

St. Regis Mohawk Tribe

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Solid Waste Management Plan

EXECUTIVE SUMMARY

The St. Regis Mohawk Reservation is home to nearly 8,100 Mohawks who generate approximately 7 tons per day of solid wastes. Previous studies show that the St. Regis Mohawk Tribe's current approach to solid waste management promotes improper disposal methods for both wastes and recyclables, and will not be sufficient to manage the 20 year projected increase in solid waste generation.

The St. Regis Mohawk Tribe (SRMT) currently offers no solid waste management services and people in the community must make arrangements with several non-tribal haulers to have their wastes and recyclables collected. Recognizing that this approach to solid waste management is inadequate, the SRMT began an examination of current community practices by conducting a solid waste management feasibility study in 1995. The consultant who prepared the study found that the current system is fraught with many problems.

In an effort to change the way it manages its solid wastes, the SRMT began developing a comprehensive integrated solid waste management program for the community. The program promotes environmental protection, economic prosperity, and community well being through implementation of five program components: 1) solid waste management code; 2) solid waste community service agency; 3) 4 R's; 4) sustainability and 5) monitoring.

The solid waste management code is the regulating component of the program, which requires off reservation disposal of all solid wastes and encourages the Mohawk people to reduce, recycle, and reuse prior to sending materials for disposal. The solid waste management code also provides provisions for compliance and enforcement measures to be taken.

The Tribe's solid waste community service agency is created in response to the community needs and wants, and the community's overwhelming support of a Tribally owned and operated solid waste management business. This newly established agency offers quality and low cost solid waste management services through the use of a modular design transfer station, which has the capacity of collecting both garbage and recyclables, and processing recyclables for the resale to end recycling markets.

The goal of the 4R 's component is to motivate people to respect themselves, their community, and Mother Earth so that they assume ownership for the overall well being of their community. When this happens, the historically poor solid waste management practices of open dumping and burning will disappear and be replaced with waste reduction, reusing, and recycling, followed by proper disposal of garbage at the Tribe's transfer station. Implementing a cultural educational program based on

traditional and cultural laws is the instrument used for attaining the goal of the 4 R's component.

History has shown that the solid waste management field is ever-changing and the sustainability of any program is built upon the ability to: 1) having good relationships with customers, the community, and community neighbors; 2) using innovated approaches of doing business; 3) forming strategic partners; and 4) being flexible and adapting to changes. The SRMT incorporates mechanisms to address each of these areas in a manner that maximizes sustainability for the program.

The SRMT treats their program components as a whole interconnected system working together to achieve environmental protection, economic prosperity, and community well being. The success or failure of one component impacts the success or failure of all the other components. The monitoring component is therefore, designed to provide quantitative and qualitative measures to track each program component and determine where modifications are needed to make the program more prosperous. The successful implementation of all program components helps the Tribe to achieve their ambitious recycling rates of 80 % for hard recyclables and fiber by the year 2013.

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Overview of the St. Regis Mohawk Indian Reservation

1.1 History

1.1.1 Geographical Information

The St. Regis Mohawk Reservation (known to the Tribe as "Akwesasne") has 14,640 acres of treaty land in the northeast corner of New York State and is located on the shores of the St. Lawrence River; see Figure 1-1. It is situated approximately eighty miles northeast of Lake Ontario and sixty miles southwest of Montreal. Akwesasne is divided by the United States and Canadian border and is bordered by the Provinces of Ontario and Quebec, and Franklin County in New York.

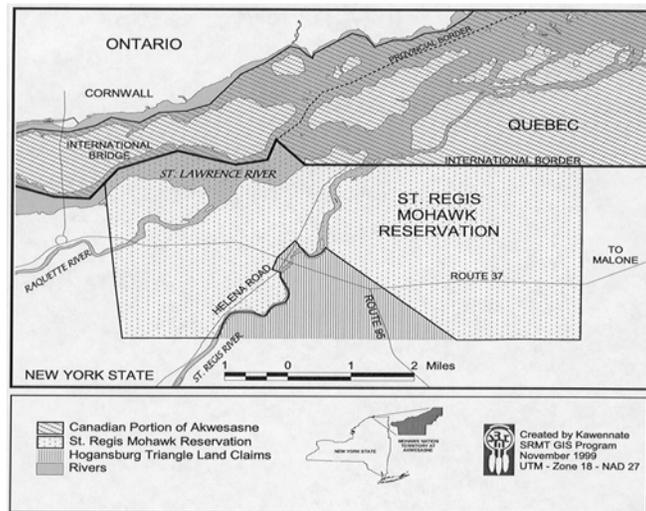


Figure 1-1. Map Showing Geographical Location of the St. Regis Mohawk Reservation

1.1.2 Government

The community of Akwesasne has three governmental bodies due to the intersection of the United States and Canadian border. The Mohawk Council of Akwesasne governs the Canadian portion and the St. Regis Mohawk Tribe (SRMT) governs the United States side of the territory. The traditional governmental body is the Mohawk Council of Chiefs, which is not recognized by the Canadian or United States Federal governments.

Realizing that the proper organization and delegation of authority are essential for effective Tribal Government management, the St. Regis Mohawk Tribe has developed the organizational chart as shown in Figure 1-2.

The chart in Figure 1-2 clearly shows the established Tribal structure and line of authority. The Tribal Chiefs are responsible for the administration and management

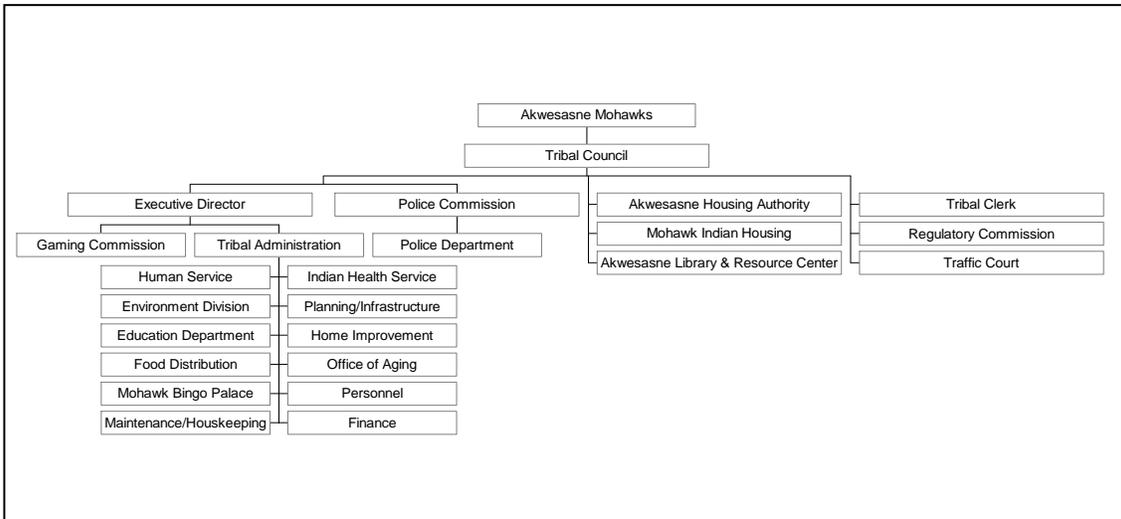


Figure 1-2. SRMT's Organizational Chart.

of the Tribal Government and has the responsibility to oversee the carrying out of all laws, ordinances, resolutions and other enactments of the Tribal Council.

Policy proceeds from the Tribal Chiefs to the Executive Director, who provides overall supervision to the various Division Directors. The Division Directors provide overall supervision of their Divisions and delegates appropriate duties and authorities to departmental employees.

The Tribe provides comprehensive services to the community through five primary divisions: Education; Environment; Health Services; Human Services; and Planning and Infrastructure. A management team composed of the Tribal Executive Director, Assistant Executive Director, Fiscal Officer, five Division Directors and other key supervisory staff provides direction for program planning, development, and implementation. The Tribal Executive Director also oversees several other programs that fall outside the five primary divisions. These include Finance, Personnel, Office of Aging, Food Distribution, Gaming Commission, Indian Health Service, and Home Improvement.

Since 1973, the St. Regis Mohawk Tribe has received federal and state funds for a variety of Tribally administered programs, all of which employ primarily Mohawk people due to the Tribe's Native preference hiring practices. These contracts and grants cover all aspects of Tribal services to the community and create approximately 380 jobs.

The Tribe's centralized Finance Department annually manages over \$10 million in state and federal grants and contracts monies as well as Tribally generated revenues. The computer based accounting program utilizes a double-entry record keeping system, maintains uniform records of financial transactions and prepares federal, state, and Tribal financial reports.

1.1.3 Population

The 1990, 1996, and 2000 estimated U.S. Census population data showed that there were 1,974, 2,079, and 3,171 members, respectively residing on the St. Regis Mohawk Indian Reservation. Current enrollment figures from the SRMT's Clerk's office indicate that there are 8,098 enrolled members. As of April 1999, the number of registered patients at the SRMT's Health Service Facility living on the U.S. side of the Reservation equaled 5,299. In 1989, a population study for the community was performed¹. This study collected data from several sources: the U.S. Census of 1980; the 1988 Indian Register of Canada; the SRMT's Health Services 1989 data; and the SRMT's enrollment files as of October 1989. The results from this study indicated that: the 1990 estimated population on the U.S. side of the reserve was 3,363 and that this number would increase by 81.7 % in the next 20 years; there will be dramatic increases in the number of elderly and younger families in the community which will radically alter the age distribution of the population; and that the community will need to expand all facilities and services to accommodate the predicted population growth.

1.1.4 Personal Income

Personal income data for the reservation does not exist. Income data for Franklin County, an adjacent county near the reservation, provides the best match of personal income levels on the reservation. These data were obtained from U.S. Department of Commerce, Bureau of Economic Analysis and show that the per capita personal income for Franklin County in 1996, 1997, and 1998 was \$16,676, \$16,988, and \$17,956, respectively. These levels are approximately 50 % and 40 % below the per capita personal income levels for New York State and the United States, respectively for the same years.

The 2000 US Census data showed that the average income for Franklin County was \$29,235, which is 30 % below the New York State's average. Approximately 19 % of the people in Franklin County live below the poverty level.

1.1.5 Utilities

Electric and telephone services are provided by privately owned companies Niagara Mohawk and Verizon, respectively. The SRMT currently services 50 % of the Reservation with drinking water and a small portion of sewer. Both of these systems are being upgraded and expanded. The SRMT provides no solid waste services and people in the community must contract for these services with non-tribal haulers.

¹ Lamb, Richard. (1990). Population Report. St. Regis Mohawk Tribe Comprehensive Development Plan Project.

Current Solid Waste Management Practices & Policies

2.1 History

2.1.1 Collection & Disposal

In early 1990, waste collected on the US side of the reservation was disposed of at landfills in two neighboring counties of Franklin and St. Lawrence. The Town of Bombay landfill was the main landfill utilized by the SRMT. The SRMT paid a flat fee for the use of the landfill and community members were allowed to bring their materials to the landfill. There was no charge to community members who utilized the facility. The commercial waste, which was collected by a local hauler, was taken to the St. Lawrence County landfill.

The present system of solid waste disposal evolved when the Town of Bombay landfill closed in 1992 due to New York State implementing their 6 NYCRR Part 360 regulations. Several non-tribal haulers provide services to the community, with Waste Stream Management (WSM) being the primary hauler. WSM provides weekly collection of wastes and recyclables and transports them to a processing center. The wastes are landfilled while the recyclables are processed and sold to recycling markets. Initially, the SRMT subsidized WSM's landfill costs for the residential customers by paying the tip fee. Due to financial reasons, the SRMT stopped subsidizing the tip fee in June of 1997 and residential customers are currently responsible for paying all fees. Business customers have always paid WSM directly for their services including collection and disposal fees.

2.1.2 Projects

The SRMT's Environment Division is responsible for solid waste management planning on the reservation and has been implementing solid waste management projects since the early 1990's.

The first project began in 1993 and consisted of educating community members about proper solid management practices. A bi-lingual flyer describing recycling and composting procedures was distributed to community members. Community members also attended a day long recycling and composting workshop.

Work performed during a second project, which was implemented in 1995, involved hiring a consultant to find better ways for the management of solid wastes. Currently, several non-tribal haulers provide solid waste services to the reservation. The SRMT is interested in providing solid waste management services to the community and the community's interest in supporting a tribally owned and operated solid waste collection and processing system on the reservation was measured during the study. The SRMT decided that public opinion, as well as an examination of the costs, would determine whether or not a tribal system would be established to process solid waste on the Reservation. This system would separate and process recyclables for revenue, and would ultimately create jobs for members of the community.

The 1995 study found that backyard burning and burying of wastes and recyclables is ongoing in the community. The consultant interviewed approximately one hundred (100) businesses, and approximately one hundred (100) residential generators who were using the existing system. One of the observations resulting from the field study was that approximately 50% of the residential respondents were burning their waste. In addition, 10% of the respondents were burying waste on their property for a variety of reasons, with the primary reason being that this had always been an acceptable practice within the Native American community. Other results disclosed that the current waste management system is fraught with problems. 1) Expensive: The flat rate residential fee is assessed to each customer regardless of the amount of waste set out at the curb, the size of household, or the income of the household. The Tribe pays the tipping fee for residential customers. This amounted to approximately \$35,000 in 1996. 2) Ineffective in promoting the Tribe's recycling goals: The flat rate fee creates a non-incentive to recycle, since those who aggressively recycle their materials are not rewarded with lower service rates. The hauler has also been observed dumping recyclables into the trash after the customers separated them out. Customers have indicated that they stopped recycling because of this. 3) Leads to environmental problems on Tribal lands: The wastepaper collection containers for recycling are too small and thereby encourage the backyard burning and burying of paper. A lack of consistency in the hauler's pick up schedule leads to burying and backyard burning of wastes and consistency in the hauler's pick up schedule leads to burying and backyard burning of wastes and recyclables.

A third project consisted of educating community members about the problems associated with solid waste management and illustrate how their actions directly impact this problem. A four-phase public outreach program was implemented. The first phase concentrated on general issues surrounding the solid waste management problem in the community. The remaining three phases concentrated on specific issues including waste oil recycling, backyard burning, and composting. Local media were utilized in conveying information to the community about proper solid waste management practices associated with each issue. Additionally, demonstration projects were conducted showing community members: the proper techniques used for composting; the impacts of backyard burning on the environment; and the importance of recycling used motor oil.

The Tribe's early educational efforts focused on communicating messages through the use of handouts, public service announcements, newspaper articles, and demonstration projects. These efforts targeted the adult population of the community and the effectiveness of this work is questionable since it didn't seem to change the behaviors of the people. Attempting to create more everlasting changes, the Tribe began directing their education efforts towards the youth.

A local Mohawk artist developed two Mohawk cartoon characters, Kwis & Tiio², which were used to convey traditional Haudenosaunee teachings. They were featured in comic strips that were published in local newspapers; Figure 2-1 shows one of the cartoon strips. Some of the cartoon strips shared messages about improper solid waste management practices and how they negatively affect the environment. Other cartoon strips communicated the importance of respect, reduction, reusing, recycling, followed by proper disposal methods for solid waste.

The cartoon strips publicize messages with humor and are well read by the community. The popularity of Kwis and Tiio in the community makes them an excellent vehicle for conveying environmental messages.

The Tribe also worked with a local university, Clarkson, in digitizing Kwis and Tiio. The digitized characters were then used to develop a Kwis & Tiio solid waste educational tour that can be viewed on the Internet; see www.srmtenv.org to view the tour. The first seven slides of the tour show Kwis and Tiio learning about traditional teachings of the way it used to be in the community followed by slides that teach on respect, reduce, reusing, and recycling.

A video was produced in conjunction with St. Lawrence University and the Akwesasne Freedom School. Representatives from St. Lawrence and the Tribe worked with the students from the Freedom School in developing a script for a play, which showed the importance of using proper solid waste management practices in our daily lives. The students incorporated Haudenosaunee teachings into the script. The students performed two versions of the play at a theatre located on St. Lawrence's campus. One version was in English and the other version was in



Figure 2-1. Kwis & Tiio: The Fire, What's Burning.

² Kwis (Gwis) Mohawk slang for pig; Tiio (Dee oh) Mohawk suffix describing someone or something that is nice or pleasant. Kwis & Tiio are characters owned by the SRMT and are copyrighted protected.

Mohawk. The play was recorded on video, edited, and copies were made for distribution.

2.2 Solid Waste Generation & Recovery

2.2.1 Solid Waste Generation

Solid waste generation rates were estimated using the 1995 per capita solid waste rural generation rate of 2.5 pounds per person per day, population estimates provided in Section 1 of this plan, and the percentages for different materials found in municipal solid wastes as provided by Franklin Associates, 1997.

Table 2-1 shows the projected generation rates for the various components of the waste stream. The projected total amount of materials generated in 1998 is approximately 7 tons per day and this number is predicted to increase to approximately 8 tons per day by the year 2010.

Generators need to put out all of their waste materials for collection in order for the SRMT to achieve 100 percent recovery rates. In reality, this is not occurring and using two methods made estimates of actual recovery rates.

The first method consisted of performing fieldwork during the summer of 1997. Volume-based waste audits were conducted for residential and commercial generators. Site inspections were performed at which time the volume of collection containers and the frequency at which they were emptied were determined. Identification and quantification of the materials inside the containers occurred by inspecting the materials and/or collecting information from generators or collectors.

The residential audits were conducted by inspecting materials as they were being collected by section of the truck. The recyclables were collected in two separate compartments on the truck; one for paper & corrugated cardboard and one for plastic bottles, tin and aluminum cans. The materials in the two compartments were emptied into a 50 cubic yard roll-off container, which was located at the WolfClan truck stop. The roll-off container was partitioned in two sections allowing for the separation of the materials. The roll-off container was emptied once per month.

There are approximately 100 business establishments located on the reservation. It was not practical to conduct waste audits for each business due to time constraints. Consequently, a representative approach was taken in selecting businesses for waste auditing. This approach consisted of: classifying the businesses into different categories and selecting 10 % of the businesses in each category for the performance of waste audits; i.e. a total of 20 gas stations would call for 2 waste audits from the group. The business categories included restaurant or food service,

Table 2-1. Projected Solid Waste Generation Rates Based on the 1995 Per Capita Solid Waste Rural Generation Rate of 2.5 Pounds Per Person Per Day.

Material	% of Total Waste Stream	1998 Generation Rate ¹	2010 Generation Rate ²
Mixed Residential Paper	20 ³	1.3 (480)	1.5 (558)
Corrugated Cardboard	20 ³	1.3 (480)	1.5 (558)
Glass	6	0.39 (144)	0.5 (167)
Aluminum	1	0.07 (24)	0.08 (28)
Ferrous Metals	5	0.33 (122)	0.4 (140)
Other Non-Ferrous Metals	1	0.07 (24)	0.08 (28)
Plastics	9	0.60 (216)	0.7 (251)
Wood	7	0.5 (168)	0.5 (168)
Food	7	0.5 (168)	0.5 (168)
Other	10	0.7 (240)	0.8 (279)
Yard Trimmings	14	0.9 (336)	1 (390)
Total	100	6.7 (2402)	7.7 (2735)

¹Units: Non-parenthesis numbers are tons/day, parenthesis numbers are tons/year.

²Generation Rate based on 20 year projected growth rate 81.7 % from 1990 population numbers.

³Percentages are based on field observations and Franklin Associates 1996 Waste Characterization Study.

office, mini-marts, gas stations, construction, and auto repair. For each business audited, interviews with employees occurred to gather data about their waste management practices and inspection of collection containers used to hold materials for hauler pick up occurred.

The volume of the containers and the frequency at which they were emptied was determined. Identification and quantification of materials also occurred by inspecting the materials and collecting information from employees.

Table 2-2 presents the measured material recovery rates for the residential and commercial sectors of the reservation. Although the results in Table 2-2 suggest the total amount of material recovered is approximately 200 tons/year, this doesn't represent the total amount of materials recovered from the entire reservation. There are additional haulers providing services to the community and their recovery of materials wasn't accounted for. Furthermore, there are some commercial generators producing additional materials that are not part of the results; i.e. wood wastes; tires; oil filters; scrap metals; etc.

Table 2-2. Total Measured Material Recovery Rates for the SRMT's Residential and Commercial Generators.

Material	Recovery Rate (tons/year) ¹
Plastic Bottles (PB)	27
Glass (GL)	27
Tin & Aluminum Cans (TAC)	27
Mixed Paper & Corrugated Cardboard	95
Compostables	9
Non-recyclables	14
Total	199

¹Recovery Rates were measured in yd³/day and converted to tons/year.

Theoretical material recovery rates were computed based on information from the 1997 Franklin Associates report to the U.S. EPA. This report listed recovery rates as a percent of the weight generated for each material category. These percentages, in combination with the 1998 projected generation rates, were used in computing the theoretical material recovery rates for the St. Regis Mohawk Reservation and the results are shown in Table 2-3.

These results show that the theoretical material recovery rates for the St. Regis Mohawk reservation is approximately 680 tons per year. This represents a difference of 481 tons per year from the measured material recovery rates as listed in Table 2-2.

Table 2-3. Theoretical Material Recovery Rates Based on 1998 Projected Generation Rates From Table 2-1 & Franklin Associates Recovery Rates.

Material	Recovery as a % of Generation	1998 Generation Rate (tons/year)	Theoretical Recovery Rate (tons/year)
Paper & Paperboard ¹	40	960	384
Glass	24	144	35
Aluminum	35	24	8
Ferrous Metals	37	122	45
Other Non-Ferrous Metals	69	24	17
Plastics	5	216	11
Wood	10	168	17
Food	4	168	7
Other	23	240	55
Yard Trimmings	30	336	101
Total	-	2402	680

¹Includes mixed residential paper and corrugated cardboard

Section
3

Future Solid Waste Management Practices

3.1 Comprehensive Integrated Solid Waste Management Program

The Mohawks believe that environment protection, economic prosperity, and community well being are interconnected and that any advancement of programs must meet the needs of the present generation without comprising the future of the 7th generations to come. The Tribe desires to manage solid wastes in a manner that is more in keeping with these beliefs, thereby integrating and sustaining environmental protection, economic prosperity, and community well being.

Ohen:ton Karihwaterhkwen (Words That Come Before All Else) is a traditional Thanksgiving address that teaches mutual respect, conservation, love, generosity, and that our behaviors impact parts of the Web of Life and ourselves. Another traditional teaching, The Kariwiio (Code of Handsome Lake) gives instructions on how to live a good life, maintain the family unit, provide for all generations, and contribute to the stability and well being of the community. The Great Law of Peace of the Haudensaunee people tells people to love and live in peace, harmony, unity, and mutual respect with each other and the natural world.

These three traditional teachings clearly show that the Tribe has an inherent responsibility to manage solid wastes in a manner that protects the environment while contributing to the economic prosperity and social progress of the community. The best way to accomplish this is by implementing a comprehensive integrated solid waste management program that promotes waste reduction, reusing, and recycling followed by off reservation disposal of garbage at a state regulated disposal facility.

The Tribe's comprehensive integrated solid waste management program goals are to:

- Protect the health & safety of Tribal members and all other persons within Mohawk territory;
- Protect the cultural, social and economic stability of residential, agricultural, commercial, industrial, forest, riparian, and environmentally sensitive lands within Mohawk territory;

- Protect historical and cultural values and traditions of the Tribe, Mohawk land as a permanent Tribal homeland, and the aboriginal character of Mohawk land;
- Prevent solid waste pollution, including contamination of the Tribe's groundwater, surface waters, drinking water supplies, and all other natural resources;
- Prevent the deterioration of the environment, standard of living, quality of life, welfare and well being of all persons within Mohawk lands;
- Provide and promote Tribal waste management efficiency and services within Mohawk land; and
- Research financing, implementation, regulation, and environmental standards and criteria, order and permit conditions, and laws and regulation options, for the best sanitary storage, collection, transportation and disposal system.

The target recycling rates for the Tribe's solid waste management program are shown in Table 3-1.

Table 3-1. Target Recycling Rates For The Tribe's Solid Waste Management Program.			
Material	Recycling Rate (%) Year 2003	Recycling Rate (%) Year 2008	Recycling Rate (%) Year 2013
Hard Recyclables	40	60	80
Fiber (mixed paper & corrugated cardboard)	47	60	80

Figure 3-1 shows the solid waste management program components. These components are shown in a circle to demonstrate their interconnectedness and that the success of the program depends on the successful implementation of each component.



Figure 3-1. Components of The SRMT's Comprehensive Integrated Solid Waste Management Program.

3.2 Solid Waste Management Code

The solid waste management code (Code) is the regulating component of the Tribe's program, which requires off reservation disposal of all solid wastes and encourages the Mohawk People to reduce, recycle, and reuse prior to sending materials for disposal.

The Code is designed to incorporate traditions of the Mohawk People in preserving, protecting, and restoring our community from the negative impacts associated with improper management of solid wastes. Some of the community solid waste management practices are not in good harmony with Mother Earth. These practices

have a damaging affect on the future generations that are going to inherit this land. Adherence to the Code will help to bring solid waste management practices into harmony.

The Code prohibits open dumping in the community and any burning of materials must be done in accordance to the Tribe's Clean Air Regulations, which prohibit the burning of solid wastes without a permit. The Code also requires haulers to obtain operation permits from the SRMT Environment Division in order to provide service in the community. The haulers must comply with annual reporting requirements and take all materials collected on the reservation to the Tribe's transfer station and recycling center. All management facilities, i.e. transfer stations, located on the reservation are required to obtain construction and/or operation permits from the Environment Division. Management facilities are defined as all contiguous land and structures, other appurtenances, and improvements on the land used for the management of solid wastes. The Code allows for compliance monitoring of permitted management facilities and haulers, and permit violations may result in revocation of permits and/or imposition of civil penalties.

The Code allows for public participation for specific matters, which are outlined in Section 6 of the Code.

Enforcement actions with residents of the community who do not comply with the Code will include an effort to educate them about the many hazards associated with the improper disposal of solid wastes. It is only when education, awareness or any other reasonable means to prevent improper waste disposal activities have failed that formal enforcement actions will be considered.

Procedures for bringing an enforcement action concerning a violation of the Code shall follow those established by the St. Regis Mohawk Tribe for investigations, summons, and appearance before the Tribal Court.

Appendix A provides a complete copy of the Code.

3.3 Solid Waste Community Service Agency

Previous studies indicate that the community is dissatisfied with the current services they are receiving from private haulers and that they support a Tribal owned and operated solid waste management community service agency. Towards this end, the Tribe establishes a solid waste community service agency to provide services to the community. This newly established agency offers quality and low cost solid waste management services that surpasses all of the competition. The Tribe provides these services through the use of a modular design transfer station, which has the capacity of collecting both garbage and recyclables, and processing recyclables for resale to end recycling markets.

Section 1 of the business plan for the solid waste community service agency provides a complete description of the business and a copy of Section 1 is provided in Appendix B.

The potential customers are 1100 households and 50 businesses that are located on the St. Regis Mohawk Reservation. The Tribe's market analysis of these potential customers show that they are dissatisfied with their current services and are willing to use the Tribe's services, provided that they offer more flexibility, are of better quality, and cost less. The Tribe expects to capture all of these customers during the first two years of operation. After which time, the Tribe will expand its trade area beyond the borders of the reservation to neighboring towns and villages.

The Tribal solid waste service agency offers several competitive advantages that include: offering services that satisfy the needs and wants of the potential customers; designing the Tribal business that is sensitive to the Mohawk cultural and way of life; offering flexible quality low cost service options; and offering service options and customer conveniences that are not currently available.

The Tribe intends to capture this market share by using an advertising campaign that makes use of local media that has proven to be effective in the past. This media includes local newspapers, Iroquois Environmental Newsletter, and a Mohawk operated radio station. There are mechanisms in place to use all of these local medias without incurring a cost to do so. The Tribe intends to make use of these mechanisms in order to initially avoid advertising costs. Furthermore, the Tribe's personalized sales approach for the business sector maximizes the number of businesses that use the Tribe's solid waste management services.

3.4 4 R's

The goal of this component is to motivate people to respect themselves, the community, and Mother Earth so that they assume ownership for the overall well-being of their community. When this happens, the historically poor solid waste management practices of open dumping and burning will disappear and be replaced with waste reduction, reusing, and recycling, followed by proper disposal of garbage at the Tribe's transfer station.

Implementing a cultural educational program is the primary mechanism that the Tribe uses in creating this respect. This program is based on teachings from the Great Law of Peace. The Peacemaker brought this law to the Mohawks and taught them that all human beings possess the power of rational thinking and that measures can be taken to reach accord with people to create peace. The Great Law of Peace also teaches that no human being should abuse another.

The cultural educational program uses this teaching that the Mohawk people are rational thinkers and as such, have the ability to learn that their solid waste management disposal practices impacts themselves, their children, their community and the next seven generations to come. They can also be educated that open

dumping and open burning abuses the environment and their community, and the 7th generations to come.

History shows that Mohawks are great orators, persuasive, given to excellent expression of ideas, and use logic as a major tool for making any decisions. Implementation of the cultural education program uses these characteristics in conveying information with humor and teaches decision-making skills to the Mohawk people.

The prime focus of the work is to use innovative approaches in showing that the condition of the Mohawk environment and community is directly impacted by how people choose to dispose of their solid wastes. Towards this end, the Tribe is working on developing an interactive CD-Rom that would allow users to interact with Kwis and Tiio in changing input variables that directly affect the environmental and health consequences associated with open dumping and burning. The CD-Rom will be an excellent media to teach users that their personal decision-making directly impacts their environment and the health of them, their families, and community.

The Tribe will continue to work with children in the community in promoting respect, reduction, reusing, and recycling. The children are the best target audience since they take learned information, educate their families and apply it in their homes, thereby keeping their families accountable for their behaviors.

3.5 Sustainability

3.5.1 Approach

The Tribe faces many challenges in achieving economic self-sufficiency for their solid waste management program. These challenges arise due to the ever-changing world associated with the management of solid wastes. Prime factors that contribute to the ever-changing world of solid waste management are: customers; recycling market conditions; new technology; and maintaining customer costs while operational costs rise.

The Tribe's success of achieving economic self-sufficiency is sensitive to the ever-changing world of solid waste management and incorporates the following features to accommodate the changes: relationships; innovation; strategic partners; and flexibility.

3.5.1a. Relationships. Establishing good relationships with customers, the community, and community neighbors maximizes the potential for sustainability.

As part of the overall management of the solid community service agency, the Tribe continues to implement community stewardship programs that: 1) communicate the Tribe's services and benefits, and competitive advantages of these services to their

customers; and 2) allows for community input through a community involvement plan (CIP). The CIP is used to solicit input from the community and community neighbors through the use of public meetings, surveys, newspapers, and radio.

The Tribe's cultural educational program provides another mechanism of establishing good relationships. This program allows the Tribe to convey environmental messages and portray the program as one that is rooted in traditional knowledge that teaches respect and is a benefit for the community.

Portraying an image of professionalism, cleanness, and neatness is another part of creating relationships. Towards this end, all employees of the solid waste management program undergo customer service training giving them the skills to interact with customers in a professional, positive, friendly manner. Furthermore, all employees who work at the transfer station and collection routes are provided uniforms and all equipment and facilities are maintained in a clean and neat manner.

3.5.1b. Innovation. The ever-changing world that the Tribe encounters in managing solid wastes calls for innovated approaches in doing business. These approaches vary depending on economic and recycling market conditions. The approaches may involve using the solid community service agency as a foundation for development of other economic solid waste projects. Other approaches may involve expanding customer services to include collection of other wastes such as C&D, household hazardous wastes, and white goods.

Feasibility studies are performed prior to implementing any innovated project to determine the economic and technical feasibility for the project. This ensures that the Tribe doesn't pursue a venture that doesn't contribute to the overall sustainability of the solid waste management program.

3.5.1c. Strategic Partners. The continued success of the Tribe's program is contingent upon the Tribe to provide affordable services while having the ability of properly moving materials in and out of the transfer station. Establishing partnerships with neighboring communities and/or companies that offer similar services provides a good mechanism for accomplishing this. These partnerships assist the Tribe with minimizing costs and provide opportunities to expand services into areas that would not otherwise be achievable. The partnerships also contribute to creating good positive relationships with the neighboring communities and/or companies.

3.5.1d. Flexibility. History has shown that flexibility plays a major role in whether companies succeed or fail. Recognizing this, the Tribe incorporates flexibility in meeting the challenges that they encounter. This flexibility allows the Tribe to quickly adapt to changes.

3.6 Monitor

Table 3-1 provides a listing of the quantitative and qualitative measures used to track each program component.

Table 3-1. Quantitative and Qualitative Measures Used to Monitor the Solid Waste Management Program.		
Component	Quantitative Measure	Qualitative Measure
Solid Waste Management Code	# of permits issued # of compliance reports received # of violations amount of fines collected	None
Solid Waste Community Service Agency	# of jobs created set-out rates dollar volume of sales tons of materials # of customers	None
4 R's	recycling rates waste diversion rates # of open dumps and burn barrels	community's knowledge of the negative impacts associated with open dumping and open burning
Sustainability	# of customers # of strategic partners # of expansion services	compliments and/or complaints received