

**RECYCLING TECHNICAL ASSISTANCE  
PROJECT #597  
DELAWARE WATER GAP BOROUGH  
MONROE COUNTY, PENNSYLVANIA**



**December 2016**

*Sponsored by the Pennsylvania Department of Environmental  
Protection through the Pennsylvania State Association of  
Township Supervisors*

*Project Completed By:*

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## 1.0 Statement of Problem

Delaware Water Gap Borough (Borough) requested and was granted consulting services under the Recycling Technical Assistance Program sponsored by the Pennsylvania Department of Environmental Protection (PADEP) via the Pennsylvania State Association of Township Supervisors (PSATS). Specifically, the Borough requested technical assistance to assess their current municipal leaf collection program and identify and assess alternative options for collection and processing services available for leaf and yard waste. Additionally, the Borough requested a review of the mandatory recycling ordinance relative to compliance with Act 101. Environmental Resources Associates (ERA) was assigned to provide the requisite consulting services.

## 2.0 Overview and Current Situation

The Borough is located in southeastern Monroe County, Pennsylvania, and is bordered by New Jersey to the east. The Borough has a total area of 2.09 square miles and its population is approximately 746 persons (2010 Census) with a population density of 427.4 per mile. Therefore, the Borough is not a mandated municipality under Act 101.



The Borough is a picturesque historic village and the surrounding areas are rural in character. The Borough is known as a tourist destination, "The Gateway to the Poconos," and affords access to the Appalachian Trail and the Delaware Water Gap National Recreation Area.

The Borough has long required mandatory recycling under its current Solid Waste and Recycling Ordinance. The existing recycling program is based on a contracted service for waste and recyclables. Historically, leaf and yard waste has been collected by the Borough's two public works employees. The Borough does not operate either a drop-off facility or composting facility for leaf waste.

Currently, the Borough collection equipment consists of a 1993 ODB (model LCT60), direct drive leaf vacuum, a 2008 Ford diesel 3-ton dump truck, and a 5-cubic yard leaf collection box constructed by the Borough approximately 15-years ago.

## 3.0 Project Scope of Work and Execution

As noted above, the Borough requested technical assistance to assess the current municipal leaf collection program and identify and assess alternative options available for public and private collection and processing services. Additionally, the Borough requested a review of its municipal waste and recycling ordinance relative to compliance with Act 101. Summarized below are tasks accomplished by ERA

over the course of this project. Detailed descriptions of work efforts and outcomes are included in subsequent sections.

**☑ Develop and Refine Work Scope**

ERA met with Delaware Water Gap Borough representatives to review the proposed technical assistance work scope, refine parameters for the work efforts, and gather relevant data and information. During the meeting ERA was informed that the Borough's Public Works Department consists of a two member crew that provides leaf waste collection services. The collection equipment is between 15 to 20-years old and in need of repair or replacement. Based on the meeting, it was evident that the Borough desired to evaluate the current municipal collection program and identify and assess alternative options available for leaf waste collection and processing service. The assessment will consider efficiency, economics, householder convenience and range of services to be provided.

**☑ Review of Data and Information**

ERA reviewed pertinent documents, data and other relevant information, including but not limited to, current municipal leaf collection practices, associated including costs and equipment, recent bid for leaf collection services and the Borough's mandatory recycling ordinance. Data and information gained during the review was used to assist in subsequent program assessments/evaluations.

**☑ Identify and Assess Leaf Collection Options**

Based on the data and information provided by the Borough, it was determined that ERA would assess the current Borough leaf waste collection program. The assessment would also include identifying potential alternative options for economics and convenience for residents and processing services.

**☑ Review Mandatory Recycling Ordinance**

A review of the Borough's Mandatory Recycling Ordinance was conducted, relative to compliance with Act 101.

**☑ Final Report**

Based on the data and information provided by the Borough, assessment of its existing leaf collection program and options identified by ERA, a Final Report was prepared detailing ERA's comments and recommendations and work efforts relative to program development.

## **4.0 Leaf Waste Collection Assessment**

The Borough Public Works staff of two collects leaves over a five to six week period during October and November each year. Based on information provided by the Borough, approximately eighty loads of leaves are collected annually. The current equipment used for collection, a 1993 ODB Model - LCT60 tow behind vacuum leaf collector has served the Borough well over many years however, the vacuum leaf

collector unit, although still operating, is past its anticipated serviceable life and ever increasing maintenance costs can be expected. The limited capacity of the leaf collection box (5-cubic yards) inhibits efficient collection by necessitating frequent offloading and based on ERA's observation would require extensive repairs in order to be placed back in service.

The current collection equipment cannot be considered reliable and lacks effectiveness and capacity required for efficient collection of leaves, resulting in a labor intensive and time consuming process requiring frequent unloading and resulting lag time. Based on information provided by the Borough, approximately 4 loads per day over 4 weeks for a total of eighty loads of leaves annually are collected. As a result of the aforementioned, leaf collections require the majority of Public Works staff diverting them from other required work efforts over a 4 to 5 week period. Related labor cost for 2015 leaf collection is estimated at \$5,373.86 including wages and benefits. Information relative to collection equipment maintenance and fuel cost for collections was not available.

Although the Borough Public Works staff is to be commended for their diligence in maintaining the collection equipment and providing collection services, the current system is not considered efficient or cost effective on many levels.

#### 4.1 Identification of Options

The following potential options were identified for the Borough's consideration. The options were selected to achieve the Borough's objectives of increased efficiency, economics, convenience and range of services to be provided.

- ☑ **Upgrade Municipal Collection Program** - Upgrade the current leaf collection program to increase efficiency and reduce cost through the acquisition of new equipment. Procurement of a 25-cubic yard self-contained tow behind vacuum would reduce cost of collections while greatly increasing efficiency. ERA estimates that collections could be reduced from a 4 to 5 week period to 2 to 3 days.
- ☑ **Inter-municipal Cooperation** - The Borough may seek an arrangement with any capable neighboring municipality disposed to do so for the collection and/or processing of its leaf waste, as authorized under the Intergovernmental Cooperation Act (Act). The Act allows municipalities to enter into cooperative agreements with other municipalities in the performance of their respective functions, powers or responsibilities. The Borough may enter into an inter-municipal agreement for these services and a competitive bidding process is not required. The inter-municipal agreement should be succinct specifying the service(s) to be provided, responsibilities of each party, compensation and relevant terms and conditions.

ERA was requested by the Borough to contact neighboring municipalities to determine what interest (if any) they would have in assisting the Borough's curbside collection and/or processing services for leaf waste.

- ☑ **Procure Private Sector Collection and Processing Services** - The Borough included curbside leaf collection in its recent competitive procurement for Borough-wide residential waste and recycling collection services.

## 4.2 Review of Options

ERA met on several occasions with Borough representatives over the course of the project to review/discuss observations and findings relative to the potential options identified and the challenges and opportunities presented by each. ERA also presented and reviewed options at a public meeting. Summarized below are the potential challenges and opportunities presented by ERA for consideration.

- ☑ **Upgrade Municipal Collection Program** - Procurement of a 25-cubic yard self-contained tow behind vacuum would undoubtedly reduce cost of collections while greatly increasing efficiency. ERA estimates that collections could be reduced from a 4 to 5 week period to 2 to 3 days. The Borough could procure a new or used vacuum unit and would be eligible for up to 90% reimbursement under an Act 101 recycling grant. The grant is a highly competitive funding source which requires an initial outlay of municipal funds for equipment purchased. State fiscal year 2016 - 2017 funding is not available.

ERA contacted municipalities within the area and Mr. Berit Case, DEP Regional Recycling Coordinator, regarding the availability of used vacuum units. Middle Smithfield Township indicated that it has upgraded its collection equipment and offered to sell a 25-cubic yard 2000 ODB self-contained tow behind vacuum for \$500.00. ERA is familiar with the unit, it is in very good operating condition and the asking price is more than reasonable.

Unfortunately, the Borough does not possess a truck capable of towing the unit and trucks are no longer eligible for funding under the recycling grant. Additionally the Borough, like the majority of municipalities in our current economy, is facing financial constraints and large capital expenditures are not practical.

Due to the financial constraints facing the Borough and the limited work force, this option is not considered viable at this time.

- ☑ **Inter-municipal Cooperation** - Neighboring municipalities that provide municipal leaf waste collection and/or processing services were contacted by ERA to determine the level of interest in assisting the Borough. Middle Smithfield Township was the only municipality that possessed the type and quality equipment, experienced staff, availability and interest in providing the leaf collection services.

Middle Smithfield Township is the operator for the Oak Grove Multi-municipal Compost Facility and offered to discuss potential arrangements for providing the Borough processing services with the Oak Grove Board.

The Borough was extremely interested in further pursuing this option and ERA was requested to establish a meeting with Middle Smithfield and the Oak Grove Board to discuss.

ERA arranged and participated in meetings with Middle Smithfield Township and subsequently with the Oak Grove Multi-municipal Compost Facility Board. The outcomes of the meetings are summarized below;

- ✓ Middle Smithfield Township discussed program particulars and requested an approximate volume of leaves collected annually and a map detailing the location of roads and households to be serviced. This information was requested to develop a cost estimate for the Borough's consideration.

ERA worked with the Borough and the Monroe County Planning Department to prepare an up to date map (see Appendix A). Based on historical data provided by the Borough it was calculated that approximately 400-cubic yards of leaves was collected on an annual basis.

Upon review of the requested information, Middle Smithfield Township presented an estimate of \$3,500 for two fall collections of the entire Borough, one in October and one in November. The collected materials would be delivered to the Oak Grove Compost Facility for processing.

- ✓ The Oak Grove Multi-municipal Compost Facility Board considered various alternatives for assisting the Borough. Following due consideration, the Board determined that due to the size of the Borough and the limited volume of materials generated, a flat fee of \$500 would be assessed. The fee would cover the cost of processing and the Borough residents would be allowed access to the drop-off facility and free self-loaded compost and mulch.

- ☑ **Procure Private Sector Collection and Processing Services** – The recent competitive procurement for Borough-wide residential waste and recycling collection services included a separate bid for leaf waste collection. Two bids were received one for \$8,280 and the other for \$2,615 per year for the three year term 2015 to 2018. The quoted bids do not reflect the total cost for collection. The leaf waste is required to be contained/bagged and residents would be required to purchase leaf waste collection bags. Kraft paper leaf waste bags range in price from approximately \$2.00 to \$3.50 for a package of five 30 gallon bags at major retailers. The average cost would equal \$2.75 and using a conservative estimate of one package of five bags per household times the Borough’s estimated 345 households equals and an additional cost \$948.75 in collection cost would be incurred.

## 5.0 Assessment of Options

The low bid of \$2,615 for contracted collections plus the additional estimated cost for purchase of leaf collection bags of \$948.75 equals \$3,563.75. This cost is comparable to Middle Smithfield’s quoted collection service cost of \$3,500. The addition of the \$500 for materials processing services at the Oak Grove Compost Facility brings the total cost to \$4,000. Although the cost for the municipal services is negligibly greater than private sector services the services and benefits provided far outstrip the slight difference in costs and meet the Borough’s goals of increased efficiency, economics, householder convenience and range of services to be provided. The potential benefits include:

- ✓ Curbside vacuum collection is more convenient for residents, no need to purchase or fill leaf collection bags.
- ✓ Residents will have year round access to the Oak Grove drop-off site, well-situated 5 miles from the Borough.
- ✓ The Borough and its residents will have free access to compost and mulch, enjoying the avoided cost of purchasing similar products for landscaping and gardening.

The increased cost is estimated at approximately \$1.25 per household, the tangible value of products will undoubtedly exceed the cost for householders that avail themselves of the free compost and mulch. Those who do not avail themselves of this opportunity will still benefit from the avoided cost of landscape materials used by the Borough on municipal properties.

## 6.0 Recycling Ordinance

The Borough’s existing Solid Waste and Recycling Ordinance #267 of 2001 has not been substantially revised since its adoption. The Ordinance addresses many

of the requirements of Act 101. Several additions, revisions and/or modifications are required to improve clarity and consistency and comply with the requirements of Act 101.

ERA met with Borough representatives to review Act 101 requirements for leaf waste collection (see Appendix B). A draft sample ordinance modeled after a standardized solid waste and recycling ordinance adopted by several neighboring municipalities was also reviewed.

The use of a standardized ordinance will improve program mandatory recycling program parameters, regulations, public education, and enforcement will not change to any great extent across the borders of neighboring municipalities. Use of the standardized ordinance will also aid in ease of program enforcement by imposing similar or identical requirements for private haulers and commercial establishments doing business in neighboring municipalities.

Based on comments and input provided by the Borough Council Members and Berit Case, DEP Regional Recycling Coordinator, ERA modified the draft accordingly and provided the final draft for consideration of the Borough's Solicitor.

## 7.0 Recommendations

Based on the assessments and evaluation presented in this report, ERA offers the following recommendations to assist the Borough in achieving goals to upgrade its leaf waste program and update its recycling ordinance to insure compliance with Act 101.

- ☑ Pursue the multi-municipal approach regarding the development of a leaf waste collection and processing program. This approach best meets the Borough's specified goals.
- ☑ Adopt a solid waste and recycling ordinance based, to the extent practical, on the sample standardized ordinance provided.

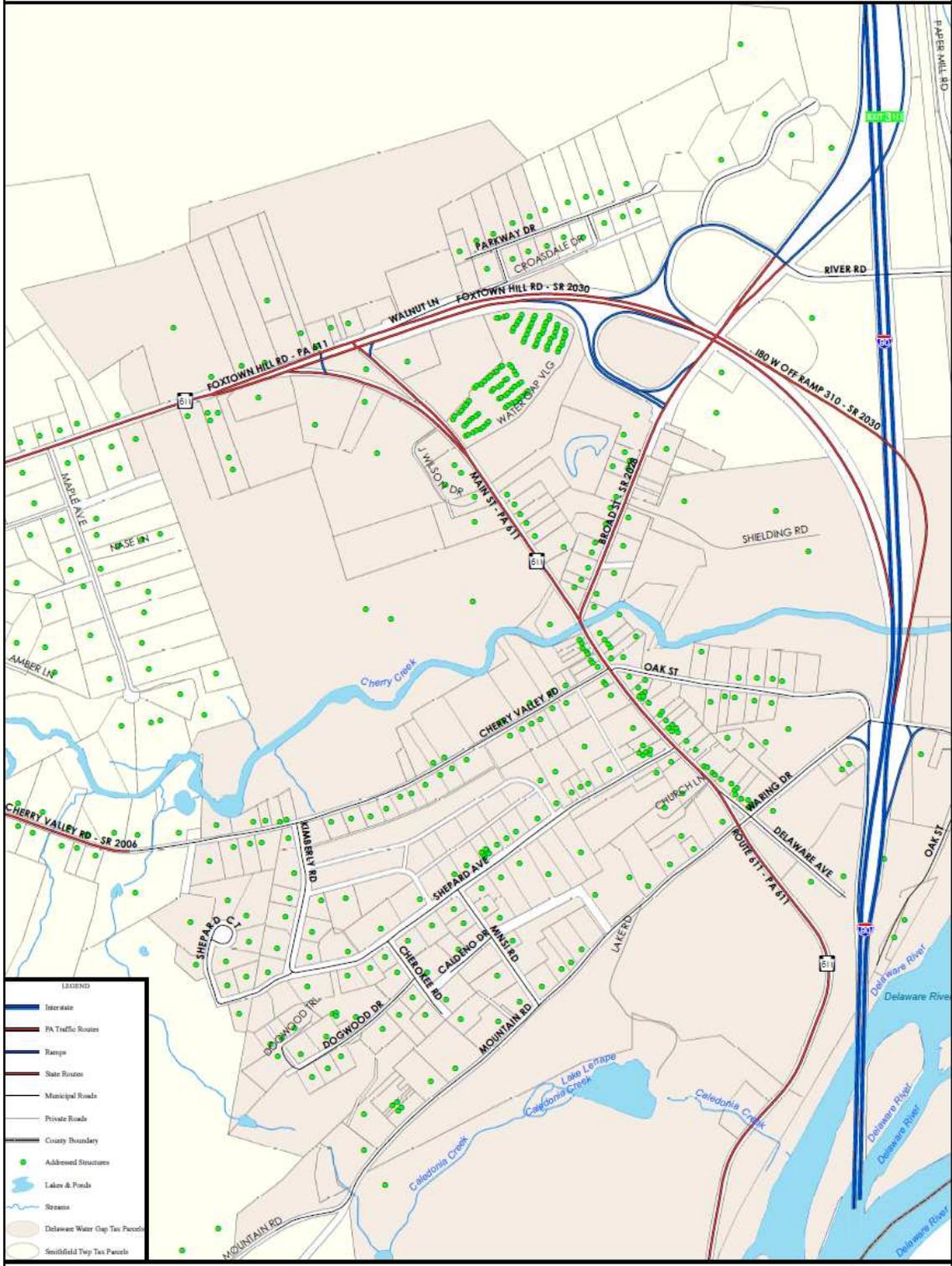
It is noteworthy that, Delaware Water Gap Borough Council has recently entered into agreements with Middle Smithfield Township for the curbside collection of leaves and with Oak Grove Multi-municipal Compost Facility Board for the processing of leaf waste, residential access for the drop-off site and products (see Appendix C).



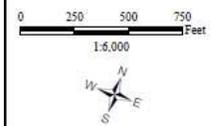
**Borough Map  
Appendix A**

# LEAF PICK-UP PROGRAM

DELAWARE WATER GAP BOROUGH - MONROE COUNTY - PENNSYLVANIA



- LEGEND**
- Interstate
  - PA Traffic Routes
  - Ramps
  - State Routes
  - Municipal Roads
  - Private Roads
  - County Boundary
  - Addressed Structures
  - Lakes & Ponds
  - Streams
  - Delaware Water Gap Tax Parcels
  - Strifield Top Tax Parcels



[www.monroecountypa.gov/planning](http://www.monroecountypa.gov/planning)

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***PENNSYLVANIA'S ACT 101 LEAF WASTE  
COLLECTION REQUIREMENTS***

**Appendix B**

## **PENNSYLVANIA'S ACT 101 LEAF 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 PADEP 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 facility.*

**Public Notice**  
**Appendix C**

# Oak Grove

Multi-Municipal Compost Processing Board



## Now available to Delaware Water Gap Borough Residents

### Composting Requirements

#### What can I compost?

Materials must be separated into and are limited to the following:

- leaves
- shrubbery
- brush and tree trimmings (no more than 6 inches in diameter)
- Christmas trees.

#### What is NOT accepted?

The Compost Processing Facility will only accept organic materials specified above and reserves the right to reject any unacceptable material. Some examples of rejected material include:

- plastic bags
- metal
- tree stumps/roots
- construction debris
- municipal waste
- rubbish of any kind
- grass clippings

#### Residency required.

Leaves and brush are only accepted from Smithfield, Lehman, Middle Smithfield Township AND Delaware Water Gap Borough residents. Residents must present proper identification to verify residency. Proper I.D. includes driver's license, state I.D., or utility bill.

#### Alternatives to Drop-offs

If you have other means of handling your leaves or brush such as collection by your mulching or backyard composting, *please use that option!*