

South Londonderry Township



Leaf and Yard Waste Collection

Environmental Resources Associates

**706 MONROE STREET
STROUDSBURG, PENNSYLVANIA 18360**

CONSULTANTS IN ENVIRONMENTAL RESOURCE MANAGEMENT

ERA



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1.0 Executive Summary

South Londonderry Township (Township) is located in the southwest corner of Lebanon County. The Township has a population of 5,458 people (2000 census). However, with a population density of approximately 227 persons per square mile (2000 census) it does not meet the Act 101 requirement of 300 persons per square mile for designation as a mandated municipality.

The Township has a mandated curbside recycling program in place using services of private waste haulers. Private haulers provide curbside collection services for municipal waste and recyclables within the municipality. The recycling and waste collection services are provided on a subscription basis (i.e. via a contract between the resident and the private hauler). The existing recycling program does not address leaf and yard waste collection and no structured program exists to meet this need.

The Township desires to assess the potential options for providing curbside/drop-off collection for leaf and yard waste services to its residents. The Township does not wish to develop and/or operate a compost facility and leaf and yard waste collected by its selected program is planned to be delivered to a permitted compost site.

The Township has requested technical assistance to identify and assess alternatives/options for developing a collection and management program for its leaf and yard waste. The pros and cons (operational and financial) of the identified alternatives/options were to be assessed for the Township's consideration, emphasis to be placed on economic feasibility/practicality.

The Township, looking to the future, also requested to be informed of the regulatory requirements governing leaf and yard waste collection for mandated municipalities.

ERA identified the primary alternatives/options for developing a curbside leaf and yard waste collection program, i.e. municipal collection, individual contract/private subscription and municipal contracted collection. A brief comparative analysis of the options identified was prepared for consideration of the Township. ERA also identified drop-off options for leaf and yard waste and permitted compost facilities within a reasonable haul distance of the Township.

To achieve the Township's primary goal "to establish a leaf and yard waste collection program that requires minimal effort and costs to develop and implement" and assist it in eventually establishing an Act 101 compliant mandatory leaf and yard waste program. ERA recommends that the Township consider:

⇒ Initiating a reservation based leaf and yard waste collection program.

- ⇒ Conducting two reservation based seasonal collections, one in the fall and one in the spring. Two collections will provide the Township quantitative data regarding seasonal variations (amount of material requiring collection and demand for collection services). Participation in a multi-municipal program will enhance the Township's prospects of receiving Section 902 funding.
- ⇒ Developing a drop-off leaf and yard waste program to augment reservation collections. A drop-off program will save on collection costs, provide higher diversion rates and supply additional quantitative data.
- ⇒ Pursuing a cooperative agreement with South Londonderry Township to provide leaf and yard waste processing services.
- ⇒ Developing specific education and outreach materials for leaf and yard waste collection.
- ⇒ Applying for an Act 101 Section 902 Grant to fund eligible program development, implementation and equipment costs.
- ⇒ Soliciting public input to provide insight regarding resident's needs and wants relative to collection services, willingness to participate in a collection program and willingness to pay for services.
- ⇒ Revise its burning ordinance to prohibit burning of recyclables and leaf and yard waste. This effort will increase participation in the leaf and yard waste program and also enhance the Township's prospects of receiving Section 902 funding.

2.0 Current Situation

The Township is experiencing growth but maintains its rural character and agricultural remains as a primary industry. As noted above, the Township's estimated 2000 census population was 5,458 persons with population density of 227 persons per square mile. The Township's population density is less than the Act 101 threshold for a mandated municipality. Although the Township is not a mandated municipality it realizes the potential benefits that an economically feasible leaf and yard waste collection program could provide and that its continued growth will eventually result in it being a mandated municipality under Act 101. The Township has decided to take a proactive approach to determine a course of action that can practically and economically provide for the collection and management of leaf and yard waste in the short term and will eventually meet the requirements of Act 101.

As previously noted no structured leaf and yard waste program is in place however; the Township does have a mandatory curbside recycling program using

services provided by private waste haulers. Private haulers provide curbside collection services for municipal waste and recyclables within the municipality. Services are provided on a private subscription basis and vary depending on the selected private hauler.

Considering its population growth to date and projected future growth, the Township has decided to take a proactive approach to determine a course of action that will practically and economically provide for the collection and management of leaf and yard waste to meet its short and long term needs. Initially the Township's intent is to establish an economical leaf and yard waste collection program that will provide its residents an outlet for proper management of these wastes and assist it in gaining experience and data. The experience, data and public input gained from this initial effort will allow the Township to make the informed decisions required to determine a future course of action that will best suit its needs and meet the requirements of Act 101 for mandated municipalities.

The Township has limited manpower, equipment and financial resources and therefore its primary goal is to establish, to the extent practical, a leaf and yard waste collection program that requires minimal effort and costs to develop and implement.

3.0 Leaf and Yard Waste Collection Requirements

Realizing that in the near future the Township will be designated as a mandated municipality it has requested that the requirements and funding opportunities for development and implementation of a leaf and yard waste collection program be identified.

Presented below for the Township's information are the pertinent requirements for the development and implementation of a mandatory leaf and yard waste collection program. Also presented below is Section 902, of Act 101 Grants for Development and Implementation of Municipal Recycling Programs and DEP Grant Application Guidelines Regarding Proper Management of Recyclables, including Leaf Waste (Guidelines). The section of the Guidelines relating to non-mandated municipalities has been included to provide the Township consideration should it opt not to establish a mandatory program for leaf and yard waste collection but still wish to apply for Section 902 Grant assistance.

3.1 PENNSYLVANIA'S ACT 101 WASTE COLLECTION REQUIREMENTS

Act 101, Section 1501 (c) (1) (ii) and (iii), requires persons in mandated municipalities to separate leaf waste from other municipal waste generated at residential, commercial, municipal and institutional establishments. "Leaf waste" is defined in the Act and its regulations as "Leaves, garden residues, shrubbery and tree trimmings, and similar material, but not including grass clippings." Source separated leaf waste, as with other recyclable material, is to be collected at least once per month as set forth in Act 101 Section 1501(c) (2) and (3) and processed at PA. DEP-approved composting facilities.

Act 101 mandated municipalities with programs that collect leaves only in the fall are not in compliance with the Act. Mandated municipalities desiring to establish leaf waste collection programs in compliance with Act 101 must, as a minimum:

1. Require by ordinance that leaf waste consisting of leaves, garden residues, shrubbery and tree trimmings, and other similar material are targeted for collection from residences and commercial, municipal and institutional establishments: and
2. Establish a scheduled day, at least once per month, when leaf waste is collected from residences; or
3. Establish a scheduled day, not less than twice per year and preferably in the spring and fall, when leaf waste is collected from residences, and facilitate a drop-off location or other collection alternative approved by PA DEP that allows persons in the municipality to deposit leaf waste for the purposes of composting or mulching at least once per month. The leaf waste drop-off location may be located in a neighboring municipality or at a private sector establishment provided that an agreement is in place to utilize that location and the municipality keeps residents and commercial, municipal and institutional establishments informed of the option at least once every six months.
4. Ensure that commercial, institutional and municipal establishments generating leaf waste have collection service.
5. Municipalities are encouraged to manage source separated Christmas Trees as leaf waste for processing at a PA DEP-approved composting facilities.

3.2 Section 902. Grants for Development and Implementation of Municipal Recycling Programs

(a) Authorization-The department shall award grants for development and implementation of municipal recycling programs, upon application from any municipality, which meets the requirements of this Section. The grant provided by this Section may be used to identify markets, develop a public education campaign, purchase collection and storage equipment and do other things necessary to establish a municipal recycling program. The grant may be used to purchase collection equipment, only to the extent needed for collection of recyclable materials, and mechanical processing equipment, only to the extent that such equipment is not available to the program in the private sector.

The application shall explain the structure and operation of the program and shall contain such other information, as the department deems necessary to carry out the provisions and purposes of this act. The grant under this Section to a municipality required by Section 1501 to implement a recycling program shall be

90% of the approved cost of establishing a municipal recycling program. The grant under this Section to a municipality not required by Section 1501 to implement a recycling program shall be 90% of the approved cost of establishing a municipal recycling program.

3.3 Section 902 Recycling Grant Application Guidelines Regarding Proper Management of Recyclables, Including Leaf Waste

Assuring compliance with the terms and conditions of Act 101, the rules and regulations promulgated hereunder, other pertinent statutes and the Department's policies and grant guidance are key components of the Department's grant review process. The Act requires certain municipalities ("mandated municipalities") to recycle certain items and provide for the collection and composting of leaf waste. As such, any mandated municipality that allows the materials that are part of its municipal recycling program, including leaf waste, to be managed in a manner other than recycling or composting is in violation of Act 101. The Act also establishes the grant requirements for those communities not mandated to recycle. However, Act 175 states that the Department "shall not prohibit the award of any grant to a county or municipality that has adopted an ordinance allowing the limited burning of yard waste." Since grant funding is awarded on a competitive basis, the following guidelines have been developed to assure that a common understanding exists between the Department and municipalities regarding Section 902 grant program requirements.

Mandated municipality requesting a Section 902 grant:

1. DEP Regional Planning and Recycling Coordinators will review recycling ordinances and regulations submitted with the grant application to ensure compliance with Act 101, especially Section 1501 (c) (1-5), including commercial, municipal and institutional facilities and community events.
2. It will be assumed that a municipality that does not have an ordinance or regulation that addresses burning is not authorizing the burning of the materials that are part of its recycling program-unless the Department has evidence to the contrary. This evidence could include complaints or other information gathered by the Department.
3. The grant application should confirm that the municipality does not have an ordinance, regulation or other mechanism, authorizing the burning of the materials listed in Section 1501 (c)(1)(i) and (iii) (except for leaf waste) that are part of its recycling program and that the municipality will enforce its recycling ordinances and regulations. Applications from municipalities that have adopted an ordinance allowing for the limited burning of yard waste will be evaluated on a case-by-case basis to ensure that, to the greatest extent practicable, sufficient effort has been made to comply with Sections 1501 (c) (1)(ii) and (iii) regarding the

separation and composting of leaf waste.

4. The regional office should not recommend a grant until the municipality has adopted any necessary modifications to its ordinances or regulations in relation to these guidelines.

Non-mandated municipality requesting a Section 902 grant:

Programs required by the municipality:

1. DEP Regional Planning and Recycling Coordinators will review recycling ordinances and other mechanisms submitted with the grant application to ensure compliance with Act 101, especially Section 902(b)(3).
2. The recycling ordinance or other mechanism need only be applicable to that part(s) of the municipality that is being served by the recycling program.
3. It will be assumed that a municipality that does not have an ordinance or other mechanism that addresses burning is not authorizing the burning of the materials that are part of its recycling program-unless the Department has evidence to the contrary. This evidence could include complaints or other information gathered by the Department.
4. The grant application should confirm that the municipality does not have an ordinance, regulation or other mechanism authorizing the burning of the materials listed in Section 1501(c) (i) and (iii) (except for leaf waste) that are part of its recycling program and that the municipality will enforce its recycling ordinances and regulations. Applications from municipalities that have adopted an ordinance allowing for the limited burning of yard waste will be evaluated on a case-by-case basis to ensure that, to the greatest extent practicable, sufficient effort has been made to operate the program according to the intent of Sections 1501 (c) (1)(ii) and (iii) regarding the separation and composting of leaf waste.
5. The regional office should not recommend a grant until the municipality has adopted any necessary modifications to its ordinances or regulations in relation to these guidelines.

Voluntary Participation Programs:

1. DEP will accept applications from municipalities that have voluntary programs, but funding for a program that allows any material that is part of its recycling program to be burned is unlikely except where the limited burning of yard waste is authorized by an ordinance. Applications from municipalities that have adopted an ordinance allowing for the limited burning of yard waste will be evaluated on a case-by-case basis to ensure that, to the greatest extent practicable, sufficient effort has been made to operate the program according to the extent practicable, sufficient effort has

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been made to operate a program according to the intent of Sections 1501(c) (1) (ii) and (iii) regarding the separation and composting of leaf waste.

2. It will be assumed that a municipality that does not have an ordinance or other mechanism that addresses burning is not authorizing the burning of the materials that are part of its recycling program-unless the Department has evidence to the contrary. This evidence could include complaints or other information gathered by the Department.
3. The regional office should not recommend a grant until the municipality has adopted any necessary modifications to its ordinances or regulations in relation to these guidelines.

4.0 Quantity of Materials

The amount of leaf and yard waste in a municipality's waste stream can vary greatly based on numerous factors. Generation rates for leaf and yard waste seem to be as unique as the various municipalities. There is limited information or data available on the amount of leaf and yard waste in the waste stream. Results of case studies that provide waste characterization data on municipalities and/or counties reflect differences in the types and amounts of leaf and yard waste generated some ranging in orders of magnitude. Some municipalities report that they generate more yard waste than leaf waste and visa versa.

Rural communities tend to generate less yard waste than suburban or urban communities. This is not to say that rural properties are not as well landscaped or well kept but rather that the material does not find its way into the waste stream. Back yard composting is often practiced in rural communities, garden residues are incorporated into the garden in the fall, pruning wastes and trimmings are often piled on the property for wildlife habitat improvement and hard wood trimmings are used for kindling and fuel.

Landfill sampling programs have been conducted in the Commonwealth to determine municipal waste characterization/composition. These studies are usually conducted on a countywide or regional basis and generally fail to take into consideration material currently being diverted from the waste stream by existing programs. They also do not usually address individual communities and inherently have a number of other variables that impact the use of the results in accurately estimating the amounts of leaf and yard waste generated in an individual municipality.

Providing an accurate projection of the amount of yard waste that is generated and/or would be potentially captured by a Township collection program is not possible. Based on the lack of actual data as to the amounts of leaf and yard waste generated or collected in the Township and the variables involved with projections, e.g. amount of material in waste stream, type of program (voluntary or mandatory) type of collection (curbside or drop-off), convenience factor, etc., the accuracy of any estimate would be at best questionable.

To gain leaf and yard waste generation/collection data for use in this analysis and for the Township's consideration and use, ERA contacted nearby municipalities operating leaf and yard waste collection programs. One municipality, North Londonderry Township (North Londonderry) was determined as best suited to provide meaningful comparable the data.

North Londonderry located adjacent to South Londonderry Township, is an Act 101 mandated municipality and provides its residents municipal collection and services for leaf and yard waste. North Londonderry has a relatively similar population, number of households and length of roadway, (6,771 persons) and number of households (3,200) and 38 miles of roadways.

Its program provides for curbside collection of leaves during the fall, mid October through the first week in December, and a spring collection during the first week of March. Yard waste is also collected and tree trimmings chipped curbside the first Monday of each month except during November and December, when no collections are provided. Leaf and yard wastes are delivered to its compost facility. Municipal employees operate North Londonderry leaf and yard waste program providing curbside collection and processing services. The compost facility also serves as a drop-off site.

Although North Londonderry leaf and yard waste compost facility currently only services its residents, it was designed as a multi-municipal compost site to provide for the future leaf and yard wastes processing needs of surrounding municipalities including South Londonderry Township. North Londonderry has indicated that it would be pleased to provide processing services to the Township on an at-cost basis.

North Londonderry reported that its leaf and yard waste program collects 266-tons of leaf waste and 126-tons of yard waste during 2006 or 78.57 pounds of leaf waste and 37.21 pounds of yard waste per person.

Table 1 below exhibits the total amount of leaf and yard waste collected in North Londonderry Township during 2006.

Table 1

North Londonderry Township 2006 Leaf & Yard Waste Collection

Population	Leaf/Yard Waste (Total Tons)	Leaf/Yard Waste (Lbs/person)
6,771	392	116

Based on a North Londonderry's per capita rate of 116-pounds per persons the
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Township estimated potential capture rate would be approximately 317-tons per year, based on the Township having a population of 5,458 persons.

The projections/estimates provided are intended for general planning purposes, actual amount of leaf and yard waste that could be anticipated to be captured by the Township with a curbside program (even for a similar mandatory curbside program) should be anticipated to be significantly less than 317-tons per year, particularly in the initial years of a program. The capture rate for leaf and yard waste of 392-tons for North Londonderry results from a mandatory program that has been in operation for several years and re-enforced by a comprehensive public education and information program encouraging public participation and support. The actual amount of material captured by the Township will be dependent on a number of factors including but not limited to: type of program (mandatory or voluntary), program convenience for residents (curbside or drop-off), frequency of collection and/or drop-off site accessibility, materials preparation, and public education/outreach efforts (encouraging and/or mandating support).

5.0 Materials Types and Preparation

Act 101 did not intend that municipalities provide services for the removal of tree trunks and large branches but rather normal seasonal trimmings and pruning generated from landscaping and gardening at residential properties.

The collection program for mandated municipalities must include the noted categories (“Leaf waste” is defined in Act and its regulations as “Leaves, garden residues, shrubbery and tree trimmings, and similar material, but not including grass clippings.”) limited only by a municipality’s ability to collect and provide for the processing. For example, garden trimmings might include trimmings from herbaceous plants but not fruit and/or vegetables. Leaf and yard waste compost facilities are not permitted to accept fruits, vegetables or similar organics under a general permit by rule for leaf and yard waste. Likewise shrubbery and tree trimmings must be restricted to a size and weight that can reasonably be handled by collection crews, the collection vehicle and the available processing equipment.

The type of material that can and will be collected by a leaf and yard waste program must clearly be defined. For example, shrubbery and tree trimmings not to exceed X inches in diameter and Y feet in length and garden residue consisting of hedge and brush trimmings and pruning are not to include fruits or vegetables, weeds, green plants or grass. Fruits, vegetables, weeds and green plants are not acceptable at compost facilities in that they have the potential to attract vermin and vectors and/or cause odor problems. A program must explicitly educate the public relative to the types of materials collected or inevitably unacceptable waste materials will be set out for collection.

Leaf and yard waste can be collected in loose form, e.g. piles at the curb or other designated area; placed in bags (plastic or Kraft paper) or in rigid containers. Yard waste can be bundled to a specific size and weight. If plastic bags are used (for leaves or yard wastes) the bags should be emptied by the collection crew.

To facilitate ease of handling, brush trimmings should be bundled with twine or cotton string. The bundles should not exceed three or four feet in length. Larger bundles would be extremely difficult to load. A maximum size of four feet is suggested. Forty to sixty pounds is a good range for maximum weight for bundles.

Tree trimmings accepted should be no larger in diameter than practical for ease of handling and processing capabilities. Lengths should also be specified for safety and ease of handling. It is suggested that trimmings also not exceed four feet in length and not greater than six inches in diameter. Tree trimmings can be stacked alongside leaves or other yard waste materials to be collected.

A program should collect specified types of material in sizes and amounts that can reasonably be accommodated by personnel and equipment.

6.0 Collection Options

Described below are options available to the Township for collection of leaf and yard waste.

6.1 Options for Curbside Collection of Leaf and Yard Waste

Few options are available for the curbside collection of leaf and yard waste. This is due in part to the limited types of collection equipment that can be used for the efficient collection of these materials.

Options for curbside collection are as follows:

- Municipal Collection
- Individual Contract/Subscription Collection
- Municipal Contracted Collection

A summary of the pros and cons (operational and financial) of the above noted alternatives/options are presented below for the Township's consideration.

Municipal Collection

Municipal operation of a leaf and yard waste curbside collection program requires an extensive financial commitment, initially for the purchase of specialized collection equipment and over term for equipment maintenance, labor and program administration costs.

The Township has acknowledged that it has limited financial resources, personnel and equipment and therefore a primary concern is economic feasibility/practicality. To provide the Township with a perspective of some of the costs associated with developing and operating a leaf and yard waste curbside collection program presented below are descriptions of various collection systems and related

equipment cost estimates and program operations costs estimates based on North Londonderry Township's collection program.

The majority of municipally operated curbside leaf collection programs use a vacuum collection system. The system generally consists of vacuum units that are either tow behind units that load into a leaf collection box (mounted on a dump truck) or a self-contained trailer mounted unit (towed by a truck). Costs for these vacuum systems range from approximately \$15,000 to \$35,000. These systems are labor intensive. Two to three men crews are typically used with these systems.

A third type of vacuum system is available that is totally self-contained (truck mounted) and requires only an operator. The operator drives the unit and collects the leaves via an articulating vacuum hose controlled by a joystick mounted in the truck's cab. These systems include compactors allowing loads of up to thirty cubic-yards. These self-contained truck mounted systems reduce manpower requirements and increase collection efficiency via compaction and load capacity and reduces the number of trips required to offload materials. Self-contained truck mounted systems are very expensive ranging from approximately \$125,000 to \$150,000 in price.

Specialized compactors, which auto loads rigid containers, are used for collection of leaves and yard waste. Automated compactors have the ability to load large, sixty to ninety gallon, capacity carts. The carts are equipped with wheels for the convenience of residents. Only a driver is required for collection. The driver controls a mechanical clamp mounted on the vehicle's side that secures the cart and tips the contents into the collection chamber of the truck's body, which is subsequently compacted. Again this one-man system reduces manpower requirements and increases collection efficiency via compaction and load capacity (up to thirty cubic-yards) and reduces the number of trips required to offload materials.

These systems are also expensive, ranging from approximately \$100,000 to \$150,000 and most require the purchase of specialized carts. The system is efficient particularly in densely populated areas where houses are in close proximity and containers are placed in relatively the same area (curbside) for collection.

Rear loading compactor trucks are often used by municipalities, generally those that also provide residential MSW collection services, for collection of leaves and yard waste. These programs generally require specific materials preparation. Leaves must be bagged and placed in thirty-gallon Kraft paper bags, biodegradable plastic bags or in rigid containers. Non- biodegradable plastic bags may be used but must be emptied into the collection vehicle or at the compost site. Shrubbery and trimmings must be restricted to a size and weight that can reasonably be handled by collection crews and the collection vehicle. This system is labor intensive, requiring a crew of two to three persons, however it increases

collection efficiency via compaction and load capacity (up to thirty cubic-yards) and reduces the number of trips required to offload materials.

Dump trucks, generally ten-ton, are also used for municipal collection of leaf and yard waste. Leaves must be bagged in thirty-gallon paper bags (Kraft leaf and yard waste bags) or placed in rigid containers. Plastic bags, if used, must be emptied into the collection vehicle or at the compost site. Shrubbery and trimmings must be bundled and restricted to a size and weight that can reasonably be handled by collection crews and the collection vehicle. This system of collection is very labor intensive and manually loading of leaf and yard waste on a dump truck is both difficult and strenuous. Costs of dump trucks have cost range of \$80,000 to \$100,000 depending on numerous variables and are not usually dedicated entirely for leaf and yard waste collection.

Due to the limited capacity of these vehicles, they do not provide for efficient collection and require numerous trips to offload materials at the compost site. This situation significantly decreases collection efficiency and increases collection cost.

A wood chipper is sometimes used at the point of collection to reduce volume of brush and tree trimmings. Wood chippers used for this service range in price from \$25,000 to \$35,000. Although this process is labor intensive it increases collection efficiency via volume reduction and reduces the number of trips required to offload.

As noted above, data provided by North Londonderry Township was used as a basis to provide quantity estimates for curbside collection of leaf and yard waste. North Londonderry Township collection costs estimates are being presented for the Township's consideration (current and future) due to its close proximity and relative similarities in population, number of households and miles of roadways.

North Londonderry's program provides for municipal curbside collection of leaves during the fall, mid October through the first week in December, and a spring collection during the first week of March. Yard waste is also collected and tree trimmings chipped curbside the first Monday of each month with the exceptions of November and December when no collections are provided. Leaf and yard wastes collected curbside are delivered to its compost facility. Municipal employees operate North Londonderry leaf and yard waste program providing curbside collection and processing services.

North Londonderry uses two tow-behind leaf vacuum systems with three man crews (driver and two collectors) and one self-contained truck mounted vacuum system (operated by one man) for leaf collection. Two chippers accomplish yard waste/wood chipping, each with a two-man crew (driver and helper, both participate in collection and chipping).

North Londonderry estimates the cost of curbside collection for leaves (fall and spring) is \$19,000. The estimated cost for curbside collection of yard waste and tree trimmings is \$10,500. These costs include equipment operation, maintenance, manpower and administration. Capitol costs for equipment are not included.

North Londonderry Township's collection costs are estimated at \$74.00 per ton. This cost includes delivery of materials to its composting facility, however it does not include materials processing and handling costs.

The cost for leaf and yard waste (tip fee) at the Greater Lebanon Compost Facility is \$30.00 per ton. North Londonderry has stated that it would entertain processing leaf and yard waste at its compost facility on an at cost basis. Even if the costs of processing at North Londonderry is equal to that of Greater Lebanon Compost Facility, North Londonderry facility is ten miles closer and would present a savings to the Township for labor and equipment costs.

The Township recognizes the many challenges associated with initiating a municipal curbside collection of leaf and yard waste collection program and indicated that at this time it is not interested in pursuing this option. Based on the Township's limited resources, personnel and equipment, and experience in the field, ERA agrees with its decision.

As an alternative to the above noted, the Township could provide curbside collection services for leaf and yard waste on an "on request" or "reservation" basis for collection from individual households. Collection services would be provided only during specified period(s) and only to those residents who specifically request them.

Details about the collection particulars, types of materials to be collected, required preparation, the collection period and the time frame for making reservations must be well defined and publicized, well in advance of the program.

A program co-coordinator is required to take and log the requests and schedule pickups, monitor participation, quantity of materials collected and program costs.

Reservations provide a municipality advance notice of the number of collections required. Equipped with the number of required pickups the municipality is able to calculate/estimate the number of days and crews required to complete the collection efforts. This type of program is often carried out as a pilot allows a municipality to gain experience with collection practices and provide valuable data and insight relative to quantities and types of materials generated.

A reservation collection program will require,

- ⇒ Manpower - collection crew(s) and a coordinator
- ⇒ A public education campaign - to inform and instruct residents regarding program particulars
- ⇒ Equipment – Use of existing equipment to collect and transport leaves and/or yard waste to a compost facility

⇒ Financial resources - to cover program cost (collection, transport, processing, coordination and education)

Reservation collection programs are normally conducted in the fall and/or in the spring.

To cover program costs a service fee can be charged (flat rate or quantity based) to residents requesting collection services.

Individual Contracts / Subscription Collection

Individual contracts or private subscription for curbside collection services is the system currently used by the Township for collection of MSW and recyclables. Municipal waste haulers are required under the Township's mandatory recycling program to provide recyclables collection services. Residents contract directly with the hauler of their choice for waste and recyclables collection services.

Although several analyses have shown that individual contracting is the most costly type of all collection service; it is still preferred in many areas. Predominately, collection services provided under individual contracts are by local haulers and/or a mix of larger firms and local haulers. Local residents often favor the service provided under individual contracts in that local haulers are apt to meet special needs or wants of the household e.g.: place of collection, types of materials collected or provision of special collection services.

The system of private subscription is not only costly but it is inefficient in that it requires duplication of efforts. Several trucks travel essentially the same routes each collecting only a portion of the households along the way. For mandatory programs enforcement is, at times, a challenge with this system and may require some enforcement actions to assure compliance with municipal ordinances governing collection and disposition of MSW and recyclables.

Municipalities initiating mandatory collection programs often favor this system for its ease of implementation and administration and the fact that there are few, if any, direct costs to the municipality. The residents using the services of a private hauler pay costs of collection.

This option appears suited to meeting the goal of the Township to establish a leaf and yard waste collection program that will require minimal effort and cost for development and implementation.

To implement this option the Township would revise its recycling ordinance to include provisions for establishment of a mandatory leaf and yard waste collection program including a requirement that private haulers provide specified leaf and yard waste collection services at specified times.

The cost to the Township would be nominal, revision of ordinance and associated

cost of public notice and public education. Collection costs could be passed on to the residents.

Although this option appears to meet the Township's aforementioned goal, as previously noted, it is not an efficient or costs effective system. Problems include, duplication of efforts and additional truck traffic resulting from several private haulers collecting different households along the same routes. Duplication of collection efforts also reduces collection efficiency and increase costs. Additionally some haulers may not have the interest in and/or the ability to provide this service, resulting in compliance problems.

Municipal Contracted Collection

In Pennsylvania, a municipality is required to follow a competitive procurement process if they intend to contract for curbside collection of MSW, recyclables and/or leaf and yard waste. This process entails preparation of a procurement document, commonly known as a Request for Proposal (RFP) or Request for Bid (RFB). The document usually provides a detailed description of the requested collection services, municipal background information, requirements for responses and bids and general contract terms and conditions. Upon review and evaluation of the responses, the municipality will usually negotiate the final terms and conditions of a contract with the lowest qualified bidder. Concise contract terms and conditions will help ensure a quality level of services and avoid potential areas for conflicts.

Competitive procurement is a multi-stepped process. The process includes setting objectives, selecting a procurement strategy, defining the service required and key terms and conditions for business arrangements, preparing the Request for Proposals (RFP), interacting with those proposing, evaluating proposals, selecting a party and negotiating a contract. A successful procurement will attract competitive proposals from qualified parties, obtain attractive terms that meet procurement objectives and result in an equitable contract that fairly serves both parties.

Many municipalities who do not wish the burden of providing curbside collection services (MSW, recyclables and/or leaf and yard waste) and/or are seeking the lowest cost option for curbside collection services favor contracting. A number of comparative analyses have concluded that per household cost for curbside collection is lower under a contract system vs. municipal collection or individual contract/private subscription. Procurement of combined collection services (MSW, recyclables and leaf and yard waste) is likely to be more attractive to prospective bidders and present an economic benefit to the Township, based on lower cost of operation and improved efficiency of collection.

Municipalities who consider contracting for curbside collection service may opt not to procure the service. In many cases, regardless of cost savings, municipalities succumb to political pressure applied by residents in support of small haulers and

open competition. Specifically, residents may oppose municipal contracting on the basis that the small haulers will go out of business and a monopoly will be established, eliminating future competition. Concerns regarding the quality and level of service under a municipal contract may be voiced. Residents may favor

the service provided under individual contracts. Local haulers are apt to meet the special needs or wants of subscribers e.g. place of collection, types of materials collected or provision of special collection services.

The procurement process described above is designed to secure one contractor, a single source, to provide specified collection service(s). Contract terms will help ensure compliance and level of services and the municipality has a single responsible entity to deal with.

The Township has expressed interest in considering this option as a potential tool to assist in planning and developing a future comprehensive waste management program. An electronic copy of a draft RFP for procurement of curbside collection services for MSW, recyclables and leaf and yard waste was provided to the Township to assist in this effort.

6.2 Drop-Off Collection of Leaf and Yard Waste

Drop-off programs for leaf and yard waste have been implemented in many municipalities as the primary method of recovering leaf and/or yard waste. Drop-off programs are also frequently used to supplement curbside collection programs. The greatest advantage of a drop-off program is that the overall cost is usually substantially less than for curbside collection programs. A major disadvantage to drop-off programs is the inconvenience imposed on residents. Recovery rates for drop-off programs are generally substantially lower than curbside programs due to the inconvenience.

It is note worthy that North Londonderry charges an annual fee to its residents of \$25.00. An electronic key card is issued to the resident which entitles them to use the facility seven days a week from April thru September and Monday thru Saturday, October thru March, during designated hours. A copy of North Londonderry's drop-off facilities rules and regulations are included Attachment B for the Township's information.

6.2.1 Site Considerations

The following describes the parameters to be considered to site and develop a drop-off program consistent with the goals of the Township.

A drop-off site should to the extent practical be:

⇒ Centrally located where ingress and egress for site does not impact

traffic flow. The most convenient location for many municipalities is in close proximity to the municipal or maintenance building. Benefits of these locations include, resident familiarity with the site, enhanced security and potential costs savings for labor and equipment.

- ⇒ Easily accessible and have ample areas for off-loading materials and parking. Access is extremely important and should not be overlooked when siting and designing a drop-off site. For example, if forty-yard roll-off containers are used for collection of leaf and/or yard wastes an ample area for truck maneuverability is required. Ease of access to the site is essential.
- ⇒ Manned during the times it is open to residents and all incoming materials inspected prior to acceptance, for quality assurance. If the site cannot be manned, security cameras, an electronic key card type security gate or other security assure should be implemented to prevent misuse and vandalism.
- ⇒ Clearly posted with rules and regulations governing the use of the site, material accepted and scheduled operations.
- ⇒ Available to residents on a regularly scheduled basis and at convenient times, preferably open on weekends, if only on a limited basis.

6.2.2 Operation

The Township has options with regards to drop-off site operations, operate the site with its personnel or have a private contractor operate the site. Operation of the site can be done entirely by the Township or by a private contractor or as a public private partnership.

Described below are options available to the Township for operation of a drop-off collection of leaf and yard waste.

Municipal Operation

Municipal operation of a leaf and yard waste drop-off program requires the purchase or lease of equipment, operations personnel, transport of materials to a facility capable of processing the volume and types of leaf and yard waste collected and program administration.

Contracted Operation

Contracted operations would be procured in a similar manner to that described in

Section 6.1.4. The selected contractor could provide full service, e.g., provide the drop-off site, equipment, personnel, transport of materials to a facility capable of processing the volume and types of leaf and yard waste collected and program administration. Alternatively the contractor could provide only selected services. Few municipalities opt for private contractors to operate and maintain a site due to cost.

Public/Private Partnership

Many municipalities favor a public/private sector partnership arrangement. Usually under a public/private sector arrangement the municipality provides the site, conducts the education program and may provide containers ((40) forty cubic yard) for collection of leaf and yard waste. The private contractor provides transport services for containers to a compost facility, when full. A charge is assessed per container and/or per mile transported and containers are leased, if required.

7.0 Education/Outreach

The need for an aggressive and comprehensive education/outreach campaign cannot be overemphasized. The education/outreach campaign should be initiated well in advance (6-8 weeks) of the start of any planned leaf and yard waste collection. Lead-time for a reservation program is suggested to be eight weeks or more.

It is suggested that the Township consider developing a brochure or calendar, regardless of the form of leaf and yard waste collection planned (curbside or drop-off). The calendar or brochure should clearly note the times when collection will take place and an easy to understand list of the types of material and size of material to be accepted. A concise description of required preparation should be included. Providing examples of materials that will not be accepted are also suggested: leave no room for misunderstanding or there will be!

If a reservation program is planned, provide the dates that various sections/areas of the Township will be collected. The period of time for making a pickup request must be specified.

The local media should be alerted at public meetings and through press releases of the planned leaf and yard waste collection program.

Detailed descriptions of suggested components for developing an education and information program are included in Appendix A.

8.0 Recommendations

To achieve the Township's primary goal "to establish a leaf and yard waste collection program that requires minimal effort and costs to develop and implement" and assist it in eventually establishing an Act 101 compliant mandatory

leaf and yard waste program. ERA recommends that the Township consider:

- ⇒ Initiating a reservation based leaf and yard waste collection program.
- ⇒ Conducting two reservations based seasonal collections one in fall and one in spring. Two collections will provide the Township quantitative data regarding seasonal variations (amount of material requiring collection and demand for collection services). Participation in a multi-municipal program will enhance the Township's prospects of receiving Section 902 funding.
- ⇒ Developing a drop-off leaf and yard waste program to augment reservation collections. A drop-off program will save on collection costs, provide higher diversion rates and supply additional quantitative data.
- ⇒ Pursuing a cooperative agreement with South Londonderry Township to provide leaf and yard waste processing services.
- ⇒ Developing specific education and outreach materials for leaf and yard waste collection.
- ⇒ Applying for an Act 101 Section 902 Grant to fund eligible program development, implementation and equipment costs.
- ⇒ Soliciting public input to provide insight regarding resident's needs and wants relative to collection services, willingness to participate in a collection program and willingness pay for services.
- ⇒ Revising its burning ordinance to prohibit burning of recyclables and leaf and yard waste. This effort will increase participation in the leaf and yard waste program and also enhance the Townships prospects of receiving Section 902 funding.

ATTACHMENT A

Public Education/Outreach

Implementation of a comprehensive education and outreach campaign will help insure the program is successful initially and over the long run. The following are suggested components for developing an education and information program that will gain public interest and increase enthusiasm and support. The components are applicable to recycling and/or leaf and yard waste composting programs.

- ⇒ Place an ad in a paper of general circulation at least one ad 30 days prior to initiation providing details of the program and its merits, suggest this be done as re-enforcement twice per year thereafter.
- ⇒ Prepare and distribute news releases and public service announcements to the local media. Provide program details, program kick off date and importance of the program e.g.: waste stream reduction, saving on disposal fees, saving/reuse of valuable resource, reduction of dependence on disposal facilities and, of course, it's the law (if a mandatory program).
- ⇒ Develop a slogan e.g.: "Send your leaves to a mulch better place;" "Recycle today for a better tomorrow." Slogans help with program identity.
- ⇒ Develop a logo representing the program that will be readily identifiable. The logo can act as a constant reminder (particularly if it's placed on a refrigerator magnet or calendar).
- ⇒ Prepare an instructional flier, door hanger or brochure, one that is eye catching and to the point: (i.e.: who, what, where, when and why). The flier, door hanger or brochure could be distributed by volunteers or sent with a newsletter, utility or tax bills to save on mailings. Additional information should be placed in public buildings, churches, schools and local businesses.
- ⇒ Distribute promotional items that encourage participation, (e.g.: a refrigerator magnet, collection calendar, pencils or other items made from recycled materials). Items that are seen or used regularly will act as a constant reminder.

- ⇒ Preparation of a recycling display outlining the programs benefits, charting participation and avoided cost of disposal, etc. The display should be prominently placed in public building and used at various civic and school events.
- ⇒ Incentives for participation, reward households or business for participation. Award a prize or a certificate of recognition.
- ⇒ Encourage and assist schools in integrating recycling/composting into their curriculum. School students can be constant reminders to adults regarding the benefits of recycling and composting. Children are often the most persistent educators of adults.

ATTACHMENT B

COMPOST FACILITY RULES AND REGULATIONS

1. A key card will be issued to a resident of North Londonderry Township after completing the necessary application and paying the applicable fee.
2. Key cards may only be used by the property owner or an immediate family member.
3. The site is available for residential users only – no commercial, industrial or institutional drop-offs are permitted. Only items from the resident's property may be deposited at this site.
4. Acceptable items are:

Grass-----lawn clippings
Leaves-----leaves from trees and bushes
Garden Residue-----garden plants, flowers, shrubbery trimmings, and
twigs less than 1" in diameter (**no weeds, roots,
nuts, fruits, or vegetables**)

5. Hours of operation:

The electronic gate will allow residents who possess a key card to drop off material during the following time periods:

April thru September – Monday through Friday, 7:00 a.m. – 8:00 p.m.
Saturday, 7:00 a.m. – 8:00 p.m.
Sunday, 12 noon - 6:00 p.m.

October thru March - Monday through Friday, 7:00 a.m. – 5:00 p.m.
Saturday, 8:00 a.m. – 3:00 p.m.

6. No smoking inside the compost facility.
7. Individuals who violate the rules of operation for this site are subject to having their key card revoked and losing drop-off privileges.
8. Vehicle operators using this facility may be asked to provide proof of identity and address within the Township.
9. The Township reserves the right to require proof of vehicle insurance for those vehicles using the compost site.

10. Individuals using the compost facility who cause damage to property or personal injury shall be liable for such damage or injury.

Plant Bedding Material

When available, plant bedding material will be sold to Township residents:

Cost per 1 yd. Loader bucket-----\$10.00

Cost per 30 gallon container -----\$ 2.00

Loading by Township equipment will be done on Fridays, between 12:30 p.m. and 3:00 p.m. Residents should call the Township office at 838-1373 to verify the availability of Township personnel on any particular Friday.