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Nestor Resources, Inc.

Recycling Technical Assistance
Project #431
Millcreek Township, Erie County

Enhancing the performance of commercial recycling, data capture and management

June 16, 2008

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Introduction

The Recycling Technical Assistance Program is sponsored in partnership by the Pennsylvania Department of Environmental Protection (DEP) through the Solid Waste Association of North America (SWANA), the Pennsylvania State Association of Township Supervisors (PSATS) and the Department of Community and Economic Development (DCED) Governor's Center for Local Government Services. Qualifying municipalities wishing to enhance their recycling, composting, and waste reduction programs are provided with professional support to assist them achieve their goals and objectives.

Millcreek Township, Erie County requested technical assistance to evaluate the status of commercial recycling in the municipality. The Township also sought support to implement better methods of capturing data from commercial entities, haulers, and processors. Lastly, Millcreek desired to manage better the information in order to monitor and improve its programs and enhance its returns from Act 101, Section 904 Performance Grants.

As the consultant selected to manage the project, Nestor Resources, Inc. is pleased to submit to the Millcreek Township our findings and recommendations. This report includes background data, resources and references, as well as explanations and justifications for the consultant's suggestions.

Background

Like most municipalities throughout Pennsylvania, and the nation, Millcreek Township faces the challenge of motivating commercial establishments and multifamily dwellings to participate in its recycling program. With more than 53,000 residents, the Township meets the population criteria of communities mandated to recycle by the Municipal Waste Planning, Recycling, and Waste Reduction Act of 1988, Act 101. The Act has specific requirements for municipalities in the Commonwealth with populations of 10,000 or more and also those with populations of 5,000 or more with a population density of greater than 300 people per square mile. These municipalities must, implement mandatory residential curbside collection programs for recyclables and leaf waste and ensure that commercial, institutional, and government establishments also manage recyclables and leaf waste accordingly. Additionally, mandated communities are subject to the provisions of Act 140, which specifies conditions for receiving and utilizing Section 904 Performance Grant funds.

Residential curbside collection of waste and recyclables is provided weekly by a local hauler contracted by the Township. Single family detached housing units and multi-family housing with no more than four attached units are included in the contractual agreement. Waste Management is the current service provider. Leaf waste is collected at the curb in the spring and the fall at specified times.

Therefore, the majority of residents in the Township have more than ample opportunities to recycle.

Commercial and institutional establishments, as well as multi family dwellings with five or more attached units contract directly with local haulers. In most instances, local haulers have made recycling opportunities available to their customers. Some are more persistent and conscientious than are others in their efforts to support compliance. Recycling is visible throughout the commercial sector. Nevertheless, space constraints, budgetary issues, and the sheer disinterest of many business owners still pose as obstacles nearly 20 years after implementation of the Township's commercial recycling program.

Capturing the data regarding recycling activities is vital in tracking and monitoring program performance. Mandated municipalities are required to submit an annual report to the PADEP that demonstrates the tons of each material recycled during the previous year. Municipalities are also eligible to obtain monetary rewards for the tons recycled in the form of Act 101 Section 904 Performance Grants. That transporters, processors, and commercial participants provide accurate data is vital not only to compliance, but also to sustain financially the program. Although, the Township has a well-organized campaign to obtain the information, it is labor intensive. Streamlining the approach and developing a set of cross checks could offer a better snapshot of the Township's program.

Project Scope of Work

Task #1: Together with the recycling coordinator, Nestor Resources, Inc conducted field observations in the Township in order to establish an awareness of current commercial recycling practices and to gain an understanding of limitations and constraints. The consultant visited local recycling facilities and met with collectors to discuss the Township's desire to increase services to the commercial generators and get feedback on the current service offerings available to that sector and obstacles to customer participation.

Task #2: Nestor Resources, Inc reviewed the Township's current annual reports, performance grant applications, and ordinances relevant to solid waste management and recycling. In addition, the consultant examined current reporting procedures and formats. A comparative analysis of actual versus expected recovery of recyclables generated by commercial establishments was provided.

Task #3: The consultant met with the recycling coordinator to discuss the findings regarding current practices and present and explain suggested options. The discussion focused on the risks and benefits of each scenario including issues with the service providers; costs to the commercial businesses; incentives for participation; customer acceptance and related issues.

Task # 4: Nestor Resources, Inc prepared and submitted to the Pennsylvania Department of Environmental Protection (PADEP) for review and comment, a

draft project report, which summarized the consultant's findings and recommendations. Based on the PADEP's input, the consultant revised and finalized the report. Both the Township and the Department were provided with the report in electronic format. In addition, a hard copy of the document was provided to the Township.

Summary of Recommendations

Millcreek Township has a goal of 100% compliance for its recycling program. It initiated this project to minimize the issues that inhibit businesses and multi family dwellings from recycling. Additionally, it hopes to create an awareness of the recycling requirements through a more user friendly and accurate reporting system.

The following is a summary of the consultant's findings and suggestions:

- Growth along the corridor referred to as "Upper Peach Street" has resulted in the most significant suburban sprawl in Erie County. The construction of the Millcreek Mall, the increasing outcrops of plazas, the conversion of former residences into small businesses, and the development of light industrial parks makes keeping pace with commercial recycling activities a greater challenge for the Township.

- The trend in Erie County for increasing new construction of apartments, condominiums, and townhomes is particularly prevalent in Millcreek Township. Based on the emerging pattern of Erie County's population, a greater market for rentals and condominiums is expected to continue. Therefore, the issue of recycling in multi-family dwellings is of growing importance to Millcreek Township.

- Overall, Millcreek Township meets or exceeds the national trends in recovery rate for many of the materials included in its recycling program.

- The only poor performers appear in the commercial sector. Office and other mixed paper recovery is reported in lower quantities than would be expected. When compared to the recovery of other commercial materials, the reported lack of performance for this material is somewhat suspect.

- Document destruction companies are often negligent and/or resistant to reporting the tons of paper they recycle. Millcreek should conduct a more aggressive educational outreach program to recover this data. Additionally, it should follow-up with enforcement action when necessary to establish that compliance is expected.

- To add more accountability, it is recommended that Millcreek require verification of service with the commercial report. Multi–family

complexes, commercial and institutional establishments should be required to attach a copy of a contract or agreement, which demonstrates that recycling is provided as part of the collection service.

- Many small businesses neglect their responsibility to recycle because of low volume of materials generated, cost of service and/or space constraints for a traditional dumpster. A significant number of these establishments are clustered in areas zoned mixed residential. Their service needs mirror those of residents with in-home offices. To increase participation from this business sector, Millcreek Township should consider inclusion of small commercial businesses in its next residential collection contract.

- Multi family dwellings with four or less attached units are already included in Millcreek's residential collection contract. Therefore, the opportunity to recycle is guaranteed to those residents under the criteria of the contract. Millcreek should consider inclusion of complexes with structures of five or more attached units in its next residential collection contract. Rates for carts and/or dumpster service can be provided by prospective bidders. Complexes can be allowed to opt in to the contract, or the Township can make participation mandatory.

- Space constraints are often used as an excuse to avoid recycling by owners of multi family dwellings. Millcreek should consider revising its zoning/planning requirements to ensure that adequate spaces for recycling containers are required for each group of 20 units in a complex.

- Millcreek Township has a reasonable monetary penalty in its recycling ordinance. The Township should consider issuing citations to blatant offenders. Setting an example by penalizing bad behavior can incentivize others to comply.

- To make reporting more convenient, Millcreek should add the annual report forms to its web site. These forms are formatted to be completed on line and submitted electronically. The completed forms could be submitted to the Recycling Coordinator's email address.

- Millcreek Township registers those haulers that provide waste collection in the municipality. It is recommended that transporters that only collect recyclable materials, and document destruction companies, should also be registered. This affords the Township with a better record of those entities that should report recycling activity each year.

Structure and Requirements

Solid waste and recycling is regulated by Millcreek Township under the provisions of Ordinance No. 2006-11. The Township requires that the owners, operators, occupants, and/or agents of all properties must separate designated recyclables and leaf waste from municipal waste. Additionally it mandates that waste must be collected and disposed; recyclables must be processed for market and that leaf waste must be composted. Residents living in single-family detached units and those in multi-family dwellings with four or less units are required to participate in the Township's collection contract. Owners of multi-family dwellings with five or more units must contract for waste collection services that include adequate provisions for the separate collection of recyclables and leaf waste. Commercial businesses must follow the same guidelines.

Residences served under the municipal collection contract participate in a single stream recycling program. Glass bottles aluminum and bi-metal cans, plastic materials labeled #1 thru #7, newspaper, mixed paper, paperboard, and cardboard are all collected in one container and transferred to Cleveland for mechanical sorting and processing. The Township formerly had a dual stream collection program with limited types of plastics and paper accepted for collection. The single stream program has increased recovery; however, its implementation is too recent for its full impact to be reflected in the reported data utilized in this report.

Recycling opportunities for owners of multi-family dwellings with five or more units as well as commercial businesses are often more limited in scope by the types of materials each vendor is willing to accept. Therefore, participation and recovery in this sector is negatively affected.

The Community

Erie County's Millcreek Township serves as the gateway to Presque Isle State Park, a recreational and vacation spot on the shores of Lake Erie. With a population approaching 53,000 residents, Millcreek is recognized as the second largest 2nd class township in the State of Pennsylvania. The Township abuts the City of Erie, whose main thoroughfare, Peach Street or US Route 19, flows directly into the Township. Growth along this corridor in both residential and commercial development has resulted in the most significant suburban sprawl in the County.

The construction of the Millcreek Mall, which houses over 240 stores and restaurants, spurred the concentration of numerous commercial businesses in the area of the Township referred to as "Upper Peach Street" and in the near vicinity. The increasing outcrops of plazas, the conversion of former residences into small

Figure 1 Concentration of Erie County Commercial Businesses

businesses and the development of light industrial parks makes keeping pace with commercial recycling activities a greater challenge for the Township.

Figure 1 illustrates the density of a little over 1000 commercial establishments located throughout Millcreek Township. The distribution is reflective of the Township's land development and zoning ordinances. Areas where businesses are clustered together allows for greater efficiencies, more service offerings and lower costs in commercial collection. Zoning requirements in these districts typically require developers to include sufficient spaces for containerized waste collection and, also for recycling, in more recent years. Smaller businesses located in mixed residential zones are less likely to have these advantages

According to the *Erie County Housing Plan 2001*, prepared by Graney, Grossman, Ray and Associates of Harrisville, PA, apartment, townhome, and condominium complexes represent a large percentage of new residential construction in the County. The study concludes that this trend is particularly prevalent in Millcreek Township. Based on the emerging pattern of Erie County's population, which includes small, non-family, households, older housing consumers, and "empty nesters," a greater market for rentals and condominiums is expected to continue. Therefore, the issue of recycling in multi-family dwellings is of growing importance to Millcreek Township.

Table 1 shows the types and number of residential housing units in Millcreek Township. It also highlights how the different categories of households are serviced for waste and recycling collection. 78% of all housing units are included in the Township's single hauler residential collection contract. Of these, 6% are multi-family dwellings. The remaining 22% seek service from a variety of haulers. Field observations revealed that these units have minimal or in some cases no recycling service. This suggests that a significant portion of homes in Millcreek might be underserved.

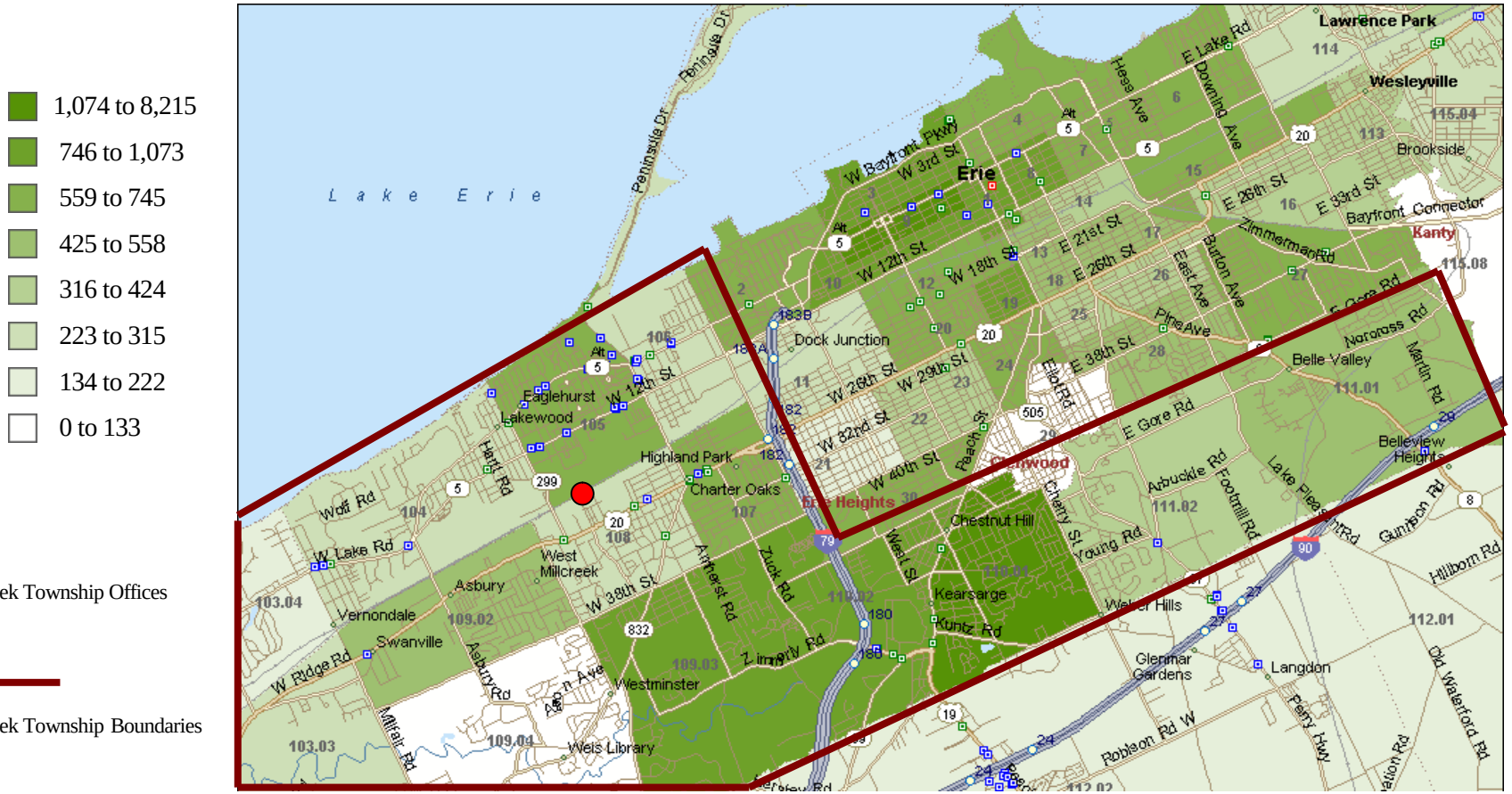
68% of the households not serviced under the residential collection contract are multi-family dwellings. This is likely the weakest area of recycling participation in Millcreek's residential sector. Based on the findings in the Graney, Grossman, Ray report, allowing this sector of the potential recycling community to remain underserviced could have a significant impact on Millcreek's future recycling performance.

Figure 2 illustrates the concentration of multi-family housing units in Millcreek Township. Similar to the commercial establishments, zoning tends to create clusters of rental units and multi family complexes. As described previously, this density of similar structures creates advantages for collection routing efficiencies. Likewise, greater service offerings and lower costs are the result when an area is serviced primarily by a single hauler.

Table 1 Composition of Millcreek Township Housing Units

Type of Structure	Units in Structures	Percentage of Total Units	Percentage of All Units Serviced by Municipal Contract	Percentage of All Units Serviced as Commercial Accounts
Single Family Detached	14999	68%	86%	0
Single Family Attached	872	4%	5%	0
2-4 Attached Units	1514	6%	8%	0
5 or more Attached Units	3406	15%	0	68%
Mobile Homes	1576	7%	0	31%
Total housing units	**22,367**	**100.00%**		

Figure 2 Concentration of Erie County Renter-Occupied Dwellings



Program Performance

To evaluate the overall performance of the recycling activities in Millcreek Township, it is important to establish some benchmarks. Data from the Township's annual reports and Act 101, Section 904 Performance Grant applications were used for this purpose. The reported figures were then compared to national recycling trends. The comparative analysis offers insight on the effectiveness of Millcreek's current collection programs. Additionally, it provides a method to determine the impact of recovering other materials not currently included in the program.

Table 2 Comparison of Waste Generation and Recovery to National Trends

Material	Expected Generation tpy	Expected Recovery tpy	Total [1] Reported Recovery tpy	Reported [2] Residential Recovery tpy	Reported [3] Commercial Recovery tpy
Glass Containers	**2110**	**460**	**578**	**577**	**1**
Aluminum	**359**	**128**	**389**	**165**	**224**
Bi Metal	**465**	**292**	**818**	**390**	**428**
Plastic #1 thru #7	**2636**	**280**	**618**	**357**	**261**
Newspaper	**2289**	**2013**	**2932**	**2927**	**5**
Magazines	**476**	**193**	**221**	**220**	**1**
Books	**209**	**54**	**66**	**66**	**0**
Telephone Directories	**126**	**24**	**42**	**30**	**12**
Standard Mail	**1091**	**422**	**485**	**482**	**3**
Commercial Printing	**1228**	**259**	**303**	**301**	**2**
Office-type Papers	**1171**	**769**	**459**	**294**	**165**
Corrugated Boxes	**5822**	**4192**	**4183**	**1433**	**2750**
Folding Cartons	**1032**	**165**	**186**	**185**	**1**
Bags and Sacks	**248**	**63**	**87**	**87**	**0**

1 2 & 3 Materials collected commingled are distributed in the table propionate to national trends

Generation and Recovery of Designated Materials

Table 2 provides the results of the analysis of Millcreek's municipal solid waste generation and recovery as compared to national figures based on *Municipal Solid Waste in The United States: 2006 Facts and Figures*, commonly referred to as The Franklin Study. This ongoing study, which is conducted for and issued by the USEPA, provides a periodic review of the national recycling activities beginning in 1960. The Franklin Study presents information on the composition of the nation's municipal solid wastes and the amount of the various wastes that are generated, recovered, and disposed. From these national averages, the expected composition of the municipal solid wastes generated in Millcreek was determined. Subsequently, the Franklin Study was utilized to compare Millcreek's performance

in recovering materials through recycling to the national norm. Data for 2006, the most recent information available from the Franklin Study, were used as a basis of comparison to Millcreek's 2006 data. In Column One, municipal solid waste (MSW) materials, which are included in the Millcreek program, are listed. Column Two, "Expected Generation", presents the quantity of waste expected to be generated in Millcreek if it were produced at the same rate, as it is nationwide. Column Three, "Expected Recovery", presents the expected quantity of each material to be recovered in Millcreek if it were recycled at the same rate as it is nationwide.

In Column Four, "Estimated Total Recovery" presents the recovery of the various materials as submitted in Millcreek's annual recycling report. Commingled materials were distributed in the proportions in which they are recovered nationally. Since most residential recycled materials are collected commingled in Millcreek, the actual amounts of the individual materials are unknown; therefore, the relative amounts were estimated.

Materials available for recycling differs proportionately in residential and commercial sources. Column Five and Six respectively, present the recovery of materials reported from commercial and residential sources in Millcreek Township. From both residential and commercial generators, materials are collected commingled. These materials are distributed in the similar proportions that they are recovered nationally.

For a detailed breakdown of the analysis, refer to Appendix A.

Incorporating Additional Materials

The list of materials included in Millcreek Township's recycling program is extensive. This is due in part to the utilization of a single stream processing facility as part of the residential collection contract. Such facilities operate with high tech sorting equipment that enables a greater volume and variety of materials to be separated mechanically than is possible in a less mechanized and/or manual sort. In addition, the current market demand for all types of fiber and plastic have presented opportunities, not previously available, for inclusion of these materials in curbside collection programs.

In spite of this expanded list of designated recyclables, other materials commonly found in municipal solid waste were reviewed to see if significant quantities might be recovered if included in Millcreek's recycling program. The results are shown in Table 3. Each material considered is listed in Column One. Based on population the estimated quantities generated in 2006 in Millcreek are shown in Column Two. Column Three shows the potential recovery if the materials were recycled at the same rate as they are nationally. The last two columns show the estimated quantities from residential and commercial sources.

Table 3 Additional Materials with Potential for Recovery

Material	Expected Generation tpy	Potential Total Recovery tpy	Potential Residential Recovery tpy	**Potential Commercial Recovery tpy**
Wood Packaging	**1571**	**243**	**0**	**243**
Small Appliances	**189**	**2**	**2**	**0**
Consumer Electronics	**537**	**61**	**6**	**55**
Clothing and Shoes	**1600**	**232**	**139**	**93**
Towels and Sheets	**191**	**33**	**30**	**3**
Carpets	**569**	**46**	**37**	**9**

Weighing in on the Results

Overall, Millcreek Township meets or exceeds the national trends in recovery rate for many of the materials included in its recycling program. Nevertheless, there appear to be some anomalies in the reported data. Aluminum, bi-metal, and plastic are reportedly recovered in quantities that in all but one instance exceed the expected rate of generation. So while, at face value the numbers seem reassuring, further investigation is warranted.

The only poor performers appear in the commercial sector. Office paper recovery and other mixed paper is reported in lower quantities than would be expected. When compared to the recovery of other commercial materials, and to the success witnessed in the residential program, the reported lack of performance for this material is somewhat suspect.

Residential Factors

Several factors are attributable to the Township's apparent success in recycling. Millcreek Township has been diligent in its efforts regarding education and enforcement of its recycling requirements. The Township has a single hauler integrated waste management curbside collection contract. Single stream collection has provided a convenient opportunity for residents to recycle a broader spectrum of materials with minimal separation.

Anomalies in the reported figures for aluminum, bi-metal and plastics may inflate the actual performance of the program. Field studies conducted during this project indicate many multi-family complexes show little or no visible participation in a formal recycling program. These observations cast some doubt on the reported data.

It is possible that haulers and or processors misreport material from surrounding municipalities. This is a common error when collection routes transcend municipal borders. Additionally, local scrap dealers often report quantities collected, regardless of source, to the municipality in which they are located. It is also possible that in the case of aluminum and bi-metal, the reported quantities include more than beverage and food containers.

Commercial Factors

Unlike the issue with bottles and cans, in the case of office paper recovery the problem could be the underreporting for this material. A misunderstanding by those that handle the paper for processing could be contributing to the low demonstrated recovery, rather than an actual lack of recycling efforts. Inadequate service availability and reluctance to pay could be others.

Identity Crisis

To solve the mystery of this missing data one might examine how companies currently manage discards from their offices. The advent of legislation such as The Fair and Accurate Credit Transactions Act of 2003 (FACTA), and the Health Insurance Portability and Accountability Act of 1996 (HIPAA), has heightened awareness of the sensitivity of materials that companies discard. In a survey conducted by the National Association for Information Destruction, top executives from 300 companies ranked the security of company records as one of the top five critical issues facing business. Industrial espionage professionals consider trash as the single most available source of competitive and private information from the average business.

It is no secret that information destruction companies have become more prevalent. Banks, hospitals, government offices, insurance companies, legal firms, credit unions, etc. all generate large quantities of office paper upon which is printed sensitive information. Once companies felt comfortable sending this material to traditional recyclers to be shredded and recycled. However, in today's litigious society, more and more businesses opt to use the services of an information destruction company. These companies either destroy documents on–site, or they are collected and taken back to a facility where the material is either shred or incinerated. With the high value of paper in today's commodity markets, the majority of the paper is shredded, baled, and sold for recycling. Much of this recycled paper goes largely unreported to local communities.

There are many reasons that data from information destruction companies does not make its way into the recovery data for local recycling programs. The first and foremost issue is that because these companies are in the business of document destruction, they do not identify with the rules and regulations established for the collection and processing of recyclable material. Although, many of the largest companies command the highest volume of recycled paper in the world, they do not view themselves as "recyclers." Another factor is confidentiality. The

business of information destruction requires handling of discreet documents and other forms of media. The ability to protect the identity of their clients is often a competitive advantage for a business. Therefore, unless they are aggressively pursued by local governments for reports, information destruction companies are less than forthcoming with data.

System Inequities

Not all of the missing commercial volume will be found in reports from information destruction companies. Some of it is still finding its way into the landfill. Field studies conducted during this project indicate little or no visible participation by small businesses in a formal recycling program. In some instances, businesses are simply reluctant to bear the higher costs of adding another commercial collection container to hold recyclables. In others, commercial collection service might not even be practical for vendors to provide in certain locations. Small business owners face a dilemma in that situation.

In Erie County transportation contributes to at least 75% of the cost of waste collection. When smaller generators opt for a recycling container, they often incur higher transportation charges than their larger counterparts because their businesses are not always located in the traditional commercial corridors. Therefore, the small business utilizing conventional commercial collection service rarely experiences a savings from the avoided cost of disposal. Thus, by many it is considered a disincentive. Haulers pressured by owners and shareholders to improve route density and productivity are often reluctant to even provide recycling collection in these areas.

Businesses are then faced with limited options. Some take recyclables home and place them at the curb for collection along with their household recyclables. This could account for a portion of the impressive paper recovery in Millcreek's residential figures. Others use a community drop-off site, whose data is captured by Erie County and thus is unreported in Millcreek Township. Lastly, many simply discard the material.

Making a Good Thing Better

Overall, Millcreek Township has reason to be proud of its recycling program. Its recent transition to single stream recycling in its short implementation period has already boosted what has been a solid record of recovery. Nevertheless, there are areas that the Township should target for improvement.

Increasing residential participation

78% of the housing units in Millcreek Township are serviced under the provisions of the residential collection contract. The mandate to recycle coupled with the availability of convenient single stream collection offers residents no excuse to avoid recycling. The remaining 22% of households are not equally as fortunate.

Multi family dwellings with four or less attached units are already included in Millcreek's residential collection contract. Therefore, the opportunity to recycle is guaranteed to those residents. Those complexes with structures of five or more attached units can also be included in a residential contract in spite of their different service needs. Rates for carts and/or dumpster service can be provided by prospective bidders. Millcreek should consider inclusion of these service rates in its next residential collection contract. Complexes can be allowed to opt in to the contract, or the Township can make participation mandatory.

Space constraints are often used as an excuse to avoid recycling by owners of multi family dwellings. Millcreek should consider revising its zoning/planning requirements to ensure that adequate spaces for recycling containers are required for each group of 20 units in a complex.

Increasing commercial participation

Many small businesses neglect their responsibility to recycle because of low volume of materials generated, cost of service and/or space constraints for a traditional dumpster. A significant number of these establishments are clustered in areas zoned mixed residential. Their service needs mirror those of residents with in-home offices rather than larger retail complexes. Most of these establishments could utilize curbside containers or wheeled carts for recycling. To increase participation from this business sector, Millcreek Township should consider inclusion of small commercial businesses in its next residential collection contract.

Accountability and Enforcement

Random field observations revealed that while commercial recycling existed, it was often conducted at the minimum level possible. Another trend, which emerged from the field study, was that certain haulers consistently did not partner a waste collection container with a recycling container. Therefore, it could be assumed that recycling service is typically not offered from these vendors. Alternatively, businesses that utilize these vendors may do so specifically because they choose to circumvent the Township's policies.

Policing the Commercial Sector

The Township's Recycling Coordinator should periodically spot check establishments to confirm the presence of a recycling container and its contents. This provides not only an opportunity to reinforce the Township's mandates, but

also to offer support and improve the organization's recycling program. Alternatively, the Township could enlist a summer intern to conduct field surveys and check the accuracy and consistency of hauler and commercial reports.

Penalizing Bad Actors

Benjamin Franklin maintained that "Laws too gentle are seldom obeyed; too severe, seldom executed." Municipalities commonly confront this dilemma regarding their recycling ordinances. Laws that have "teeth" on paper often intimidate the designated enforcer or result in bad community relations. Those with no power negate the purpose of the statute. Millcreek Township has a reasonable monetary penalty in its recycling ordinance. The Township should consider issuing citations to blatant offenders who have disregarded all other communication and mechanisms intended to bring them into compliance. Setting an example by penalizing bad behavior can incentivize others to comply.

Reporting

Gathering data to track and monitor recycling performance is the single most time consuming and frustrating task facing most program managers. Problems with reporting is a universal issue. In 2007, the Western Pennsylvania Recycling and Sustainability Forum set out to resolve the reporting difficulties cited by its members. A Data Reporting Task Force was formed that eventually included stakeholders from across the Commonwealth. Participants included county and municipal recycling coordinators, private haulers, processors, document destruction companies, consultants, and representatives from PADEP's regional and central offices.

The intent of the Task Force was to simplify and automate the reporting process. The goal was to design a consistent format to reduce data entry time and errors. The group had difficulty coming to a consensus on a single form for multiple users. However, it was able to produce a document that could be modified for a variety of applications, while maintaining consistency in the order and type of information collected.

Nestor Resources used that document as the foundation to develop three reporting forms for Millcreek Township. Additionally, the consultant developed cover letters to accompany each form. The notification letters and reporting forma are located in Appendices B-G. To make reporting more convenient, Millcreek should add these forms to its web site. The completed forms could be submitted to the Recycling Coordinator's email address.

Details of items that have been added to the forms to enhance Millcreek's program are described in the following section.

Commercial Report

It is suspected that most of the commercial and institutional establishments in Millcreek do a good job of reporting their recycling activity. However, there are still many small to mid size businesses that either do not report or do not recycle.

To add more accountability, it is recommended that Millcreek require verification of service with the commercial report. Multi–family complexes, commercial and institutional establishments should be required to attach a copy of a contract or agreement, which demonstrates that recycling is provided as part of the collection service.

Additionally, it is recommended that these establishments authorize their transporter, document destruction company, processor, and/or broker to report, on their behalf. This authorization would eliminate the confidentiality obstacle often presented by the document destruction companies. It also would eliminate the need for the transporters to provide a multitude of reports to individual businesses.

The notification letter for this segment alerts businesses that their accounts may be inspected to verify that recycling does occur. It also informs them of penalties that can be imposed for non-compliance.

Lastly, the report and letter clarify that establishments that self-haul material must produce weigh slips to document their recycling activity.

Samples of the commercial letter and reporting form can be found in Appendix B and C respectively.

Transporter/Document Destruction Report

Millcreek Township registers those haulers that provide waste collection in the municipality. It is recommended that transporters that only collect recyclable materials and document destruction companies should also be registered. This affords the Township with a better record of those entities that should report recycling activity each year.

Document destruction companies are often negligent and/or resistant to reporting the tons of paper they recycle. Millcreek should conduct a more aggressive educational outreach program to recover this data. Additionally, it should follow-up with enforcement action when necessary to establish that compliance is expected.

The notification letter for this segment alerts service providers that their accounts may be inspected to verify that recycling does occur. It also informs vendors of penalties that can be imposed for non-compliance. It requires the reporting entity to declare the destination facility for the materials that they collect. This will serve as a helpful crosscheck for the Recycling Coordinator. Samples of the letter and

reporting form for transporters/document destruction companies can be found in Appendix D and E respectively.

Processor/Broker Report

PADEP has a renewed interest in the operation of material recovery facilities. Audits have been conducted throughout the Commonwealth to ensure that material processed is actually marketed for recycling and/or reuse. Inbound and outbound tonnages have been reviewed to establish processing residual rates.

The processor/broker notification letter and form reinforce the need for accurate and certifiable data. They also alert the processor that their records can be audited to certify marketing activity. The letter and form are located in Appendix f and G respectively.

Conclusions

This report provides Millcreek Township with several issues for consideration. The first is to consider inclusion of small businesses in its residential collection contract. Likewise it suggests that Millcreek consider inclusion of multi family dwellings with five or more attached units in its residential collection contract. It recommends that the Township hold commercial establishments and service providers more accountable to the requirements of its solid waste and recycling ordinance. Lastly, but of equal importance it suggests enhancements to the current data management process.

Nestor Resources is confident that background information provided in the report will provide the Township with a basis for making future policy decisions. The detailed analysis of the Township's recovery performance, the descriptions of the obstacles to recycling participation for certain segments of the community, and the tools to improve the gathering of data for the tracking and monitoring of recycling activities will be of benefit to Millcreek Township.

Appendix A: Comparative Analysis of Millcreek and National Trends

In order to compare Millcreek's performance to the results of the Franklin Study, the numbers in the study need to be analyzed to derive the figures that are comparable to the recycling rates reported by Millcreek. This analysis is required because the Franklin Study groups the materials in the national solid waste profile in categories different from the categories reported by Millcreek. For example, Millcreek reports numbers for glass recycling that are primarily the result of collection of packaging (jars and bottles) in the municipal wastes. In contrast, the Franklin Study reports glass as the total of glass packaging, (11.39 million tons per year) plus glass contained in durable goods (an additional 1.81 million tons per year). Thus, the numbers from the Franklin Study used for glass generated, recycled and disposed need to be the ones pertaining to glass containers and not all glass contained is the municipal waste stream.

Glass. The estimated annual quantity of waste glass generated nationally in 2006 was 13.20 million tons per year. Of this, 11.39 million tons per year of glass was in the form of clear and colored containers. This figure was used in determining the proportion of waste shown as available discards in the glass category on the table. Glass containers constituted 4.53% of the total municipal waste generated and was recovered nationally at the rate of 21.8%. Residential sources generate about 82% of the glass containers contained in MSW. Based on population it is estimated that 2110 tons of waste glass packaging were generated in 2006 in Millcreek. If recycled at the national recycling rate, about 460 tons would be expected to be recovered. Based on recycling reports, the quantity of glass recycled in 2006 was estimated to be 578 tons, more than the national norm. Virtually all of this material was collected from residential sources.

Aluminum. The estimated annual quantity of waste aluminum generated nationally in 2006 was 3.26 million tons per year. Of this 1.32 million tons per year was contained in durable and nondurable goods and was not generally available for recycling. Thus, 1.94 million tons per year of aluminum in the form of packaging was included in determining the proportion of waste shown as available discards in the aluminum category on the table. This material constituted 0.77% of the total municipal waste generated and was recovered nationally at the rate of 35.6%. Residential sources generate about 82% of the aluminum packaging contained in MSW. Based on population it is estimated that 359 tons of waste aluminum packaging were generated in 2006 in Millcreek. If recycled at the national recycling rate, about 128 tons would be expected to be recovered. Based on recycling reports, the quantity of aluminum recycled in 2006 was estimated to be 389 tons, much more than the national norm. Most of this material was reported from commercial sources. The total may include sources other than aluminum packaging.

Bimetal. Bimetal refers to tin cans that are over 99% steel. Bimetal cans are included in the Franklin study in the category of ferrous metal wastes. The estimated annual quantity of ferrous metal wastes generated nationally in 2006 was 14.22 million tons per year. Of this 11.47 million tons per year was contained in durable and nondurable goods and not generally available for recycling. Thus, 2.75 million tons per year of ferrous metal wastes is in the form of containers and other packaging. Included in this figure are 0.24 million tons per year of steel drums and other steel packaging not included in residential recycling programs. The remaining 2.51 million tons per year was used in determining the proportion of waste shown as available discards in the bimetal category on the table. This material constituted 1.0% of the total municipal waste generated and was recovered nationally at the rate of 62.9%. Residential sources generate about 85% of the bimetal packaging contained in MSW. Based on population it is estimated that 465 tons of waste bimetal cans were generated in 2006 in Millcreek. If recycled at the national recycling rate, about 292 tons would be expected to be recovered. Based on recycling reports, the quantity of bimetal recycled in 2006 was estimated to be 818 tons, much more than the national norm. Most of this material was reported from commercial sources. The total may include sources other than bimetal cans.

Plastic. The estimated annual quantity of plastic waste generated nationally in 2006 was 29.49 million tons per year. Of this 15.26 million tons per year was contained in durable and nondurable goods and was not generally available for recycling. Thus, 14.23 million tons per year of plastic in the form of packaging was included in determining the proportion of waste shown as available discards in the plastic categories on the table. This material constituted 5.66% of the total municipal waste generated and was recovered nationally at the rate of 10.6%. Residential sources generate about 82% of the plastic contained in MSW. Based on population it is estimated that 2,636 tons of waste plastic were generated in 2006 in Millcreek. If recycled at the national recycling rate, about 280 tons would be expected to be recovered. Based on recycling reports, the quantity of plastic recycled in 2006 was estimated to be 618 tons, much more than double the national norm. A large amount of this material was reported from commercial sources. The total may include scrap plastic from a plastic manufacturer as well as waste packaging. Nevertheless, the estimated quantity from residential sources exceeds the national norm.

Paper. The estimated annual quantity of waste paper generated nationally in 2006 was 85.28 million tons per year. This figure includes 44.84 million tons per year of nondurable goods such as newspapers, magazines and other printed matter. Also included in this category are about 9.26 million tons per year of material in a form that is not generally available for recycling, such as paper plates, towels, tissue, etc. The other 40.44 million tons per year of waste paper is waste packaging. The largest category of waste packaging is OCC, old corrugated cardboard, generated at a rate of 31.43 million tons per year.

ONP. ONP refers to old newspaper. Included in this category is newsprint and newspaper inserts since the two materials are generally mixed together as disposed or recycled. The estimated annual quantity of ONP generated nationally in 2006 was 12.36 million tons per year. This material constituted 4.92% of the total municipal waste generated and was recovered nationally at the rate of 87.9%. Residential sources generate about 85% of the ONP contained in MSW. Based on population it is estimated that 2,289 tons of waste ONP were generated in 2006 in Millcreek. If recycled at the national recycling rate, about 2,013 tons would be expected to be recovered. The estimated quantity recycled was 2,932 tons, almost entirely from residential sources, more than the national norm.

Magazines. The estimated annual quantity of waste magazines generated nationally in 2006 was 2.57 million tons per year. This material constituted about 1.02% of the total municipal waste generated and was recovered nationally at the rate of 40.5%. Residential sources generate about 85% of the magazines contained in MSW. Based on population it is estimated that 476 tons of waste magazines were generated in 2006 in Millcreek. If recycled at the national recycling rate, about 193 tons would be expected to be recovered. The estimated quantity recycled was 221 tons, almost entirely from residential sources, more than the national norm.

Books, Standard Mail and Other Commercial Printing. The estimated annual quantity of these materials generated nationally in 2006 was 13.65 million tons per year, of which 3.97 million tons per year was recycled. Based on population it is estimated that 2,528 tons of these items were generated in 2006 in Millcreek. If recycled at the national recycling rate, about 735 tons would be expected to be recovered. The estimated quantity recycled was 854 tons, mostly from residential sources, more than the national norm.

Telephone Directories. The estimated annual quantity of these materials generated nationally in 2006 was 0.68 million tons per year, of which 0.13 million tons per year was recycled. Based on population it is estimated that 126 tons of waste telephone directories were generated in 2006 in Millcreek. If recycled at the national recycling rate, about 24 tons would be expected to be recovered. The reported quantity recycled was 42 tons from residential and commercial sources, substantially more than the national norm.

Office Papers. Office papers includes high quality office paper such as stationary, copy paper and computer paper. The estimated annual quantity of office paper generated nationally in 2006 was 6.32 million tons per year. This material constituted 2.51% of the total municipal waste generated and was recovered nationally at the rate of 65.7%. Residential sources generate about 25% of the office paper contained in MSW. Based on population it is estimated that 1,171 tons of waste office paper were generated in 2006 in Millcreek. If recycled at the national recycling rate, about 769 tons would be expected to be recovered. The estimated quantity recycled was 459 tons, mostly from residential sources,

less than the national norm. It appears that residential recovery exceeded the national norm while commercial recovery was below normal.

Corrugated Boxes. OCC refers to old corrugated cardboard. Material included in this category are primarily cardboard boxes. The estimated annual quantity of OCC generated nationally in 2006 was 31.43 million tons per year. This material constituted 12.50% of the total municipal waste generated and was recovered nationally at the rate of 72%. Commercial sources generate about 90% of the OCC packaging contained in MSW. Based on population it is estimated that 5,822 tons of waste OCC packaging were generated in 2006 in Millcreek. If recycled at the national recycling rate, about 4,192 tons would be expected to be recovered. The estimated and reported quantity recycled was 4,183 tons, about the national norm. It appears that residential recovery exceeded the national norm while commercial recovery was below normal.

Folding Cartons, Bags, and Sacks. Other paper and paperboard packaging in Municipal Solid Waste includes folding boxes (e.g., cereal boxes, frozen food boxes, and some department store boxes), bags and sacks, wrapping papers, and other paper and paperboard packaging (primarily set-up boxes such as shoeboxes). The estimated annual quantity of these materials generated nationally in 2006 was 6.91 million tons per year, of which 1.23 million tons per year was recycled. Based on population it is estimated that 1,280 tons of waste folding cartons, bags, and sacks were generated in 2006 in Millcreek. If recycled at the national recycling rate, about 228 tons would be expected to be recovered. The estimated quantity recycled was 273 tons, almost entirely from residential sources, more than the national norm.

Wood Packaging. Wood packaging is recycled at a national rate of about 15%, almost entirely by commercial generators. Similar rates of recovery may occur in Millcreek but are not reported.

Electronic Waste. Small appliances and consumer electronics are not recovered nationally at significant rates. The largest quantities recovered are computers and associated equipment recycled by commercial sources through equipment suppliers. Recovered quantities from residential sources through special collection events are usually small. The estimated quantity that might be collected in Millcreek would be 8 tons per year. The cost of such collection events are generally not covered by the value of the recycled material and must be subsidized.

Textiles. Textiles are a potential significant source of additional material that might be recoverable from both residential and commercial sources. Clothing, shoes, towels, and sheets would total 265 tons per year if recovered at the national rate. Including carpets could increase this amount by nearly 50 tons per year.

Appendix B: Sample Commercial Recycling Notification

Name
Business
Street Address
City, PA Zip

Dear (Name of Business Owner/Manager):

As the owner/manager of a business located in Millcreek Township, it is your responsibility to ensure that certain materials are recycled at your establishment. Both Pennsylvania's Act 101 and Millcreek Township's Ordinance 2006-11 mandate commercial establishments to separate specific items from their trash to be recycled, or if appropriate composted. Either businesses must self-haul the material or they must contract with a transporter to collect and deliver this material to a recycling or composting/mulching facility. Use of a document destruction company fulfills this requirement if the company can demonstrate that they actually recycle the shredded paper.

On an annual basis, businesses and institutions must report to the Township the amount of material, which they recycle. Attached is a copy of the Annual Recycling Report Form. To fulfill the requirements of the report, a copy of the contract with your transporter or weigh tickets from the facility to which the materials were delivered must be included with the form. The report must be received by the Township no later than (Month) _____ (Day) _____200_.

The following materials must be separated for recycling:

Clear and colored glass containers
Aluminum, steel and bi-metallic cans
Plastic bottles and jugs
Cardboard
Mixed office paper
Newspaper
Magazines

The following materials must be separated for mulch and/or composting:
Leaf waste (including leaves, brush, and trimmings).

Millcreek Township thanks those businesses who actively recycle and fulfill their reporting obligations. Your efforts assist the Township in meeting the mandates of the Pennsylvania Department of Environmental Protection.

Please note that commercial establishments that do not comply with Ordinance #2006-11 can be fined not less than $300 and not more than $600 per day, for certain provisions. The Township reserves the right periodically to inspect commercial establishments and the contents of waste/recycling containers to confirm compliance with the solid waste and recycling ordinance.

Should you have any questions regarding recycling in Millcreek Township or reporting procedures, please feel free to contact me at 814-833-1111, ext. 317.
Sincerely,

Christine Walter
Recycling Coordinator

Nestor Resources, Inc.

Appendix C: Sample Commercial Recycling Report

ANNUAL COMMERCIAL RECYCLING REPORT

For the period January 1, 20 _ _ to December 31, 20_ _ (Due: No later than March 1, 20_ _)

NAME OF ESTABLISHMENT: _____

ADDRESS: _____ **CITY:** _____ **ZIP:** _____

EMAIL: _____ **TELEPHONE:** _____ **FAX:** _____

SECTION A: How does your establishment handle recyclable materials? ☐ Source-separated (each material is sorted)

☐ Commingled (all paper in one container/all bottles and cans in another) ☐ Single Stream (paper, bottles, cans together)

How are your recyclable materials collected?

A. ☐ Collected by recycling facility or broker (name):

B. ☐ Collected by private hauler (name):

C. ☐ Collected by confidential document destruction company (name):

D. ☐ Establishment delivers materials to drop-off site (location):

STOP. If you checked boxes A – D, actual weights will be reported to Millcreek Township by your service provider or drop-off facility. Attach a copy of your collection/transport contract to verify service. Do not contact your transporter, broker or document destruction company for weights. PROCEED to Section B.

E. ☐ Establishment delivers materials to recycling facility (name):

F. ☐ Other (please specify):

STOP. If you checked boxes E-F Adequate documentation must be attached to this report to verify weights. This may include receipts, bills of lading or weight tickets.

SECTION B:

1. CHECK the box in front of each post-consumer* material that your establishment recycled.
2. If you use a commingled or single stream collection system, also check the boxes beside each material in the mix.
3. If your establishment marketed your own recyclables or delivered them to a recycling facility, enter the weight in tons.
4. If you used a transporter, broker, or document destruction company do not enter weights

Material Type		Weight
☐ **Commingled:** (Glass, Metal, Plastic collected together/Paper separate)	[XXX]	_____
☐ **Single Stream:** (Glass, Metal, Plastic , Paper collected together)	[SS1]	_____
Paper:		
☐ Paper: Corrugated Cardboard	[C01]	_____
☐ Paper: Magazines & Catalogs	[PA1]	_____
☐ Paper: Newspaper	[PA2]	_____
☐ Paper: Office Paper (all grades)	[PA4]	_____
☐ Paper: Phone Books	[PA6]	_____
☐ Paper: Mixed/Other (junk mail, paper bags, etc)	[PA3]	_____
Glass Bottles and Jars:		
☐ Glass: Clear	[GL1]	_____
☐ Glass: Green	[GL3]	_____
☐ Glass: Brown	[GL4]	_____
☐ Glass: Mixed	[GL2]	_____
☐ Glass: Other	[GL6]	_____

Material Type		Weight
Metal Cans and Bottles:		
☐ Steel & Tin Cans	[F02]	_____
☐ Aluminum Cans	[AA1]	_____
☐ Mixed Cans	[MX2]	_____
Plastics:		
☐ Plastic: PET	[PL1]	_____
☐ Plastic: HDPE	[PL2]	_____
☐ Plastic: PVC	[PL3]	_____
☐ Plastic: LDPE	[PL4]	_____
☐ Plastic: PP	[PL5]	_____
☐ Plastic: PS	[PL6]	_____
☐ Plastic: Mixed	[PL7]	_____
☐ Plastic: Film	[PL8]	_____
☐ Plastic: Other	[PL9]	_____
Organics:		
☐ Yard and Leaf Waste	[YO3]	_____
☐ Wood Waste	[WW1]	_____

*Report only post-consumer materials on this form. **Post-consumer** materials have been used as a consumer item. **Pre-consumer materials** do not reach the consumer, but remain in manufacturing or printing factories, such as industrial scraps, trimmings, print overruns, over-issues of newspapers and publications and obsolete inventories and should **NOT** be included on this report.

Page 1 of 2

ANNUAL COMMERCIAL RECYCLING REPORT

For the period January 1, 20 _ _ to December 31, 20_ _ (Due: No later than March 1, 20_ _)

5. CHECK the box in front of each post-consumer material recycled at your establishment.
6. If you market the recyclables yourself, enter the weight (in tons) of material recycled. No verification is needed for weights reported on this page (page 2).

Other Materials Recycled	Code	Weight (tons)
☐ Antifreeze	AA2	
☐ Aluminum Scrap	O02	
☐ Auto Parts: Catalytic Converters, Radiators	V01	
☐ Battery: Lead Acid	B01	
☐ Battery: Nickel Cadmium	B02	
☐ Brass	N03	
☐ Circuit Boards	CB1	
☐ Clothing/Textiles	M03	
☐ C & D: Asphalt, Block, Concrete, Wood, Pallets	M02	
☐ Consumer Electronics	CRT	
☐ Copper	N02	
☐ Drum: Fiber	DR3	
☐ Drum: Plastic	DR1	
☐ Drum: Steel	DR2	
☐ Ferrous	F01	
☐ Fluorescent Tubes	FL1	
☐ Food Waste	FW1	
☐ Furniture & Furnishings	M04	
☐ Glass: Plate	GL5	
☐ Household Hazardous Waste	HHW	
☐ Lead	N04	
☐ Mattresses	MT1	
☐ Mixed Metals	MM1	
☐ Nickel	N10	
☐ Non-Ferrous Metals	N01	
☐ Oil Filters	OL3	
☐ Rubber Tires	M01	
☐ Stainless Steel	N05	
☐ Used Oil	OL2	
☐ White Goods	F03	
☐ Wire/Cable	W01	
☐ Miscellaneous/Other Consumer Items	MIS	
Other, Please list below:		

Conversion Chart

Antifreeze:	7.2 lbs per gallon
Battery - Lead Acid:	Car = 17.8 lbs Truck = 48.7 lbs Motorcycle = 8.7 lbs
Rubber Tires:	Car = 21 lbs Truck = 70 lbs
Used Oil:	7.2 lbs per gallon
Oil Filters:	1.2 lbs each
Glass - Whole Bottle:	1 ton = 2 yds^3
Newsprint - Loose:	1 ton = 3 yds^3
Corrugated Cardboard:	2.5' x 4' x 5' bale = 1100 lbs
Plastic Soda Bottles Whole, Loose:	30 lbs = 1 yd^3
Plastic Film:	2.5' x 4' x 5' bale = 1500 lbs
Solid & Liquid Fats:	55 gallon drum = 412 lbs
White Goods	
Freezers:	1 ≈ 250 lbs
Refrigerators:	1 ≈ 250 lbs
Other Appliances:	1 ≈ 150 lbs
Yard Waste	
Leaves:	4 yd^3 = 1ton
Grass Clippings:	2 yd^3 = 1 ton
Wood Chips:	1 yd^3 = 500 lbs

THIS REPORT IS DUE NO LATER THAN MARCH 1st.

Your accurate and timely reporting enables Millcreek Township, Erie County and the State to determine an accurate recycling rate and showcase the importance and viability of the recycling industry.

I certify, to the best of my knowledge, that the information on this form is complete and accurate. I further authorize my transporter, broker or document destruction company to provide recycling tonnage reports on my behalf. I authorize Millcreek Township to aggregate this report for DEP reporting and grant purposes.

Contact person _____ Title _____

Signature _____ Date _____

Page 2 of 2

Appendix D: Sample Transporter Notification

Name
Business
Street Address
City, PA Zip

Dear (Name of Transporter/Document Destruction Company):

All businesses, offices, institutions, and multifamily residential complexes located in Millcreek Township must ensure that certain materials are recycled at their establishments. Pennsylvania's Act 101 and Millcreek Township's Ordinance 2006-11 both mandate commercial and residential establishments to separate specific items from their trash to be recycled, or if appropriate composted. Either establishments must self-haul the material or they must contract with a transporter to collect and deliver this material to a recycling or composting/mulching facility. Use of a document destruction company, in lieu of a recycling transporter, fulfills this requirement provided the company can demonstrate that the material is recycled.

On an annual basis, transporters and document destruction companies must register with and report to the Township the amount of material, which they collected and recycled from their customers. Additionally, transporters and document destruction companies must supply customer lists to verify service. Attached is a copy of the Registration and the Annual Recycling Report Form. To fulfill the requirements of the report, a copy of the weigh tickets or certification from the facility to which the materials were delivered must be included with the form. The report must be received by the Township no later than (Month) _____ (Day) _____200_.

The following materials must be separated for recycling:

Clear and colored glass containers	**Mixed office paper**
Aluminum, steel and bi-metallic cans	**Newspaper**
Plastic bottles and jugs	**Magazines**
Cardboard	

The following materials must be separated for mulch and/or composting:
Leaf waste (including leaves, brush, and trimmings).

Millcreek Township thanks those transporters who actively provide recycling opportunities to their customers and fulfill their registration and reporting obligations. Your efforts assist the Township in meeting the mandates of the Pennsylvania Department of Environmental Protection.

Please note that transporters and document destruction companies that do not comply with Ordinance #2006-11 can be fined not less than $300 and not more than $600 per day, for certain provisions. The Township reserves the right periodically to inspect commercial and multi-family residential establishments and the contents of waste/recycling containers to confirm compliance with the solid waste and recycling ordinance. Should you have any questions regarding recycling in Millcreek Township or reporting procedures, please feel free to contact me at 814-833-1111, ext. 317.
Sincerely,
Christine Walter
Recycling Coordinator

Nestor Resources, Inc.

Appendix E: Sample Transporter's Report

ANNUAL TRANSPORTER RECYCLING REPORT

For the period January 1, 20__ to December 31, 20__ (Due: No later than March 1, 20__)

COLLECTOR NAME: _____

ADDRESS: _____ **CITY:** _____ **ZIP:** _____

EMAIL: _____ **TELEPHONE:** _____ **FAX:** _____

1. CHECK the box in front of each post-consumer*** material that you collected for recycling from Millcreek Township.
2. ENTER the weight (in tons) of material collected and delivered for recycling in the correct column.

Material Type		Residential Tons **	Commercial/ Institutional Tons	Drop-off Tons	Name of Processing Facility or Market
*Commingled:	[XXX]				
*Single Stream:	[SS1]				
*Note: If you use a commingled or single stream collection system, check the boxes below for each material in the mix.					
Paper:					
☐ Paper: Corrugated Cardboard	[C01]				
☐ Paper: Magazines & Catalogs	[PA1]				
☐ Paper: Newspaper	[PA2]				
☐ Paper: Office Paper (all grades)	[PA4]				
☐ Paper: Phone Books	[PA6]				
☐ Paper: Mixed/Other	[PA3]				
(junk mail, paper bags, etc), *specify mixed/other content:* _____					
Glass Bottles and Jars:					
☐ Glass: Clear	[GL1]				
☐ Glass: Green	[GL3]				
☐ Glass: Brown	[GL4]				
☐ Glass: Mixed	[GL2]				
☐ Glass: Other	[GL6]				
Metal Cans and Bottles:					
☐ Steel & Tin Cans	[F02]				
☐ Aluminum Cans	[AA1]				
☐ Mixed Cans	[MX2]				
Plastics:					
☐ Plastic: PET	[PL1]				
☐ Plastic: HDPE	[PL2]				
☐ Plastic: PVC	[PL3]				
☐ Plastic: LDPE	[PL4]				
☐ Plastic: PP	[PL5]				
☐ Plastic: PS	[PL6]				
☐ Plastic: Mixed	[PL7]				
☐ Plastic: Film	[PL8]				
☐ Plastic: Other	[PL9]				
Organics:					
☐ Yard and Leaf Waste	[Y03]				
☐ Wood Waste	[WW1]				

*** Note: Condominiums, apartment complexes and townhouses are reported as residential, NOT commercial.*

***Report only post-consumer materials on this form**. That is, material that has been used as a consumer item but has been diverted from solid waste for recycling purposes. **Pre-consumer materials** do not reach the consumer, but remain in manufacturing or printing factories, such as industrial scraps, trimmings, cuttings, print overruns, over-issues of newspapers and publications and obsolete inventories and should **NOT** be included on this report.

Page 1 of 2

ANNUAL TRANSPORTER RECYCLING REPORT

For the period January 1, 20 _ _ to December 31, 20_ _ (Due: No later than March 1, 20_ _)
CHECK the box in front of each post-consumer material that you collected for recycling from the municipality on page 1.
ENTER the weight (in tons) of material recycled in the correct column. Subtract processing residue!

Other Materials Recycled	Code	Residential Tons **	Commercial/ Institutional Tons	Drop-off Tons
☐ Antifreeze	AA2			
☐ Aluminum Scrap	O02			
☐ Auto Parts: Catalytic Converters, Radiators	V01			
☐ Battery: Lead Acid	B01			
☐ Battery: Nickel Cadmium	B02			
☐ Brass	N03			
☐ Circuit Boards	CB1			
☐ Clothing/Textiles	M03			
☐ C & D: Asphalt, Block, Concrete, Wood, Pallets	M02			
☐ Consumer Electronics	CRT			
☐ Copper	N02			
☐ Drum: Fiber	DR3			
☐ Drum: Plastic	DR1			
☐ Drum: Steel	DR2			
☐ Ferrous	F01			
☐ Fluorescent Tubes	FL1			
☐ Food Waste	FW1			
☐ Furniture & Furnishings	M04			
☐ Glass: Plate	GL5			
☐ Household Hazardous Waste	HHW			
☐ Lead	N04			
☐ Mattresses	MT1			
☐ Mixed Metals	MM1			
☐ Nickel	N10			
☐ Non-Ferrous Metals	N01			
☐ Oil Filters	OL3			
☐ Rubber Tires	M01			
☐ Stainless Steel	N05			
☐ Used Oil	OL2			
☐ White Goods	F03			
☐ Wire/Cable	W01			
☐ Miscellaneous/Other Consumer Items	MIS			
Other, Please list below:				

Conversion Chart

Antifreeze: 7.2 lbs per gallon
Battery - Lead Acid: Car = 17.8 lbs
Truck = 48.7 lbs
Motorcycle = 8.7 lbs
Rubber Tires: Car = 21 lbs
Truck = 70 lbs
Used Oil: 7.2 lbs per gallon
Oil Filters: 1.2 lbs each
Glass - Whole Bottle:
Newsprint - Loose: 1 ton = 3 yds^3
Corrugated Cardboard:
2.5' x 4' x 5' bale = 1100 lbs
Plastic Soda Bottles
Whole, Loose: 30 lbs = 1 yd^3
Plastic Film: 2.5' x 4' x 5' bale = 1500 lbs
Solid & Liquid Fats:
55 gallon drum = 412 lbs
White Goods
Freezers: 1 ≈ 250 lbs
Refrigerators: 1 ≈ 250 lbs
Other Appliances: 1 ≈ 150 lbs
Yard Waste
Leaves: 4 yd^3 = 1ton
Grass Clippings: 2 yd^3 = 1 ton

THIS REPORT IS DUE NO LATER THAN MARCH 1st

Your accurate and timely reporting enables Millcreek Township, Erie County and the State to determine an accurate recycling rate and showcase the importance and viability of the recycling industry.

I certify, to the best of my knowledge, that the information on this form is complete and accurate. I further authorize the Municipality to aggregate this report for DEP reporting and grant purposes.

Contact person _____ Title _____

Signature _____ Date _____

Page 2 of 2

Appendix F: Sample Processor/Broker Letter

Name
Business
Street Address
City, PA Zip

Dear (Name of Processor/Broker):

Pennsylvania's Act 101 and Millcreek Township's Ordinance 2006-11 both mandate commercial and residential establishments to separate specific items from their trash to be recycled, or if appropriate composted. Either establishments must self-haul the material or they must contract with a transporter to collect and deliver this material to a recycling or composting/mulching facility. Use of a document destruction company, in lieu of a recycling transporter, fulfills this requirement provided the company can demonstrate that the material is recycled.

Transporters and commercial establishments have reported that your operation receives material from Millcreek Township. The Pennsylvania Department of Environmental Protection mandates the Township to verify this data to comply with its performance criteria. Therefore, the Township requires Processor's to submit a report each year. Attached is a copy of the Processor's Annual Recycling Report Form. To fulfill the requirements of the report, the processor/broker must certify that materials delivered for processing were marketed for recycling or reuse. Processors/brokers must also submit a customer list of transporters and businesses from which they receive material. Documentation of marketing activity can be requested in an audit of the report. The report must be received by the Township no later than (Month) _____ (Day) _____200_.

The following materials must be separated for recycling:

Clear and colored glass containers
Aluminum, steel and bi-metallic cans
Plastic bottles and jugs
Cardboard
Mixed office paper
Newspaper
Magazines

The following materials must be separated for mulch and/or composting:

Leaf waste (including leaves, brush, and trimmings).

Millcreek Township thanks those processors who actively fulfill their reporting obligations. Your efforts assist the Township in meeting the mandates of the Pennsylvania Department of Environmental Protection.

The Township reserves the right periodically to inspect processors receiving recyclable material from the municipality to ensure compliance with the solid waste and recycling ordinance.

Should you have any questions regarding recycling in Millcreek Township or reporting procedures, please feel free to contact me at 814-833-1111, ext. 317.

Sincerely,

Christine Walter
Recycling Coordinator

Nestor Resources, Inc.

Appendix G: SAMPLE PROCESSOR'S REPORT

ANNUAL PROCESSOR RECYCLING REPORT

For the period January 1, 20 to December 31, 20 (Due: No later than March 1, 20)

PROCESSOR NAME: _____

ADDRESS: _____ CITY: _____ ZIP: _____

EMAIL: _____ TELEPHONE: _____ FAX: _____

1. CHECK the box in front of each post-consumer*** material that you processed for recycling from Millcreek Township.
2. ENTER the weight (in tons) of INBOUND material in the correct column.
3. ENTER the % of residue resulting after processing for each category of material checked.

Material Type		Residential Tons **	Commercial/ Institutional Tons	Drop-off Tons	Percent Residue Post Sorting/Processing
*Commingled:	[XXX]				
*Single Stream:	[SS1]				

*Note: If you use a commingled or single stream processing system, also check the boxes below for each material in the mix. However, do not report the tons for the individual materials included in the single stream or commingled mix.

Paper:					
☐ Paper: Corrugated Cardboard	[C01]				
☐ Paper: Magazines & Catalogs	[PA1]				
☐ Paper: Newspaper	[PA2]				
☐ Paper: Office Paper (all grades)	[PA4]				
☐ Paper: Phone Books	[PA6]				
☐ Paper: Mixed/Other	[PA3]				
(junk mail, paper bags, etc), *specify mixed/other content:* _____					
Glass Bottles and Jars:					
☐ Glass: Clear	[GL1]				
☐ Glass: Green	[GL3]				
☐ Glass: Brown	[GL4]				
☐ Glass: Mixed	[GL2]				
☐ Glass: Other	[GL6]				
Metal Cans and Bottles:					
☐ Steel & Tin Cans	[F02]				
☐ Aluminum Cans	[AA1]				
☐ Mixed Cans	[MX2]				
Plastics:					
☐ Plastic: PET	[PL1]				
☐ Plastic: HDPE	[PL2]				
☐ Plastic: PVC	[PL3]				
☐ Plastic: LDPE	[PL4]				
☐ Plastic: PP	[PL5]				
☐ Plastic: PS	[PL6]				
☐ Plastic: Mixed	[PL7]				
☐ Plastic: Film	[PL8]				
☐ Plastic: Other	[PL9]				
Organics:					
☐ Yard and Leaf Waste	[Y03]				
☐ Wood Waste	[WW1]				

** *Note: Condominiums, apartment complexes and townhouses are reported as residential, NOT commercial.*

***Report only post-consumer materials on this form. That is, material that has been used as a consumer item but has been diverted from solid waste for recycling purposes. **Pre-consumer materials** do not reach the consumer, but remain in manufacturing or printing factories, such as industrial scraps, trimmings, cuttings, print overruns, over-issues of newspapers and publications and obsolete inventories and should NOT be included on this report.

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ANNUAL PROCESSOR RECYCLING REPORT

For the period January 1, 20 _ _ to December 31, 20_ _ (Due: No later than March 1, 20_ _)

CHECK the box in front of each post-consumer material that you collected for recycling from the municipality on page 1.

ENTER the weight (in tons) of material recycled in the correct column. Subtract processing residue!

Other Materials Recycled	Code	Residential Tons **	Commercial/ Institutional Tons	Drop-off Tons
☐ Antifreeze	AA2			
☐ Aluminum Scrap	O02			
☐ Auto Parts: Catalytic Converters, Radiators	V01			
☐ Battery: Lead Acid	B01			
☐ Battery: Nickel Cadmium	B02			
☐ Brass	N03			
☐ Circuit Boards	CB1			
☐ Clothing/Textiles	M03			
☐ C & D: Asphalt, Block, Concrete, Wood, Pallets	M02			
☐ Consumer Electronics	CRT			
☐ Copper	N02			
☐ Drum: Fiber	DR3			
☐ Drum: Plastic	DR1			
☐ Drum: Steel	DR2			
☐ Ferrous	F01			
☐ Fluorescent Tubes	FL1			
☐ Food Waste	FW1			
☐ Furniture & Furnishings	M04			
☐ Glass: Plate	GL5			
☐ Household Hazardous Waste	HHW			
☐ Lead	N04			
☐ Mattresses	MT1			
☐ Mixed Metals	MM1			
☐ Nickel	N10			
☐ Non-Ferrous Metals	N01			
☐ Oil Filters	OL3			
☐ Rubber Tires	M01			
☐ Stainless Steel	N05			
☐ Used Oil	OL2			
☐ White Goods	F03			
☐ Wire/Cable	W01			
☐ Miscellaneous/Other Consumer Items	MIS			
Other, Please list below:				

Conversion Chart

Antifreeze: 7.2 lbs per gallon
Battery - Lead Acid: Car = 17.8 lbs
Truck = 48.7 lbs
Motorcycle = 8.7 lbs
Rubber Tires: Car = 21 lbs
Truck = 70 lbs
Used Oil: 7.2 lbs per gallon
Oil Filters: 1.2 lbs each
Glass - Whole Bottle:
Newsprint - Loose: 1 ton = 3 yds^3
Corrugated Cardboard:
2.5' x 4' x 5' bale = 1100 lbs
Plastic Soda Bottles
Whole, Loose: 30 lbs = 1 yd^3
Plastic Film: 2.5' x 4' x 5' bale = 1500 lbs
Solid & Liquid Fats:
55 gallon drum = 412 lbs
White Goods
Freezers: 1 ≈ 250 lbs
Refrigerators: 1 ≈ 250 lbs
Other Appliances: 1 ≈ 150 lbs
Yard Waste
Leaves: 4 yd^3 = 1ton
Grass Clippings: 2 yd^3 = 1 ton

THIS REPORT IS DUE NO LATER THAN MARCH 1st.

Your accurate and timely reporting enables Millcreek Township, Erie County and the State to determine an accurate recycling rate and showcase the importance and viability of the recycling industry.

I certify, to the best of my knowledge, that the information on this form is complete and accurate. I further authorize the Municipality to aggregate this report for DEP reporting and grant purposes.

Contact person _____ Title _____

Signature _____ Date _____

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