prevention and solid waste program support and educational outreach. The grant is a continuing funding source; however, if other needs are identified, other funding sources or grants will have to be secured.

Measurable Outcomes

Report on any new plans and their potential funding sources every five years after the one year update.

4.2 LONG-TERM GOALS AND STRATEGIES

This section discusses the following elements of long-term goals and strategies:

- Long-term goals and priorities

- Improvements beyond basic compliance
- Strategies for implementation and maintenance.

4.2.1 Long-Term Goals and Priorities

Purpose of Integrated Waste Management Plan

This plan has been prepared by the Grand Traverse Band as a road map to develop and implement an effective integrated solid waste management program specific to the Tribe's needs. This plan includes the identification of existing solid waste systems, needs assessments, program design, implementation, and monitoring. This Plan covers all aspects of solid waste planning, including collection, storage and disposal, source reduction, recycling and composting, facilities, and budgeting and financing.

Goals of the Integrated Waste Management Plan

General Goals Statement

This integrated waste management plan has been developed to provide the Tribal decision makers and members with a set of goals and policies to implement, monitor and evaluate future solid waste activities. The following waste disposal needs and considerations have been identified:

- Solid waste hierarchy of waste reduction, recycling, composting, disposal, and incineration,
- Waste types, such as municipal solid waste, construction and demolition wastes, and other special wastes (household hazardous waste, electronic waste, tires, vehicle fluids, medical/infectious wastes, and white goods/appliances),
- Cost effectiveness,
- Environmental protection, and
- Institutional and organization structures

Based on these issues, the following goals have been identified:

- Manage the system to protect public health and the environment,
- Reduce solid waste stream through waste reduction, recycling, and energy recovery,
- Encourage that special wastes are handled, recycled, or disposed of in a safe manner.
- Expand the list of waste types when cost is not prohibitive,
- Encourage source separation, especially of commercial and industrial waste,
- Increase public awareness of solid waste issues through educational outreach,
- Maintain/increase existing recycling program,
- Maintain/increase exiting "buy recycled" program,
- Maintain/increase existing office paper recycling program, and

GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS INTEGRATED SOLID WASTE MANAGEMENT PLAN

- Maintain/increase existing recycling options in/near Peshawbestown.

The Grand Traverse Band values its solid waste and recycling programs and is always looking for ways to expand and improve upon them. The current and projected solid waste and recycling volumes are not great enough to warrant major changes in the current system. Instead, the priority is to expand and enhance existing programs, based on the feasibility of each of the Gaming and Governmental operations. Because many of the recommendations are negligible in cost, they can be fairly easy to implement for each entity. Management of each operation will have to decide which measures to implement and whether it is feasible for them to work together and at what level.

Measurable Outcomes

The effectiveness of the solid waste and recycling program is easily quantified by the continued existence of its programs. The status of these programs will be updated every five years after the one year update.

4.2.2 Improvements Beyond Basic Compliance

The Grand Traverse Band Tribe believes that its needs are adequately being met by the variety of efforts by all Tribal entities. The Tribe understands that new or expanded recycling programs are necessary in order to increase the quantities and types of materials that are recycled on the Reservation. That is why they continually strive to do just that.

Much to their success, as is evident in this report, all government and gaming entities continually assess areas of disposal, reduction, and recycling and make choices based on their individual needs. Environmental protection is the driving motivation. Cost, space, and manpower are the limiting factors. Success is gradual, but ever progressing.

As stated above the Grand Traverse Band does not have the current volume or expected growth to justify building any permanent structures or implement new recycling programs. It is most cost-effective to expand over time upon the extensive list of current practices. The Tribal revenue is primarily based on tourism and the general economy. When the economy is down, so is tribal revenue. At these times, the best option is to maintain and perform low cost improvements.

Measurable Outcomes

Success is quantifiable by maintaining and improving existing programs. The status of these programs will be updated every five years after the one year update.

4.2.3 Strategies for Implementation and Maintenance

MONITORING AND REPORTING PRACTICES

Waste Quantities Disposed and Recycled

Tribes should strive to obtain accurate waste disposed quantities for several reasons. With actual disposed data, useful comparisons can be made to quantities recycled. Also, recycled and disposed quantities can be added together to develop overall waste generation rates. Another value of obtaining accurate data is to measure source reduction efforts or the effects of any other waste generation trend.

Unit Cost Information

Being about to develop unit costs for solid waste and recycling services contributes to assessing the cost-effectiveness of a program or contract (if used) from one time period to another. Since the number of Tribal residents and visitors can fluctuate, waste services should expect to fluctuate. Developing unit costs (i.e., dollars per person per year) can help budgeting and comparisons to prior years of service.

Collection Container Inventory

Although service frequency or container location can change, it is helpful to semi-annually conduct an inventory of collection containers for both solid waste and recyclables, including quantity, capacity, and frequency of service, condition, and location. Part of this activity should be to spot the containers on a map of the reservation to confirm that the service desired is being provided.

Reporting and Record-keeping Practices and Responsible Staff

The staff responsible for record-keeping includes:

- Jim Gaskin, Turtle Creek Casino
- Dan Hughes, Leelanau Sands Casino
- Loi Chambers, Health Clinic
- Tom Shomin, Government Facilities
- Steve Ferrenga, EDC Architect
- Joan Cotter, Housing
- Dwayne Burfield, Automotive

Reporting to EPA is currently on being performed by the Environmental Director on the activities under the PPG, which include solid waste management and office and community reduction, reuse, and recycling practices. There is, however, no of tracking other solid waste or recycling data on an annual basis, nor is there trend analysis. Documenting and performing a centralized trend analysis is recommended for increasing the accuracy of the data and predicting future needs.

GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS INTEGRATED SOLID WASTE MANAGEMENT PLAN

Monitoring and Record-keeping Needs

Monitoring and record-keeping priority recommendations include:

- A centralized computer system (database or spreadsheet) for entering data.
- A centrally-assigned staff member:
 - Keep and manage the solid waste data for all government and gaming solid waste data tracking needs.
 - Research, apply, and manage solid waste grants if feasible, and
 - Negotiate as one entity for better prices on contracts, equipment, and supplies.

Timeline and Plan to Implement the Selected Solid Waste Alternative

One month after this plan is approved by Tribal Council: the Environmental Director should facilitate a meeting with the following personnel:

- Jim Gaskin, Turtle Creek Casino
- Dan Hughes, Leelanau Sands Casino
- Loi Chambers, Health Clinic
- Tom Shomin, Government Facilities
- Steve Ferrenga, EDC Architect
- Joan Cotter, Interim Housing Manager
- Dwayne Burfield, Automotive

Meeting Agenda (Draft):

- Introductions and a short summary of the waste and recycling programs of each attendee
- IWMP presentation by the Environmental Director (hand out IWMP copies).
- State purpose of this first meeting, noting that the purpose of the Director is to initiate and then assist in this process, as requested. The direction and progress will be determined by the committee. The Director will be responsible to report the committee and plan implementation progress to Tribal Council and EPA. The Director will also be responsible to update the plan one year after finalization.
- Present IWMP recommendations

Discuss the feasibility of the following recommendations (All Attendees):

- Discuss the importance of collaborating, sharing resources and information
- Review the Recommendations section of this report, discuss feasibilities, plan to set priorities, timelines, and short and long-term goals to meet these needs.
- Set future meeting dates, recommend monthly, at first.

Outputs & Timelines:

- Agree to collaborate, set next meeting agenda, set meeting date and time, plan to reach intermediate goals for 1 year (timeline 1st meeting)

GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS INTEGRATED SOLID WASTE MANAGEMENT PLAN

- Request from each a decision in regard to which of the IWMP Recommendations are feasible to meet, set short and long-term goals and timelines.
- Request annual contractor rates (timeline report at 2nd meeting):
 - Kalchik's, American Waste, Profile, Waste Management, Stericycle, any others?
- Request current waste and recycling budgets (including staff time, equipment, contractor fees, and equipment value, see IWMP Section 3.1.6 Facility Description and Capacities for the equipment information gathered to date (mostly governmental facilities, plus the casino baler and compactors).
- Request initiation of waste and recycling data entry, decide if done individually or by central staff member, set short timelines (i.e. monthly data enter), set long-term goals (i.e. at one year integrate into a central (shared) database):
 - Weight each (in lbs or tons):
 - Disposed
 - Recycled
 - Composted
 - Reused (includes items sold or donated)
- Request an estimate (per year) percent each (can ask haulers or make own estimate, timeline report at 3rd meeting):
 - Disposed
 - Recycled
 - Composted
 - Reused/sold

This collaborative meeting will determine the extent of the success of the solid waste program in implementing the changes and expansions proposed.

Measurable Outcomes

Incorporate the data, policy changes, goals, timelines, successes, and any obstacles of the Implementation Committee one year after the plan is approved by Tribal Council.

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

**5.0 DEMONSTRATION OF APPROVAL OF PLAN BY APPROPRIATE
GOVERNING BODY**

This section discusses important aspects of Integrated Solid Waste Management Plan (ISWMP) approval: by whom, over what timeline, and community involvement.

5.1 BY WHOM

This plan is approved and supported by:

Desmond L. Berry, Environmental Director

Date Signed

Sonya Zotigh, Tribal Manager

Date Signed

Approved by Tribal Council Resolution #:

Date Approved

Measurable Outcomes

Report final approval date by the governing body.

5.2 REVISION DATE(S)

Desmond L. Berry, Environmental Director

Date Signed

Sonya Zotigh, Tribal Manager

Date Signed

Measurable Outcomes

Report all revision dates, specifying section(s) revised.

5.3 DEMONSTRATION OF COMMUNITY INVOLVEMENT IN THE PLANNING PROCESS

Community Survey

An effective tool is the use of community surveys. During the generation of this report, community members were surveyed on several topics: current utilization of county recycling bins, incentives for encouraging non-recyclers to start, new recycling interests, locations of suspected illegal dumping, and information on the toxicity of burning trash. This survey was conducted at the Tribal Health Fair in August 2010. Forty-seven completed surveys were received at this three-hour annual community event. Additionally, educational materials were available for adults and children.

Within one year of the finalization of this report, a second community survey will be conducted to attempt to increase the accuracy of the waste and recycling data. Input will be incorporated into this plan as data updates. The following is the draft community survey:

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

How much is trash disposal, on average?

\$60/quarter (or \$240/year)

Budget bags/tags, on average:

Cost \$30 for 10 bags

Hold 33 gallons (or 2-3 kitchen trash bags!)

If you recycle what you can and use:

1 budget bag/week, you save \$110

1 budget bag/ 2 weeks, you save \$175

1 budget bag/3 weeks, you save \$195

Budget Bags (American Waste) or Tags (Kalchiks):

are available at many local retailers. Just set it out on trash day, and no more quarterly bills!

Questions:

Call American Waste (258-9030)

Call Kalchiks (271-3367)

How to reduce trash?

Increase your recycling efforts

Donate household & electronics to charities

Compost (high trash content = food)

What	How much	Unit	How often
Trash		in pounds	per week
Recycled Cardboard/paper		in pounds	per week
Recycled glass		in pounds	per week
Recycled plastics		in pounds	per week
Recycled tin/aluminum		in pounds	per week
Recycled other (what)		in pounds	per week
Recycled other (what)		in pounds	per week
Recycled other (what)		in pounds	per week
Recycled other (what)		in pounds	per week
Compost food scraps		in pounds	per week
Compost yard waste		in pounds	per week
Household hazardous wastes		in pounds	per year
E-waste (electronics, PCs, etc)		in pounds	per year

Trash disposed in (circle one): **House Dumpster** **Housing Dumpster** **Budget Bags/Tags**

Compost (circle one): **Weekly** **Seasonally** **Do not**

If not (see below), why?

▪ Recycle: _____

▪ Compost: _____

▪ Dispose of HHW: _____

▪ Donate E-Waste: _____

▪ Donate to charities: _____

“ Need recycling sources (for what)? _____

Return Survey to:

Natural Resources Department

2605 N. West Bay Shore Dr

Peshawbestown, MI 49682

Attn: Desmond Berry

Questions? 231-534-7363

Future Changes Affecting Tribal Communities

Surveying the community is an effective tool to understand their needs and willingness to support new program directions.

Measurable Outcomes

Conduct the community survey, analyze and compile the data, and incorporate the findings into this report one year after the plan is finalized.

GLOSSARY

Closure: The process of closing and ceasing operations at a solid waste management facility in order to ensure protection of human health and the environment in the future.

Compactors: Machines that reduces the volume of solid waste by crushing, compression or compaction. A landfill compactor is a weighted vehicle equipped with a blade and cleated metal wheels that rolls over and crushes solid waste. A compactor collection truck uses a pneumatic ram to compact and push wastes into the main body of the truck. Stationary compactors compress and compact wastes into a container or bale.

Composting: Refers to the process of decomposition or decay of organic wastes, such as leaves, food, paper and sometimes mixed municipal solid waste. Composting usually takes place under aerobic conditions in an open pile or windrow or in a tank or container (in-vessel composting). The end product of composting is a humus-like material that can be added to soils to increase soil fertility, aeration and nutrient retention.

Demographics: the statistical data of a population, esp. those showing average age, income, education, etc.

Diversion Rate: Is generally referred to as the amount of solid waste that is diverted from disposal facilities through resource recovery and recycling.

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

Generator: The source from which the waste is produced, examples include residential, industrial, and commercial.

Hazardous waste: Any solid, liquid, or gaseous waste materials that, if improperly managed or disposed of, may pose substantial hazards to human health and the environment. A waste is considered hazardous if it exhibits one or more of the following characteristics: ignitability, corrosivity, reactivity, and toxicity.

HDPE: High-Density Polyethylene, a plastic used to make a variety of products including plastic milk jugs and landfill liners. Some HDPE containers can be identified by the number 2 stamp inside the recycling arrows on the container.

Integrated Solid Waste Management: A systematic approach to the management of solid waste that combines and integrates source reduction, reuse, recycling, composting,

GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS INTEGRATED SOLID WASTE MANAGEMENT PLAN

energy recovery and land filling in order to conserve and recover resources and dispose of solid waste in a manner that protects human health and the environment.

Solid Waste Landfill: Is defined as a sanitary landfill that receives household waste. A municipal solid waste landfill may also receive other types of non-hazardous wastes, such as commercial solid waste and nonhazardous industrial wastes. Municipal solid waste landfills in the U.S are required to meet the criteria established under Subtitle D of RCRA. These criteria ensure that such landfills are designed and operated to protect human health and the environment and establish requirements in seven areas: location, operation, design, ground water monitoring, corrective action, closure and post-closure, and financial assurance.

PAYT: Pay as You Throw refers to charge and fee systems where waste generators are charged for solid waste collection based on the volume or weight of the solid waste collected. The purpose is to provide an economic incentive to reduce waste generation or to separate and recycle waste materials.

PET: Polyethylene terephthalate is a plastic commonly used to make plastic soft drink bottles and other containers and products. Some PET containers can be identified by the number 1 stamp inside the recycling arrows stamped on the container.

Pollution Prevention: Avoiding the production of all forms of pollution, including toxics and other pollutants emitted into air, water, and land, as a preferable alternative to cleaning up pollution that has already occurred.

Post Closure Care: Refers to activities during the period after closure of a solid waste disposal facility where the facility owner is required to carry out monitoring, maintenance and corrective action in order contain waste materials and to detect, prevent or respond to the release of waste materials.

RCRA: Pronounced WRECK RAA, refers to the Resource Conservation and Recovery Act, the major U.S. Federal Legislation first passed in 1976, and amended several times, that governs the management of solid and hazardous waste in the U.S.

Recycled Material: A material separated from solid waste that has been processed and recovered as a usable product or material.

Recycling: Recycling involves the separation and collection of wastes, their subsequent transformation or remanufacture into usable products or materials, and the use of products made from recycled materials.

Reuse: The use of a product more than once in its same form for the same or different purpose. Examples include refilling beverage bottles that have been returned a bottling company or using scrap tires as dock bumpers.

GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS INTEGRATED SOLID WASTE MANAGEMENT PLAN

Solid Waste: Is defined in RCRA to include any garbage, refuse, sludge, and other discarded material, including solid, liquid, semisolid, or contained gaseous material, resulting from industrial, commercial, mining, and agricultural operations and from community activities. RCRA also excludes certain materials from the definition of solid waste.

Solid Waste Disposal: Is defined in RCRA as the discharge, deposit, injection, dumping, spilling, leaking or placing of solid waste on or in the land or water.

Solid Waste Management: Is a term used to describe the planned and organized management of solid waste in an environmentally and economically sound manner. Solid waste management encompasses management of the generation, storage, collection, transfer, transportation, processing, reuse, recycling, incineration, energy recover and landfilling of solid waste. It includes all administrative, financial, educational, environmental, legal, planning, marketing and operational aspects of the management of solid wastes.

Source Reduction: Actions taken to reduce the quantity or toxicity of wastes that are produced. Source reduction is accomplished by redesigning products so that less wastes or less toxic wastes are produced when the product is discarded or by reducing consumption of certain products that become wastes. Also called Waste Reduction.

Source Separation: Sorting and separating various waste materials from each other by the waste generator so these materials can be separately collected for recycling or composting. Examples include separating newspapers, glass bottles, metal cans, plastic containers, corrugated cardboard, office papers and lawn and garden wastes.

Sustainability: Capable of being continued with minimal long-term effect on the environment.

Transfer station: A facility where solid waste materials, including yard waste, demolition materials, and household refuse, are transferred from small vehicles to large trucks for efficient transport to landfills, recycling centers, and other disposal sites.

Waste Diversion: The combined efforts of waste prevention, reuse, recycling, and composting practices.

Waste Minimization: Refers to eliminating, reducing, and recycling of hazardous waste.

Waste Reduction: The combined efforts of waste prevention, reuse, composting, and recycling practices.

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

Waste Sources/Types:

Bulky Wastes: Large discarded materials such as appliances, furniture, automobile parts, large branches and tree stumps.

C&D Debris: Solid wastes resulting from the construction and demolition (C&D) waste materials of buildings and other structures. C&D debris generally includes materials such as metals, wood, gypsum, asphalt shingles, roofing, concrete, rocks, rubble, soil, paper, plastics and glass.

Commercial Waste: Solid waste from businesses, office buildings, stores, markets and institutional facilities.

E-Waste: Electronic waste refers to discarded electronic equipment including computers, monitors, printers, TVs, stereo systems and VCRs.

Food Waste: Animal and vegetable materials resulting from the handling and preparation of foods.

Garbage: A generic and somewhat antiquated term for solid waste.

Household Waste: Solid waste originating from homes and residences, also called residential waste.

HHW, Household Hazardous Waste: Solid wastes from homes and residences that have properties that make them dangerous or capable of having a harmful effect on human health and the environment.

Industrial Waste: Solid waste originating from industrial processes or manufacturing operations.

Medical Waste: Wastes from hospital and health care facilities and include infectious materials, human pathological wastes, human blood products and used sharps. Also referred to as pathological or infectious wastes.

Special Wastes: Is a term that refers to solid wastes that are often separated from mixed municipal wastes for special handling or management. Special wastes include household hazardous waste, tires, batteries, discarded pesticides, discarded electronic equipment and bulky wastes.

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

Appendix A

Regional Contacts:

- Willie Harris, EPA Indian Environmental Office, Acting Director, Telephone: (312) 405-7234, fax: (312) 385-5406, E-mail: harris.willie@epa.gov
- Jennifer Manville, EPA-Tribal Liaison, 400 Boardman Avenue, Traverse City, MI 49684, Telephone: (231) 922-4769, Fax: (231) 922-4427, E-mail: manville.jennifer@epa.gov
- Paulette Foreste, General Assistance Program Project Officer for Michigan, Minnesota Tribes, Telephone: (312) 886-0141, Fax: (312) 582-5824, E-mail: foreste.paulette@epa.gov
- Dolly Tong, Environmental Protection Agency, Region 5, 77 W. Jackson Boulevard (DW-8J), Chicago, IL 60604, Telephone: (312) 886-1019, Fax: (312) 353-4788, E-mail: tong.dolly@epa.gov
- Burdell Chapman, EPA technical contractor for pollution prevention, Telephone: (312) 353-9564, E-mail: chapman.burdell@epa.gov
- Michigan DNRE, http://www.michigan.gov/deq/0,1607,7-135-3312_4123---.00.html
- MDEQ, Environmental Resource Management Division (ERMD), Telephone 517-335-2690, http://www.michigan.gov/deq/0,1607,7-135-3306_28609---.00.html
- MDEQ Waste and Hazardous Materials Division:
 - Electronic Waste Take-back Program, Telephone: (517) 373-8422, E-mail: flechterm@michigan.gov
 - Hazardous Waste, Telephone: (517) 373-9875
 - Hazardous Waste Management, Telephone: (517) 373-9875
 - Medical Waste, Telephone: (517) 241-1320 or (517) 335-1146, E-mail: gohlkej@michigan.gov or shannonal@michigan.gov
 - Scrap Tires, Telephone: (517) 241-2924, E-mail: crandellm@michigan.gov
 - Solid Waste, Telephone: (517) 335-4035, E-mail: murphys4@michigan.gov

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

**APPENDIX B-1
FEDERAL GUIDANCE DOCUMENTS RELATING TO
SOLID WASTE MANAGEMENT ISSUES FOR TRIBAL RESERVATIONS**

GUIDANCE DOCUMENT	DESCRIPTION OF DOCUMENT	AFFECTS TO TRIBES
Federal Laws	Federal Laws can be found on the following website: http://www.epa.gov ; click on Laws and Regulations; and click on Major Environmental Laws.	
Resource Conservation and Recovery Act (RCRA)	<p>Enacted in 1976, RCRA is the primary federal law governing solid waste.</p> <p>RCRA addresses the issue of managing and disposing of municipal and industrial waste nationwide.</p> <p>RCRA establishes federal programs to regulate and manage treatment, storage, transport, and disposal of non-hazardous solid waste and hazardous waste.</p> <p>Municipal solid waste (MSW) is regulated under Subtitle D of RCRA by technical standards for solid waste management facilities.</p>	<p>RCRA applies to all Tribal reservations, including ones with established landfills on-site. Tribes may also be held liable for RCRA violations for hazardous waste sites on reservation lands.</p>
	Under Sections 2002, 4004, and 4010 of RCRA, the EPA has the authority to promulgate site-specific rules concerning municipal solid waste landfill (MSWLF) criteria, including small landfill exemptions.	Owners/operators of landfills on Tribal reservations can request design and operating flexibility in states with EPA-approved MSWLF permitting programs.

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED WASTE MANAGEMENT PLAN**

**APPENDIX B-1
FEDERAL GUIDANCE DOCUMENTS RELATING TO
SOLID WASTE MANAGEMENT ISSUES FOR TRIBAL RESERVATIONS**

GUIDANCE DOCUMENT	DESCRIPTION OF DOCUMENT	AFFECTS TO TRIBES
Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)	Congress enacted CERCLA, also known as the Superfund Law, in 1980. CERCLA provides a broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA establishes a ban on and select requirements concerning closed and abandoned hazardous waste sites, provides for liability of persons responsible for releases of hazardous waste at these sites, and establishes a trust fund to provide for cleanup when no responsible party can be identified.	Tribal lands that have illegal dumping and hazardous materials disposed of in their municipal solid waste stream can be subject to potential CERCLA risks.
Waste management practices that directly or indirectly impact groundwater, surface water, and air resources on Tribal lands also can be subject to federal regulatory requirements. In addition to a tribe's inherent regulatory authority, certain federal regulatory programs, including the Clean Water Act, the Clean Air Act, and the Safe Drinking Water Act also are applicable to tribes.		
Clean Water Act (CWA)	The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the United States. It gives EPA the authority to implement pollution control programs such as setting wastewater standards for industry, and has requirements to set water quality standards for all contaminants in surface waters. The CWA makes it unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a permit was obtained under its provisions.	To obtain "treatment as state" (TAS) status under the CWA, a tribe must meet criteria reflecting its ability to effectively implement the program.

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED WASTE MANAGEMENT PLAN**

**APPENDIX B-1
FEDERAL GUIDANCE DOCUMENTS RELATING TO
SOLID WASTE MANAGEMENT ISSUES FOR TRIBAL RESERVATIONS**

GUIDANCE DOCUMENT	DESCRIPTION OF DOCUMENT	AFFECTS TO TRIBES
Clean Air Act (CAA)	<p>The CAA gives authority to the EPA for setting limits on how much of a pollutant can be in the air anywhere in the United States. This ensures that all Americans have the same basic health and environmental protections.</p> <p>The law allows individual states to have stronger pollution controls, and take the lead in carrying out the CAA, because pollution control problems often require special understanding of local industries, geography, housing patterns, etc.</p>	<p>Tribes had limited powers under the CAA. The EPA allows tribes to regulate indirect emissions from sources near the reservation. Tribes having landfills should be concerned with methane emissions.</p>
Safe Drinking Water Act (SDWA)	<p>Congress originally passed the SDWA in 1974 to protect public health by regulating the nation's public drinking water supply. Amended in 1986 and 1996 and requires many actions to protect drinking water and its sources: rivers, lakes, reservoirs, springs, and ground water wells.</p>	<p>Tribes may be treated as states by the EPA to delegate certain program authority if a tribe demonstrates its ability to administer a program effectively.</p>
Federal Regulations	<p>Federal Regulations can be found at: http://www.epa.gov; select "Laws, Regulations & Dockets" and then select "Code of Federal Regulations".</p>	
40 CFR 243: Guidelines for the Storage & Collection of Residential, Commercial, & Institutional Solid Waste	<p>Applicable to the collection of residential, commercial, and institutional solid wastes and street wastes. Recommended for state, interstate, regional, and local governments for use in their activities.</p> <p>Outline minimum levels of performance required of solid waste collection operations, including solid waste collection containers, types of collection vehicles and associated safety precautions, and frequency of collection to inhibit the propagation or attraction of vectors and the creation of</p>	<p>Tribes should follow guidelines for the storage of solid wastes to avoid health concerns created by animals and unsanitary conditions.</p>

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED WASTE MANAGEMENT PLAN**

**APPENDIX B-1
FEDERAL GUIDANCE DOCUMENTS RELATING TO
SOLID WASTE MANAGEMENT ISSUES FOR TRIBAL RESERVATIONS**

GUIDANCE DOCUMENT	DESCRIPTION OF DOCUMENT	AFFECTS TO TRIBES
	nuisances.	
40 CFR 257: Criteria for Classification of Solid Waste Disposal Facilities and Practices	Establishes regulatory standards to satisfy the minimum national performance criteria for sanitary landfills. Establishes standards for determining whether solid waste disposal facilities and practices may pose adverse effects on human health and the environment. Governs only those solid waste disposal facilities that do not meet the definition of a MSWLF.	Tribal facilities failing to satisfy either the criteria in CFR 257 are considered "open dumps", which are prohibited under Section 4005 of the RCRA.
40 CFR 258: Criteria for Municipal Solid Waste Landfills	Establishes minimum national criteria under RCRA for protecting human health and the environment, while allowing states/tribes to develop more flexible MSWLF criteria. Applies to owners and operators of new MSWLF units, existing MSWLF units, and lateral expansions, except otherwise noted.	Indian tribes can maintain lead roles in implementing and enforcing the revised MSWLF criteria through approved state/Tribal permit programs.

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED WASTE MANAGEMENT PLAN**

**APPENDIX B-1
FEDERAL GUIDANCE DOCUMENTS RELATING TO
SOLID WASTE MANAGEMENT ISSUES FOR TRIBAL RESERVATIONS**

GUIDANCE DOCUMENT	DESCRIPTION OF DOCUMENT	AFFECTS TO TRIBES
	<p>Subparts D and E exempt certain landfills (Exemptions for Small Landfills) if they meet the following criteria. To qualify, a landfill must:</p> <p>Receives less than 20 tons of waste per day (averaged yearly), receive less than 25 inches of rainfall per year, and have no other practical waste disposal alternative.</p> <p>Have no evidence of ground-water contamination from the landfill.</p> <p>Be considered an extremely remote community that has no ready access to other disposal sites for an extended period of time</p>	
40 CFR Parts 260-271: Hazardous Waste Management Guidelines	<p>Sets forth rules and identifies solid wastes which are subject to regulation as hazardous wastes and which are subject to the notification requirements in RCRA. Parts 260-271 sets guidelines for:</p> <p>Defines criteria for identifying the characteristics of hazardous waste.</p> <p>Provides a listing of hazardous wastes.</p> <p>Establishes standards for generators and persons transporting hazardous wastes.</p> <p>Establishes minimum national standards for acceptable management practices for owners and operators of all facilities that treat, store, or dispose of hazardous waste.</p>	In addition to RCRA violations, tribes may also be held liable for 40 CFR Parts 260-271 violations for hazardous waste sites and storage on reservation lands.
40 CFR Part 273:	Establishes standards for the management of universal wastes	Tribes generating universal

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED WASTE MANAGEMENT PLAN**

**APPENDIX B-1
FEDERAL GUIDANCE DOCUMENTS RELATING TO
SOLID WASTE MANAGEMENT ISSUES FOR TRIBAL RESERVATIONS**

GUIDANCE DOCUMENT	DESCRIPTION OF DOCUMENT	AFFECTS TO TRIBES
Standards for Universal Waste Management	(batteries, pesticides, thermostats, and lamps). Reduces the regulatory management requirements Fosters environmentally sound recycling or disposal practices of these select wastes commonly generated as hazardous wastes.	wastes should comply with storage requirements, but may recycle the materials instead of disposing.
40 CFR Part 279: Standards for the Management of Used Oil	Establishes standards for the generation, transportation, reuse, recycling, and disposal of used oil.	Tribes generating used oil should comply with storage requirements, but may recycle the materials instead of disposing.
Other Legislation		
Public Law 103-399: (The Indian Lands Open Dump Clean Up Act) October 22, 1994	Identifies the location of open dumps on Indian lands. Assesses the relative health and environment hazards posed by those sites Provides financial and technical assistance to Indian Tribal governments to close such dumps in compliance with Federal standards and regulations or standards promulgated by Indian Tribal governments or Alaska Native entities. For further information, go to: http://www.ihs.gov	

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED WASTE MANAGEMENT PLAN**

**APPENDIX B-1
FEDERAL GUIDANCE DOCUMENTS RELATING TO
SOLID WASTE MANAGEMENT ISSUES FOR TRIBAL RESERVATIONS**

GUIDANCE DOCUMENT	DESCRIPTION OF DOCUMENT	AFFECTS TO TRIBES
Executive Order 13175: Consultation and Coordination With Indian Tribal Governments. November 9, 2000	Executive Order (EO) 13175 establishes a working relationship with Indian Tribal governments for the development of regulatory practices on Federal matters that have great impact on their communities. Reduces the burden of unfunded mandates upon Indian Tribal governments and simplifies the process for waivers to Indian Tribal governments. For further information, go to: http://www.epa.gov/fedrgstr/eo/eo13175.htm .	

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED WASTE MANAGEMENT PLAN**

**APPENDIX B-2
MICHIGAN STATE GUIDANCE DOCUMENTS
RELATING TO SOLID WASTE MANAGEMENT ISSUES FOR TRIBAL
RESERVATIONS**

		STATE OF MICHIGAN
	GUIDANCE DOCUMENT	DESCRIPTION
	Natural Resources and Environmental Protection Act (NREPA), 1994, PA 451, as amended (Act 451)	Michigan's environmental laws and administrative rules are located at http://www.michigan.gov/deq/0,1607,7-135-3307_4132---,00.html . Most of Michigan's environmental acts were consolidated into the NREPA (Act 451) and is organized into "Parts". The statutes regulated by the DNRE are listed at http://www.michigan.gov/documents/deq/deq-rrd-MI_statutes_247038_7.pdf . Statute details can be found by searching on the Michigan legislative website (http://www.legislature.mi.gov/(S(fvcrIvucinciln55we553d45))).
NREPA PART	MCL Citation	Title
89	324.8901-324.8907	Littering: Prohibits the littering of property or water; stipulates the removal of injurious substances dropped on highway as result of accident, prohibits litter or an object to fall or be thrown into path of or to hit a vehicle; requires the removal of injurious substances dropped on highway as result of accident. Litter is defined as rubbish, refuse, waste material, garbage, offal, paper, glass, cans, bottles, trash, debris, or other foreign substances or a vehicle that is considered abandoned.
111	324.11101-324.11153	Hazardous Waste Management: Provides for the generation, disposition, generating, storage, treatment, permitting, licensing, manifests, transportation of hazardous waste, site identification number usage. It also provides for regulation of municipal solid waste incineration, accepting delivery and certifying hazardous waste, methods and assistance of management, interstate and international cooperation, a fee structure for landfill or solidification facilities, all stages of a State management plan from preparation to implementation, prohibited conducted by county or

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED WASTE MANAGEMENT PLAN**

**APPENDIX B-2
MICHIGAN STATE GUIDANCE DOCUMENTS
RELATING TO SOLID WASTE MANAGEMENT ISSUES FOR TRIBAL
RESERVATIONS**

		STATE OF MICHIGAN
	GUIDANCE DOCUMENT	DESCRIPTION
		municipal entities, corrective action requirements and remedial action obligations, health department administration and enforcement, including violation and orders of noncompliance, signage vandalism, imminent and substantial hazards to health, and violation types, facility expansion or alteration, site board specifications and notifications associated with, construction permit requirements, multisource commercial hazardous waste disposal well specifications, application referral or denial procedure, effect of local ordinances, permits, and requirements, limited storage facility specifications, operating license application requirements and process, disposal facility operating licensing, closure and post-closure monitoring, maintenance, and costs, site inspections, coordination and integration of the act provisions, reporting fee schedules, exemptions and amendments to the rules or parts, process to remove hazardous materials from the list, requests for information as public record and investigation, environmental pollution prevention fund, and the hazardous waste service fund.
115	324.11501-324.11550	Solid Waste Management: Establishes the methods for disposal of solid waste: construction and administration of part; exemption of inert material from regulation. This includes: reporting, analysis, permitting, recycling promotion, reuse, prohibits materials, yard clippings, inspections, compliance, fees, open burning, financial assurances, landfill operation, out-of-state solid waste, transportation, solid waste management plan, planning committee, planning agencies, design and operational standards, incinerators, penalties, grants, and management funding.
119	324.11901-324.11908	Waste Management And Resource Recovery Finance: Establishes municipalities powers, Contracts for acquisition, construction, financing, and operation of waste management project or for use of services of project; bids or proposals; negotiations; validity of contracts; pledge of full faith and credit; methods of paying pledged share of costs, contract provisions, contract execution, contract

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED WASTE MANAGEMENT PLAN**

**APPENDIX B-2
MICHIGAN STATE GUIDANCE DOCUMENTS
RELATING TO SOLID WASTE MANAGEMENT ISSUES FOR TRIBAL
RESERVATIONS**

		STATE OF MICHIGAN
	GUIDANCE DOCUMENT	DESCRIPTION
		implementation, exercise of powers conferred on municipalities, and provisions inapplicable to certain municipalities.
121	324.12101-324.12118	Liquid Industrial Waste: Regulates companies and businesses that generate, store, treat, and dispose of hazardous waste. Administers the hazardous waste management requirements of Part 111, Hazardous Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451). Authorized to administer the federal Resource Conservation and Recovery Act of 1976 (RCRA) hazardous waste requirements on behalf of the U.S. EPA, Region 5 Administrator. Regulates companies and businesses that generate, transport, store, treat, and dispose of liquid industrial waste under Part 121, Liquid Industrial Wastes, of Act 451.
143	324.14301-324.14306	Waste Minimization: Provides for the pollution prevention goals within its regulatory and permit programs, data collection, analysis, implementation, department pollution prevention duties with an emphasis of in-plant hazardous waste pollution prevention and reduction, information transmittal, and annual reporting.
145	324.14501-324.14514	Waste Reduction Assistance: Provides for the reduction in amount of generated environmental waste, pollution prevention information clearinghouse, pollution prevention technical assistance, pollution prevention research grant program, annual reporting, retired engineers technical assistance program (RETAP) and funding, small business pollution prevention assistance revolving loan fund, and general rules.
161	324.16101-324.16104	Plastic Products Labeling: Establishes labeling codes i.e. polyethylene terephthalate (PETE), high density polyethylene (HDPE), vinyl (V), low density polyethylene (LDPE), polypropylene (PP), polystyrene (PS), or other. It also prohibits the hiring of additional staff for enforcement and sets

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED WASTE MANAGEMENT PLAN**

**APPENDIX B-2
MICHIGAN STATE GUIDANCE DOCUMENTS
RELATING TO SOLID WASTE MANAGEMENT ISSUES FOR TRIBAL
RESERVATIONS**

		STATE OF MICHIGAN
	GUIDANCE DOCUMENT	DESCRIPTION
		finest and remedies.
163	324.16301- 324.16303	Plastic Degradable Containers: Prohibits the sale or offer to sell containers connected to each other by a separate holding device (including glass, metal or plastic bottles, cans, jars, or other) that is constructed of plastic rings unless the device is degradable and bears a distinguishing symbol, excluding vacuum-packed wrapping that completely encases the containers that it connects. Violation results in penalties and fines.
165	324.16501- 324.16503	Office Paper Recovery: Mandates that all State offices and facilities establish and implement a paper recycling system, with continual expansion and improvements to be made. Sets forth definitions and procedures to follow.
167	324.16701- 324.16705	Used Oil Recycling: Establishes the plan to promote motor and petroleum-based oil recycling, via funded public educational programs and used oil recycling projects and the proper disposal practices. This includes violation penalties, enforcement, and criteria designing collection facilities. This statute provides a comprehensive plan to initiate a network private, state, and local collection facilities on a statewide basis to facilitate compliance with section 16704.
169	324.16901- 324.16911	Scrap Tires: Sets forth rules governing scrap tire delivery, limits, removal, scrap piles, collection site fires, bonds, exemptions, noncompliance, collection site maintenance, registration, portable shredding operations, end user rules, hauling specifications, record-keeping, legislative reporting, regulatory funding, scrap tire markets, violations, penalties, investigations, inspections, response to fire or violation, and the scrap tire advisory committee.
171	324.17101- 324.17107	Battery Disposal: Establishes the proper disposal of lead acid batteries, including retailer duties, posting requirements and fines, distributor acceptance and quantity rules, enforcement, and

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED WASTE MANAGEMENT PLAN**

**APPENDIX B-2
MICHIGAN STATE GUIDANCE DOCUMENTS
RELATING TO SOLID WASTE MANAGEMENT ISSUES FOR TRIBAL
RESERVATIONS**

		STATE OF MICHIGAN
	GUIDANCE DOCUMENT	DESCRIPTION
		penalties, prohibits intentionally-introduced mercury batteries, establishes a voluntary nickel cadmium battery collection program, and sets the rules for mercuric oxide battery sales and offers.
	Operational Memorandum	Michigan's State Solid Waste Operational Memorandum
	111-21	Responding to Illegal Disposal of Hazardous and Liquid Waste in Solid Waste Landfills: Provides guidance to encourage consistent compliance and enforcement responses by Part 111 and Part 115 program staff in regard to response readiness, timely response, and enforcement consistency reviews. Establishes the goal to intervene in time to prevent illegal transport or disposal, compel the removal of all prohibited waste from the landfill, and ensure proper disposal of rejected or excavated hazardous waste. The specific objectives of responses will depend on the nature of each case.
	115-1	Extension of Part 115 Permit/License Deadlines: According to Section 1307 of Part 13, Permits, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, requires that the Director of the Department of Environmental Quality make a final decision on an administratively complete construction permit, operating license, and extension applications for a solid waste disposal area within specific timelines with automatic issuance if no final decision is made.
	115-2	Advisory Analysis: According to Rule 203(1) (a) this guidance provides the procedure by which a certified Health Department is to conduct an advisory analysis of each proposed disposal area.
	115-4	Permitting of Transfer Stations: According to Section 11506(5) of Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED WASTE MANAGEMENT PLAN**

**APPENDIX B-2
MICHIGAN STATE GUIDANCE DOCUMENTS
RELATING TO SOLID WASTE MANAGEMENT ISSUES FOR TRIBAL
RESERVATIONS**

		STATE OF MICHIGAN
	GUIDANCE DOCUMENT	DESCRIPTION
		amended, provides the definition of a transfer facility, exempts certain transfer facilities from obtaining a permit or license but requires them to operate within compliance with rules, and requires all transfer facilities to consistent and comply with all applicable county solid waste management plans or final orders of the Department of Environmental Quality regardless of whether they are subject to permitting/licenses or not. R 299.4501(3) (a) and (b) classify transfer facilities based on design and type of refuse received, which determines cite construction requirements but does not establish a categorization for permit/license requirements. Section 11529 of Part 115 establishes the procedures for new and existing facilities.
	115-7	Processing of Part 115 Operating License and Construction Permit Applications: Delineates review procedures and clarify the roles of participants in that review for the processing of solid waste disposal area construction permit applications, operating license applications, and construction and closure certifications under Part 13, Permits, and Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.
	115-8	Procedure for Consistency Determinations: Establishes the process for which the Waste Management Division in order to determine if a solid waste disposal area proposal is consistent with the county solid waste management plan.
	115-9	Part 115 Enforcement Procedures: Provides Waste Management Division staff with instructions on how to prepare and respond to referrals to the Enforcement Section for escalated enforcement pursuant to Part 115, Solid Waste Management, of the Natural resources and Environmental Protection Act, 1994 PA 451, as amended.
	115-10	Sanitary Landfill Alternate Daily Cover Approval Requirements and Procedures: Provides the

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED WASTE MANAGEMENT PLAN**

**APPENDIX B-2
MICHIGAN STATE GUIDANCE DOCUMENTS
RELATING TO SOLID WASTE MANAGEMENT ISSUES FOR TRIBAL
RESERVATIONS**

		STATE OF MICHIGAN
	GUIDANCE DOCUMENT	DESCRIPTION
		specifications for the alternative daily cover approval, requirements, and procedures for a sanitary landfill, pursuant to R 299.4429(2) of the administrative rules promulgated under Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.
	115-13	Analysis of Metals from Groundwater Monitoring Wells: Specifies the analytical requirements for testing metals in groundwater according to Section 11515(2) of Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.
	115-14	Lab Detection Limits for Use with Part 115 Permits/Licenses: Sets the laboratory detection limits applicable to groundwater, secondary collection systems, and leachate monitoring performed pursuant to licenses and/or permits issued under Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.
	115-15	Tracer Monitoring Systems and Programs: States that an unmonitored landfill unit cannot use a tracer monitoring system/program in lieu of installing and monitoring an effective leak detection system.
	115-17	Definitions of "Landfill Unit," "Existing Unit," "Pre-existing Unit," and "New Unit": Defines the terms "landfill unit", "existing unit", "pre-existing unit", and "new unit" according to R 299.4103(p) of the administrative rules of Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.
	115-18	Construction Permit Modifications: Specifies the procedure for the review and approval of modifications to a disposal area that vary from the original construction permit, per Section 11510(2)(d) of Part 115, Solid Waste Management, of the Natural Resources and Environmental

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED WASTE MANAGEMENT PLAN**

**APPENDIX B-2
MICHIGAN STATE GUIDANCE DOCUMENTS
RELATING TO SOLID WASTE MANAGEMENT ISSUES FOR TRIBAL
RESERVATIONS**

		STATE OF MICHIGAN
	GUIDANCE DOCUMENT	DESCRIPTION
		Protection Act, 1994 PA 451, as amended.
	115-19	Destructive Seam Testing Criteria for Smooth Sheet High Density Polyethylene Geomembranes: Specifies minimum destructive seam testing criteria for smooth sheet HDPE geomembranes, as developed by the Michigan Department of Environmental Quality, Waste Management Division for use in overseeing the construction of solid waste landfills, but are equally applicable in the review of any project where the seaming of smooth sheet HDPE geomembrane is required.
	115-20	Waste Pile Regulation: Clarifies how waste piles are regulated under Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, and to differentiate waste piles authorized by rule from open dumps.
	115-21	Guidance and Procedures: "Fast Track" Enforcement for Violations of Part 115, Solid Waste Management, of NREPA: is to further the Waste Management Division's ongoing efforts to improve the efficiency and effectiveness of the Solid Waste Program enforcement activities, establishing a guidance and procedure for WMD field and program unit staff's use of a simplified "fast track" administrative consent order to expeditiously resolve cases where the number or types of violations of Part 115, Solid Waste Management, of the NREPA are not serious enough to warrant referral to the WMD Enforcement Section but, nonetheless, require a formal response.
	115-22	Processing of Part 115 Operating License Amendments Procedures: Outlines the procedures to be followed for all operating license amendment requests under Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED WASTE MANAGEMENT PLAN**

**APPENDIX B-2
MICHIGAN STATE GUIDANCE DOCUMENTS
RELATING TO SOLID WASTE MANAGEMENT ISSUES FOR TRIBAL
RESERVATIONS**

		STATE OF MICHIGAN
	GUIDANCE DOCUMENT	DESCRIPTION
	115-23	Regulation of Mobile Home Salvaging and Disposal: Clarifies how Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, and establishes its administrative rules regulate the salvaging and disposal of abandoned mobile homes.
	115-24	Solidification of Liquid Industrial Waste: Describes how facilities that solidify liquid industrial waste, through mixing with other materials, for purposes of disposal regulated under Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), and its promulgated rules.
	115-25	Lagoon Closures: Clarifies the lagoon closure process for certain lagoons that are required to close under Part 115, Solid Waste Management and Environmental Protection Act, 1994 PA 451, as amended.
	115-26	Natural Soil Barrier Certification Documentation: Requires verification of a natural soil barrier used in landfill construction, including the definition of a natural soil barrier composition, R 299.4104(f). Requires a demonstration of the effectiveness of the natural soil component of landfill liner systems, prior to issuance of a construction permit, or part of an approved construction permit prior to cell licensure.
	115-27	Enforcement of Prohibited Waste Restrictions: Promotes consistent compliance and enforcement responses by Solid Waste Management staff for the disposal prohibitions contained in Section 11514 and Section 11526a of Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.
	Gen-8	Laboratory Detection Limits for Environmental Detection Monitoring Programs: Specifies the

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED WASTE MANAGEMENT PLAN**

**APPENDIX B-2
MICHIGAN STATE GUIDANCE DOCUMENTS
RELATING TO SOLID WASTE MANAGEMENT ISSUES FOR TRIBAL
RESERVATIONS**

		STATE OF MICHIGAN
	GUIDANCE DOCUMENT	DESCRIPTION
		chemical analytical methods and reporting limits for water and soil for use in environmental contamination detection, compliance, and response activities. The reporting limits are to be used by Waste and Hazardous Materials Division staff for the development, evaluation, and implementation of any environmental detection monitoring program required pursuant to Part 31, Water Resource Protection, Part 111, Hazardous Waste Management and Part 115 Solid Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.
	Gen-11	Performance Monitoring of Groundwater Purge Systems; Provides guidance on the number and frequency of groundwater samples required to determine the appropriateness of terminating purge well operation.
	Gen-13	Use of Yard Clippings Compost as Landfill Cover: provides guidance on the use of composted yard waste as alternate daily cover, interim cover, or final cover at landfills licensed under Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.
	Gen-15	Remediation Advisory Team: This team was established in April 1993 to review proposed remedial action plans prepared pursuant to consent orders and judgments, promoting consistency, communication, coverage of cross-program issues, and train Waste Management Division staff in regard to clean up requirements. This team reviews all proposed limited remedial action plans prior to Waste and Hazardous Management Division Chief's approval. Assists staff in remedial investigations, develops guidelines, and provides a technical opinion, when requested.

**GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS
INTEGRATED SOLID WASTE MANAGEMENT PLAN**

APPENDIX C

**APPROVAL BY GOVERNING BODY
GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS**