

**SWANA RECYCLING  
TECHNICAL ASSISTANCE STUDY  
FINAL REPORT**  
**REGIONAL WASTE MANAGEMENT SYSTEM EVALUATION  
SPRING, BENNER & WALKER TOWNSHIPS  
CENTRE COUNTY, PENNSYLVANIA**



**Prepared for:**

**SPRING, BENNER, AND WALKER TOWNSHIPS  
AND  
THE CENTRE COUNTY SOLID WASTE AUTHORITY**

**Prepared by:**



**HARRISBURG, PENNSYLVANIA**

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**REGIONAL WASTE MANAGEMENT SYSTEM EVALUATION  
 SPRING, BENNER & WALKER TOWNSHIPS**

**Table of Contents**

	<u>Page</u>
EXECUTIVE SUMMARY .....	1
1.0 INTRODUCTION .....	10
1.1 Scope of Work .....	10
2.0 BACKGROUND .....	10
PART 1 – REGIONAL WASTE AND RECYCLING STUDY .....	12
3.0 EXISTING WASTE MANAGEMENT AND RECYCLING PROGRAMS .....	12
3.1 Spring Township Waste Management.....	12
3.2 Benner Township Waste Management.....	13
3.3 Walker Township Waste Management.....	14
3.4 Survey of Local Waste Hauling Companies.....	15
3.5 Comparison of Existing Municipal Programs .....	15
3.6 Deficiencies of Existing Individual Subscription Waste Management Programs .....	16
4.0 REGIONAL WASTE COLLECTION AND RECYCLING SERVICES .....	16
4.1 Why Cooperate? .....	16
4.2 Why Regionalize Waste Management and Recycling?.....	17
4.3 Considerations for Implementing a Regional Waste and Recycling Contract .....	19
5.0 REGIONAL WASTE AND RECYCLING PROGRAM STRUCTURE.....	21
5.1 Recommended Waste and Recycling Structure.....	21
6.0 REGIONAL IMPLEMENTING MECHANISMS .....	25
6.1 Public Meeting to Select Implementing Mechanisms .....	25
6.2 Participating in the Centre Region Council of Governments (COG) Contract .....	25
6.3 Cooperative, Uniform Bidding for a Regional Waste and Recycling Contract.....	29
7.0 PAY-AS-YOU-THROW .....	33
8.0 CONCLUSIONS .....	35
9.0 RECOMMENDATIONS .....	36
PART 2 – REGIONAL LEAF AND YARD WASTE EVALUATION .....	39
1.0 EVALUATING REGIONAL LEAF AND YARD WASTE MANAGEMENT.....	39
2.0 EXISTING LEAF AND YARD WASTE COLLECTION SERVICES IN SBW.....	40
2.1 Spring Township .....	40
2.2 Benner Township.....	41
2.3 Walker Township .....	41
2.4 Existing SBW Regional Leaf and Yard Waste Management Overview .....	41
3.0 REGIONAL COMPOST FACILITIES AND PROCESSING OPPORTUNITIES .....	42
3.1 Leaf and Yard Waste Processing Opportunities.....	42
4.0 LEAF AND YARD WASTE QUANTITIES .....	45
5.0 NEW OR EXPANDED COMPOST SITES IN OR NEAR SBW.....	45
5.1 Permit-By-Rule Application.....	46
5.2 Site Development And Start-up Equipment .....	47
6.0 BARRIERS FOR ESTABLISHING REGIONAL LEAF AND YARD WASTE MGT. PROGRAM.....	47
7.0 CONCEPTUAL PLANNING FOR REGIONAL LEAF AND YARD WASTE MGT. ....	48
7.1 Goals for Regional Leaf and Yard Waste management .....	48
7.2 Strategy for a Regional Leaf and Yard Waste Management Program .....	49
8.0 CONCLUSIONS .....	51
9.0 RECOMMENDATIONS .....	51

## FIGURES

**Figure 1** – Aerial Map of Spring, Benner and Walker Townships – includes Recycling Locations

**Figure 2** – Drop-off Recycling Sites

**Figure 3** – Regional Composting Map

## APPENDICES

**Appendix A** - Local Hauler Listing and Waste Hauler Survey Summary

**Appendix B** - Comparison of Existing Waste Management Attributes

**Appendix C** - Municipal Ordinances: Spring Township & College Township

**Appendix D** - Implementing Mechanisms – Graphic and Descriptive Representations

**Appendix E** - Public Meeting Records (October 9, 2007)

**Appendix F** - Existing and Proposed Regional Contract System Cost Comparison

**Appendix G** - Centre County Permitted Compost Facilities

**Appendix H** - State College Borough Yard Waste Disposal Agreement

## REGIONAL WASTE MANAGEMENT SYSTEM EVALUATION SPRING, BENNER & WALKER TOWNSHIPS

### EXECUTIVE SUMMARY

#### PART 1 – REGIONAL WASTE AND RECYCLING STUDY

Gannett Fleming, Inc. (GF) evaluated the implementation of a regional waste and recycling management system in Spring, Benner and Walker Townships (SBW) in Centre County, Pennsylvania (**Figure 1**). The current private subscription waste systems includes at least seven (7) local hauling companies and the three Townships' waste, recycling and composting programs operate independently from each other with little cooperative/regionalized planning. GF investigated the existing waste management systems, developed a baseline waste management structure, and identified two primary implementing methods for regionalizing SBW waste management. As part of evaluating the existing programs GF completed a survey of area waste haulers. **Appendix A** includes a list of local hauler and the summary table of the hauler survey findings. A comparison table of SBW waste systems is included in **Appendix B**.

As summarized, GF identified the following deficiencies in the existing SBW individual subscription systems:

- Averaging \$276 per year per household, SBW residential trash fees are 35 percent higher than nearby municipalities with municipal-wide contract collection systems.
- The multi-hauler collection systems are inefficient primarily due to overlapping hauling routes, which contribute to public nuisances (e.g. truck traffic, noise, collection schedule confusion, roadway damage, etc.). Excess waste collection vehicles contribute to environmental harms from fuel consumption and pollutants.
- Some waste haulers do not have recycling or offer limited recycling service.
- Current waste systems are operated by the haulers with arrangements with homeowners so the SBW region has very little program oversight and no contractual service arrangements; the municipalities are not able to plan for increased waste management needs and community growth.
- Poor recycling rates range between 6 and 11 percent, which is below the 35 percent State recycling goal.
- There is no effective system in place for all households and haulers to be held accountable for proper waste management. An unknown portion of households, perhaps 10 percent based on Township observations, do not subscribe for waste service. Illegal waste disposal is common and not easily or actively enforced.
- Special material programs for bulky wastes, tires, and white goods are limited and expensive (compared with including bulky item collection under municipal contract).

GF notes that structuring and offering convenient, consistent and comprehensive waste and recycling services to all households will result in an immediate increase in program participation

and program performance while minimizing (not eliminating) the level of program oversight and enforcement required. GF identified the following **preferred waste and recycling program structure** for SBW. Section 5.0 includes a detailed description of this structure.

### Overall Waste System

- Consistent program structure supported by similar ordinances in SBW.
- Clearly defined waste management services secured through a competitive bid process and executed contract(s) for the SBW service area.
- As feasible, consistent with the successful surrounding waste management programs.

### Waste Structure

- Once-per-week trash collection with trash bag/container set-out limits.
- Some form of Pay-As-You-Throw waste collection (if implementation is not a barrier).
- Designated collection or “trash” districts (considered) that limit cost-prohibitive curbside service in certain rural areas.
- Bulky wastes, construction/demolition and white goods (appliances) service.

### Recycling Structure

- Curb sort recyclables collection program.
- Same recyclable materials collected in each Township (those accepted by the CCSWA; see section 5.0).
- Residential and commercial recycling requirements.

### Administration/Implementation

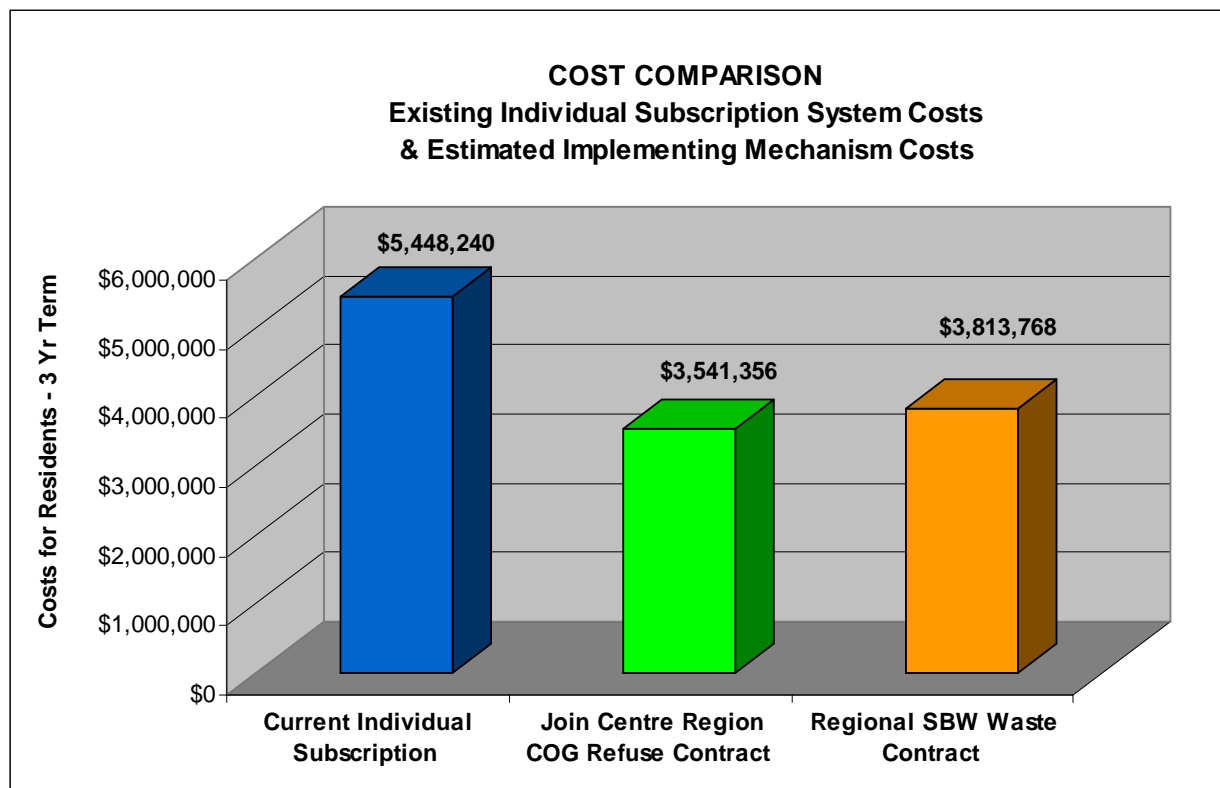
- Recover a small per-household fee for ongoing beneficial waste and recycling programs.
- Ongoing recordkeeping, cost tracking, and program evaluation.
- Effective enforcement.
- Ongoing education (require hauler to educate at least once per year and with changes to services).

### Benefits from Regionalization

GF determined that regionalizing the SBW waste management systems will result in substantial and ongoing cost savings to the residents and to participating municipalities. Additionally, a contractually-based waste management program will allow for an improved ability to plan for future growth and meet the evolving waste management and recycling needs of the regional community. A regionalized program will increase the level of waste and recycling services available to residents, and simultaneously lower the current per-household rates.

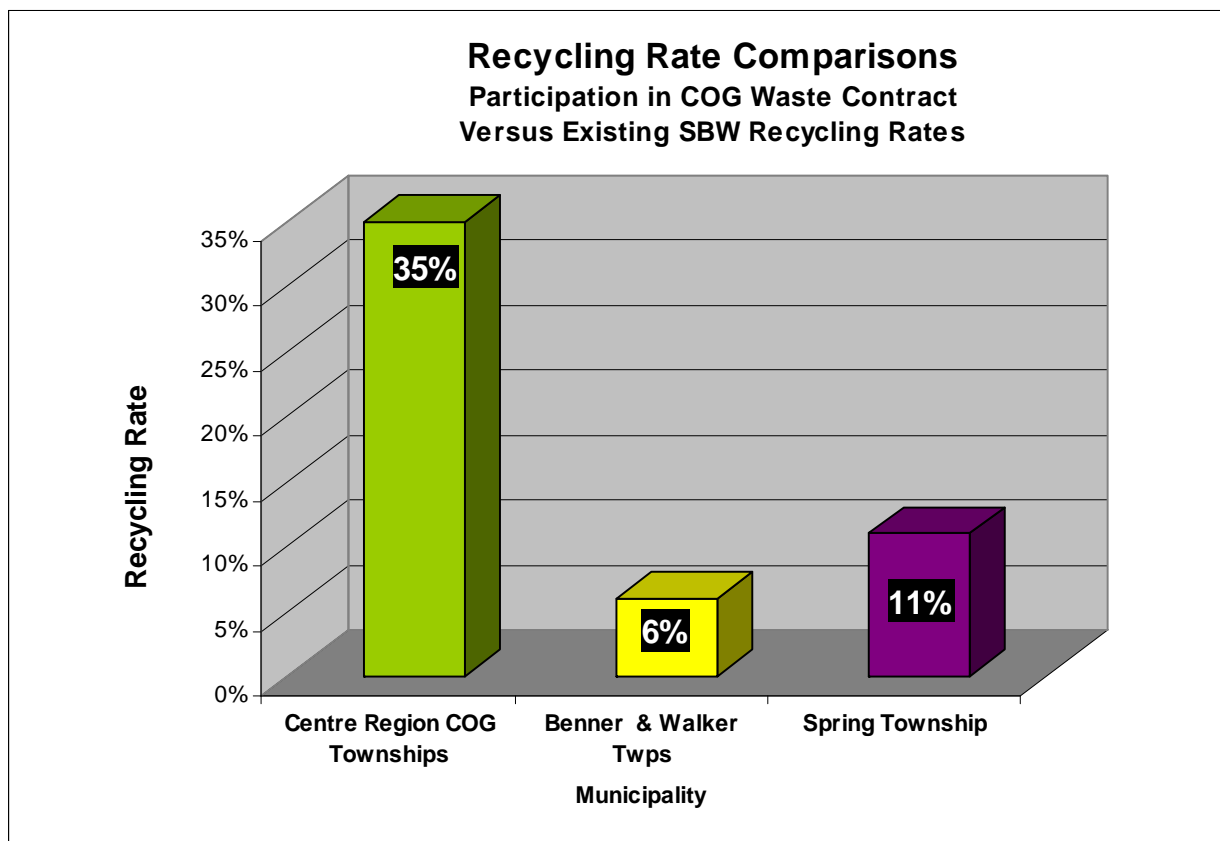
This Report contains an in-depth look at regionalization, and in summary, regionalization can accomplish the following for SBW:

- Reduce the cost per household by 20 to 35 percent; a realized savings for residents estimated between **1.6 million and 2.0 million dollars over a three-year contract period.**



- **Improved overall collection efficiency and program performance:** Planned routes and consistent collection schedules, fewer missed stops, improved participation rates in waste and recycling, facilitated enforcement through contractual agreement that hold waste and recycling service providers accountable for meeting service standards.
- **Additional service:** Additional collection services (e.g. bulky items, leaf waste collection, etc.), can be included at no extra or separate fee.
- **“Managed Competition:”** Periodic bidding **allows local and regional hauling companies to compete for service.** This process ensures the Townships receive fair, competitive pricing on behalf of the affected residents, while allowing the flexibility to adjust services in the future. SBW can help residents and each municipality **manage inflating waste and recycling costs.**
- **Increased Waste Diversion from Landfill:** Increase reported recycling rates (for curbside and other recyclables) from the current 6-11 percent to **35 percent**, meeting the State goal. Refer to Recycling Rate Comparison Chart below.

- **Facilitate community planning efforts** for current and future growth with opportunities to have a direct impact on improving public welfare as well as the aesthetics of the regional community.
- **Improve program compliance and enforceability.**
- **Facilitate education** through consistent education materials and shared resources while reducing education-related costs.



### Regional Implementing Mechanisms

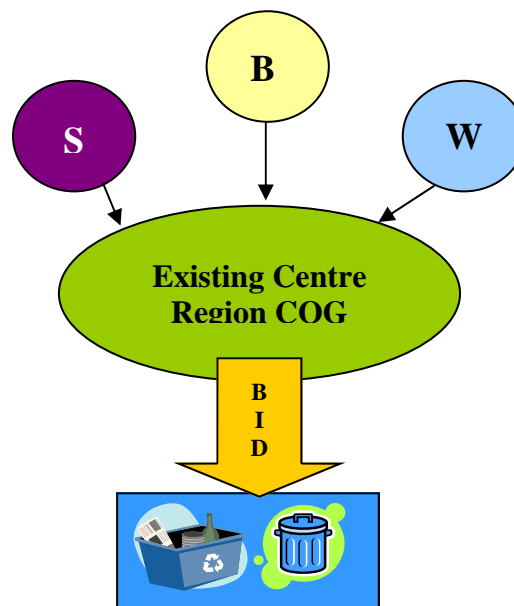
GF evaluated a variety of implementing mechanisms (See **Appendix D**) and identified two preferred implementing strategies that can be used to implement a region waste system in SBW:

- Participating in the Existing Centre Region COG Contract.
- Uniform Bidding (by SBW) for a Regional Waste and Recycling Contract.

## 1 - Centre Region COG Contract (rebid)

If a favorable arrangement can be decided allowing SBW to participate in the upcoming COG refuse contract rebid process, SBW can potentially reduce the average cost per household from **\$23.00 per month** currently paid by SBW residents to **\$14.74 per month**; a 35 percent cost reduction. This is a total projected savings to residents of approximately **2 million dollars** over the 3-year contract period, assuming all residents receive service. Section 4.0 contains advantages and disadvantages, with some primary advantages for participating in the COG being:

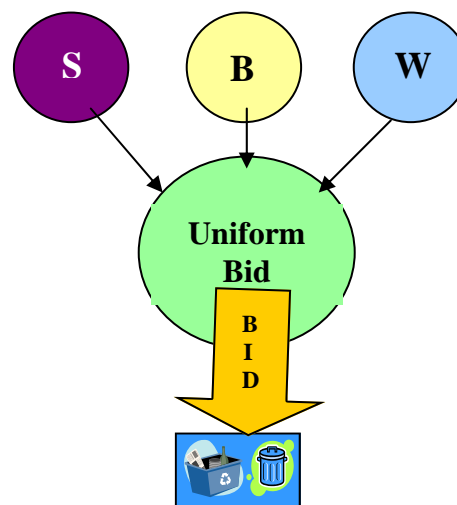
- Joining a proven waste management program (facilitates implementation).
- Maximizing the economies of scale by adding more households (units) to the contract, potentially lowering costs even further than other implementing options.
- Minimized administrative duties for the Townships.
- Proven effective programs and educational resources.
- Increased services including curbside recycling and bulky item collection.
- Decreased wastes and increased recycling.



The timing on joining the COG refuse contract is critical and negotiations should begin in the second quarter of 2008.

## 2 - Uniform Bidding (by SBW) for a Regional Waste and Recycling Contract

SBW can also implement a cost effective and uniform regional waste management system with one municipality taking the lead in the competitive municipal bidding process for the multi-municipal service area. GF estimates that the average monthly cost per household for waste and recycling service would be **25 – 30 percent lower than current or future rates with the multi-hauler system**. A 30 percent lower rate (at this time) would mean SBW residents would pay **\$192.00 per year annually**. SBW residents can save over **\$544,000 per year** or over **1.6 million dollars** through the term of a 3-year contract administered by SBW. Adding a PAYT or financially incentive-based structure as described in Section 7.0 is recommended but will require additional planning and additional enforcement and therefore must be confirmed by SBW. Aside from the economics, some primary advantages for participating in a regional waste and recycling contract implemented by SBW are:





- A tailored waste program to meet SBW residential needs.
- Increased levels of service for residents (e.g. recycling, bulky item pick-up, etc).
- Ongoing ability to get fair, competitive waste management costs and comprehensive service.
- Decreased waste disposal and increased recycling.
- Potential to work through intermunicipal agreements, which reduces municipal bidding requirements.
- Reduced truck traffic and associated nuisances, including reduced environmental impact.
- Improved residential and hauler waste management compliance and equitable service since all household will receive and pay for affordable, comprehensive services.

See section 4.0 for more advantages and disadvantages of implementing this option.

Both implementing options reviewed will achieve a cost effective regional waste system that will improve the overall performance of SBW waste management. It will be the decision and votes of SBW officials that determine the future planning direction and advantages and disadvantages of both options should be considered carefully. Although GF will not make this final decision for SBW, it has been determined through this evaluation that a SBW partnership in the Centre Region COG Contract has some sizeable advantages that make this option not only attractive, but a streamlined approach to move into a regionalized program in the next two years. The cost savings, economies of scale, valuable expertise, educational programs, and administrative assistance distinguish the COG refuse contract option and minimize some of the barriers that exist when starting a new contract collection program. After gaining experience within the COG Contract, SBW could revisit their options and enter into the waste management arena through their own separate regional contract.

### **Recommendations**

GF presents the following recommended actions for the municipal officials of Spring, Benner and Walker Townships:

- Officials, individually and in concert, should review the information in this Report and formalize the commitment to establish a contractually-based regional waste and recycling program. This process could include a committee of representatives from the Townships and the Centre County Solid Waste Authority. SBW should determine the most advantageous implementing mechanism – either participating with the Centre Region COG Contract or establishing a SBW regional contract.
- Regardless of what final direction or action is taken it is recommended all three Townships standardize their recycling programs and waste management methods and requirements and enact similar solid waste and recycling ordinances. As feasible, these standardized programs should be consistent with methods and requirements in the existing successful municipal programs in the region. Standardization and consistency with local programs will facilitate future waste and recycling planning initiatives.
- Utilize the recommended waste and recycling program structure in this Report as a guideline for the service specifications sought in a regional waste contract. Give serious consideration to PAYT, as it will dramatically increase waste diversion from landfills.

- Execute formal contracts or agreements for services – regardless of implementing mechanism.
- Do not let the vocal minority determine the outcome of this important planning strategy that will bring many advantages to the regional community. Overcome any negative public perceptions and promote the program through an effective educational campaign. Build strong relationships early in the process with local media, and thoroughly explain the positive and long-term benefits and opportunities that are at stake. Educational materials can be newsletters, flyers, brochures, website or other Township communications already in place. Fact sheets about contracted waste hauling, illegal dumping, open burning, recycling and a variety of other topics are available free of charge at the Professional Recyclers of Pennsylvania (PROP) website: [www.proprecycles.org](http://www.proprecycles.org).
- Periodically reevaluate the regional contract to determine its continued efficiency and consider additional options as they might arise to facilitate continued regional planning.
- GF encourages the CCSWA to host an annual Centre County Region Compost Summit that is designed to get Centre region municipalities, farmers, compost facilities and other interested parties together to discuss composting solutions.

Regardless of what alternative is selected, it is essential the Townships' new program has a fundamentally sound waste collection and recycling structure that is convenient for residents, is cost effective, and effectively manages waste and diverts materials to recycling. Standardizing waste and recycling practices in all three Townships, and supporting these with similar ordinances, will improve the ability to manage and make improvements to waste and recycling programs in the future.

## **Executive Summary**

### **PART 2 – REGIONAL LEAF AND YARD WASTE STUDY**

As a first step, it will be beneficial for SBW elected officials to confirm the direction of a contractually-based regional waste and recycling management program before enhancing the regional leaf and yard waste program, since there can be advantages for planning these programs simultaneously.

SBW's existing leaf and yard waste management programs are improving gradually, but for the most part this is being done without cooperative planning and regional participants in mind. Encouraging backyard composting through education, while at the same time, prohibiting burning, dumping and other illegal disposal activities by offering disposal/processing options and through enforcement are simple and effective management strategies that will increase leaf and yard waste diversion to recycling.

SBW will face barriers and making regional composting an ongoing initiative will require effort when other municipal and public initiatives take priority. These barriers can be overcome

provided the leaf and yard waste programs proposed for SBW build upon realistic program changes and diversion goals. Practical leaf and yard waste collection programs should not be cost-prohibitive.

There are many local opportunities available for SBW to cooperate with their neighbors to regionalize and enhance their leaf and yard waste collection and composting programs. Likely, a combination of more than one option will be optimal (refer to Section 3.0 for descriptions of these cooperative arrangements). Cost effective arrangements are available locally:

- **Use Borough of Bellefonte Compost Site for residential yard waste drop-off** (Spring Township; possibly Benner and/or Walker Townships)
- **Enter Yard Waste Disposal Contract with Borough of State College** (for truck deliveries of leaf and yard waste)
- **Utilize Penn State University Compost Site** (leaves)
- **University Area Joint Authority (UAJA) Organics Program** – Possible future leaf processing option
- **Local Farms/Land Application of Yard Wastes** (e.g. Tait Farm)
- **Equipment Sharing/Cost Sharing** (leaf vacuum trucks, yard waste grinders, etc.)
- **Processing Equipment Rentals** – Rent grinders, trommel screens, etc. as needed
- **Multi-Municipal Leaf Collection** – A municipality (SBW or other) that operates leaf vacuum trucks could provide curbside leaf collection service in another municipality.
- **New or Expanded Compost Site(s)** – A joint-municipal effort could be used to cost effectively develop or expand one (possibly more) compost sites in Spring, Benner or Walker Townships or another nearby municipality.

GF has provided a number of recommendations in **Part 2** of this Report and these are summarized in the bullets below. As a starting point, SBW should identify the level of ongoing commitment from elected officials to support future leaf and yard waste management programs. The programs should be implemented in a “decentralized” approach with regional neighbors, processors (i.e. compost facilities) and resource sharing in mind.

- Standardize SBW leaf and yard waste collection programs and support them with updated solid waste and anti-burning ordinances.
- Prioritize backyard composting education, efficient curbside collection of leaves where household density is favorable, and one or more convenient public drop-off sites for brush.
- Residents from Spring, Benner and Walker Townships should be provided at least one drop-off location, that at a minimum, accepts brush for recycling (e.g. grinding into mulch).

- In the near term it is not recommended that SBW pursue the development of a new regional compost site unless arrangements with local municipal compost facilities, brush drop-off points, and farms cannot cost-effectively accommodate the needs of SBW for leaf and yard waste processing.
- Mutually beneficial arrangements with regional participants for leaf and yard waste processing services should be reinforced with written agreements/contracts.
- Applicable sites in SBW that are used for composting should be permitted under the Permit-By-Rule application process and operated according to PADEP guidelines. SBW should pursue state Recycling Grant funding as necessary to help offset the costs of eligible containers and equipment and other costs associated with developing new, or improving existing leaf and yard waste programs. Walker Township should work with the CCSWA in the preparation of a Section 902 Recycling Grant to recover costs incurred from enhancing their yard waste program/drop-off site in 2007. The CCSWA should be used as a resource for educational materials, grant assistance and permit-by-rule guidance.

## REGIONAL WASTE MANAGEMENT SYSTEM EVALUATION SPRING, BENNER & WALKER TOWNSHIPS

### 1.0 INTRODUCTION

Spring, Benner and Walker Townships (SBW) are located in south central Centre County, Pennsylvania (refer to **Figure 1** at the end of this report). On behalf of SBW, the Centre County Solid Waste Authority (CCSWA) submitted a Recycling Technical Assistance application to secure funding to evaluate cooperative municipal arrangements for waste collection, recycling and leaf and yard waste management. The Recycling Technical Assistance program is a partnership with the Solid Waste Authority of North America (SWANA), the Pennsylvania State Association of Township Supervisors, and the Pennsylvania Department of Environmental Protection (PADEP) that supports municipalities interested in improving their recycling programs. Each Township was awarded \$7,500 in technical assistance to be provided by Gannett Fleming, Inc. (GF).

### 1.1 Scope of Work

Based on discussions with the CCSWA, the following scope of work was developed for completion of the Spring, Benner and Walker Township project.

- Task #1** GF will gather and review background information for SBW that will support the development of guidance related to the implementation of a regionalized curbside collection program and leaf and yard waste management program.
- Task #2** GF will evaluate alternatives and provide guidance and recommendations for establishing a regional curbside recyclables collection program and regional leaf and yard waste management program for SBW.
- Task #3** GF will prepare and provide a report of findings and recommendations. This task includes a review of the report by the Pennsylvania Department of Environmental Protection (PADEP) and response to PADEP comments. Additionally, an electronic file of the final report will be submitted to PADEP of the project conclusions and findings. Both an electronic and hardcopy version of the report will be provided to each Township and the CCSWA.

### 2.0 BACKGROUND

The planned and regulated growth of our communities is necessary to ensure a future society that is socially, economically and environmentally sustainable. Spring, Benner and Walker Townships in Centre County, Pennsylvania, are experiencing increases in population, housing development and other infrastructure development. In order to set pace with the current and future growth in the three townships, it is necessary to plan and implement a well thought-out

and integrated solid waste and recycling management system. Integrated waste management systems involving multiple municipalities and/or a relatively large planning and geographic service area is often referred to as a “regional” system. For the purpose of this study, references to the “regional” system will usually include SBW and “regional” may also include the surrounding Centre County region and possibly other nearby counties that in some way support (via infrastructure, waste and recycling markets, etc.) this multi-municipal waste management program.

Each of the three townships are unique, but because of their proximity and similarities in land use, economic conditions, roadway infrastructure and location, a combined effort for solid waste management will be beneficial. Municipal boundaries should not be an insurmountable barrier to effective waste management strategies. Based around the concept of “economies of scale<sup>1</sup>”, regionalization will allow for improved efficiencies in transportation, improved economics, reduced traffic, reduced environmental impacts, enhanced municipal cooperation and business relationships, higher levels of service, lower residential costs and many other tangible and less tangible short and long term benefits.

This study is an evaluation of a cooperative waste management system that could be implemented in SBW. Identifying the implementing entity for this regional program will be essential for success. It will also be important to identify the components of the municipal waste management systems that can be standardized so that implementation is efficient and not overly complex. This evaluation is broken into two parts: Regional Waste and Recycling Programs and Regional Leaf and Yard Waste Management. Collection of waste and recyclables requires considerably different management strategies than organics collection and composting. For each of the components, GF examined the existing programs, studied the potential options and recommended a program structure. Conclusions can be found at the end of the Report.

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<sup>1</sup> **Economies of scale:** the process by which an increase in the scale of the service area (i.e. number of units serviced) can decrease the average cost per unit; recognizing many system costs are fixed.

## PART 1 – REGIONAL WASTE AND RECYCLING STUDY

The following sections in **Part 1** describe the Spring, Benner and Walker Township (SBW) waste management and recycling programs. Leaf and yard waste management programs are covered in **Part 2** of this Report.

### 3.0 EXISTING WASTE MANAGEMENT AND RECYCLING PROGRAMS

This study is focused in Centre County, Pennsylvania, in which the Centre County Solid Waste Authority (CCSWA) plays an active role in guiding waste management activities. According to 2005 estimates, the entire county has 124,263 residents living in 51,888 households. This equates to an average of 2.4 residents per household. Waste is accepted for \$66 per ton at the CCSWA Transfer Station from major portions of the county through private haulers.

GF studied and described the existing waste management and recycling programs in all three Townships. **Appendix A** includes a listing of local haulers and a summary of a waste hauler survey that was completed as part of this study. The program features for each municipality are compared in the table included in **Appendix B**.

The following sections describe the existing waste management programs.

#### 3.1 Spring Township Waste Management

Spring Township is located in Centre County, Pennsylvania, between Benner and Walker Townships (refer to **Figure 1**). Spring Township surrounds the Borough of Bellefonte. The Township has 6,557 residents based on 2005 population estimates from the Centre County Planning & Community Development Office. The Township is nearly 26 square miles and has a housing density of approximately 100 households per square mile. There are approximately **2,730 households** (calculated using the 2.4 persons per household). Spring Township currently has a private subscription waste collection program where residents independently subscribe with one of several local waste haulers. Waste is collected once per week.

Based on discussions with the Township in June 2007, it is estimated that approximately 90 percent of households subscribe for waste collection service, and the remaining 10 percent do not secure waste collection services with a local hauler. Likely, the 10 percent without service burn, bury, illegally dump items, take material to the transfer station, or even share service with one or more households that pay for service. According to our hauler survey findings, Spring Township residents, who do pay for service, pay about **\$23 per household per month** on average for trash and recycling service.

##### 3.1.1 Spring Township Recycling

Spring Township is not “mandated” by the Municipal Waste Planning, Recycling and Waste Reduction Act of 1988 (Act 101) to provide curbside recycling services. However, curbside recycling in Spring Township is mandated by ordinance for all residential establishments (refer

to **Appendix C**). Commercial establishments are not required by ordinance to implement curbside recycling. Commercial establishments that elect to implement their own recycling plan are required to file an individual recycling program with the Township.

Residential curbside recycling service is provided by the Centre County Solid Waste Authority (CCSWA) and delivered to the CCSWA's recycling facility on Transfer Road in Bellefonte. Residents use 14-gallon recycling containers for collection of recyclables. Recyclables accepted include:

- clear, brown and green glass bottles
- plastic bottles and jugs
- aluminum cans
- steel cans
- paper including newspaper, magazines, office paper and junk mail.

The Township does not host a public recyclables drop-off site, but residents are permitted to use the CCSWA Transfer facility and recyclables drop-off located at 253 Transfer Road. The CCSWA recorded 194.4 tons of recyclables collected in the Township during 2006, versus 1,565 tons of waste. By dividing the tons of recycling by the total generation (waste plus recycling), a **recycling rate of 11 percent** is calculated. Total generation does not include illegally disposed waste.

### 3.2 Benner Township Waste Management

Benner Township is located in Centre County to the west of Spring Township. The Township has 5,422 residents and approximately **2,260 households** based on 2005 population estimates from the Centre County Planning & Community Development Office. The Township is 28.5 square miles and has a housing density of approximately 78 households per square mile. The Township has a private subscription waste collection program where residents independently subscribe with one of several local haulers.

As an example, John Glenn provides once-per-week waste collection services and offers once-per-week recyclables collection service. The cost for combined weekly waste and recycling service is **\$22.50 per month**. Trash is limited to weekly collection of two 33-gallon bags. John Glenn currently accepts glass containers, and steel and aluminum cans for recycling.

Benner Township has a dumping ordinance in place to regulate accumulation of waste in the Township. The Township has had problems with illegal dumping of municipal waste from Township residents as well as from residents and private contractors from outside the Township.

Based on discussions with the Township in June 2007, roughly 15 percent of households may not subscribe for waste collection service. As reported by the Township, residents without waste service contribute to improper management of waste including trash accumulation on properties. The Township has an anti-burning ordinance, but burning continues to be a problem in the Township based on observations and complaints received. The Township has limited staff available to address and enforce proper waste management. The Centre County Solid Waste Authority can assist with the prosecution of County-level illegal waste management activities.



### 3.2.1 Benner Township Recycling

The Township is not mandated by Act 101 to provide curbside recycling services and does not implement a mandatory or voluntary curbside recycling program. As noted above, at least one local hauler offers residents the option to have curbside recycling services in addition waste pick-up. There is one drop-off recycling location at the Benner Township Building on Route 550. This drop-off accepts:

- plastic bottles and jugs
- clear, green and brown glass bottles
- steel and aluminum cans
- paper including newspapers, magazines, and junk mail.

As reported for 2006 by the CCSWA, Benner Township recycled 120.2 tons, with waste disposal tonnages at 1,871. By dividing the tons of recycling by the total generation (waste plus recycling), a **recycling rate of 6 percent** is calculated. Total generation does not include illegally disposed waste.

### 3.3 Walker Township Waste Management

Walker Township is located in Centre County, Pennsylvania to the east of Spring Township. The Township has 3,745 residents and approximately **1,560 households** based on 2005 population estimates from the Centre County Planning & Community Development Office. The Township is 40.5 square miles and has a housing density of approximately 34 households per square mile. Residents privately subscribe for curbside waste collection services with one of several local private haulers. The Township does not have a solid waste ordinance. On average, Walker Township residents pay about **\$23 per household per month** according to our hauler survey.

#### 3.3.1 Walker Township Recycling

Walker Township does not have a voluntary or mandatory curbside recycling program. Residents can utilize one of two recyclable drop-off locations provided by the Centre County Solid Waste Authority. One is at the Walker Township Building which is located at 816 Nittany Valley Drive in Bellefonte or the Marion-Walker Elementary School on 100 School Drive in Bellefonte. Both drop-off sites accept:

- clear, brown and green glass bottles
- plastic bottles and jugs
- aluminum cans
- steel cans
- paper (newspaper, magazines, office paper and junk mail)

The CCSWA reported 71.1 tons of recycling for the calendar year 2006. Anecdotally, waste from Walker Township does not flow totally to the CCSWA Transfer Station, but into Clinton County, hence determining a recycling rate based on actual disposal tonnages is not possible. CCSWA estimates that the estimated Walker Township **recycling rate is approximately 6 percent**.

### 3.4 Survey of Local Waste Hauling Companies

Municipal surveys and case studies from Pennsylvania municipalities in the region show the average contracted cost for a contracted waste collection and recycling program ranges from **\$12 - \$16 per household per month** with higher rates in areas where disposal tip fees are higher (like eastern Pennsylvania). To verify waste and recycling services and prices offered by local waste hauling companies servicing residential customers in SBW, GF conducted a telephone survey in July, 2007. The survey is summarized in a table included in **Appendix A**.

GF was able to obtain information from five haulers in the region. Highlights of the survey:

- All respondents collected wastes weekly.
- The highest monthly fee assessed was \$24.00 with the lowest \$22.00.
- \$23.00 is the approx. average cost for individual subscription per household per month.
- Two haulers provided recycling services included in the price for refuse collection, while the others did not offer recycling.
- Veolia collects unlimited bags of refuse, while the majority of other haulers limited the number of bags collected each pickup. GF believes these set out limits are high (e.g. 4 or more bags per week) and can discourage recycling efforts.
- Haulers typically charged additional per-item fees (varies, but might average \$25) for special collections for tires, furniture, appliances or other bulky or special handling wastes.

### 3.5 Comparison of Existing Municipal Programs

The effective implementation of a multi-municipal waste collection program will require consistency among participating municipalities and municipal programs. Therefore, it is important to compare the existing (and non-existing) waste collection system features for SBW (refer to **Appendix B**). This table can be used as an indicator for identifying what each municipality needs to achieve a more standardized regional waste and recycling program.

Highlights of the comparison:

- Only Spring Township mandates waste collection (via ordinance), provides enforcement provisions and requires hauler licensing.
- Only Spring Township mandates recycling (via ordinance), includes a commercial recycling provision and requires licensing of recycling haulers.
- Only Benner Township addresses illegal dumping, littering and burning through an ordinance.
- None of the three municipalities are mandated by Act 101 to implement curbside recycling programs.
- Benner and Walker Townships host drop-off recycling programs.

### 3.6 Deficiencies of Existing Individual Subscription Waste Management Programs

GF has identified several deficiencies in the existing individual subscription system for waste management in SBW. There appears to be inefficient multi-hauler route overlap and a wide variability in collection methods and programs. Residential trash fees are high when compared to other municipalities in the county and throughout the state. The average rate is estimated at **\$276 per year per household**. The multi-hauler system contributes to public nuisances (noise, traffic, road damage, etc.) and other environmental effects from increased truck traffic. These systems contribute to degraded aesthetics of the community since less than optimal waste management practices persist (e.g. littering, illegal dumping and burning). Improper waste disposal including burning and dumping are common and are not easily or actively enforced.

Collection programs to manage special materials like bulky wastes, tires and white goods are limited and are usually an additional per-item fee charged to residents. Waste and recycling education is limited and only marginally effective. For a variety of reasons, recycling is not a priority as reflected by the poor recycling rates that hover between 6 and 11 percent, far below the State's 35 percent recycling goal.

This 'open' system allows many households to illegally dispose of waste without paying for trash service. There is no system for residents to be held accountable for improper waste disposal. There are few measures and little planning to address increased wastes generated by the current and future growth in the three townships.

## 4.0 REGIONAL WASTE COLLECTION AND RECYCLING SERVICES

Due to the complexity and variability of waste collection programs and cooperative municipal arrangements, there are many multi-municipal waste management scenarios that could be implemented in, and benefit SBW. Prior to expanding upon several selected multi-municipal waste management program alternatives in the following sections of this report, GF has provided justifications, implementation considerations, and a recommended waste management program structure for a regional waste system.

### 4.1 Why Cooperate?

Many Pennsylvania municipalities have determined that cooperative efforts with other municipalities are in the best interests of the residents, elected officials and the regional community. Basic reasons to work cooperatively with other municipalities include **improving efficiency** and **program performance**, and **reducing costs**.

While each Township is unique, they are interdependent. Township lines have very little to do with how our citizens interrelate with their families, work, school, and/or retail establishments. Economic and demographic factors influence whether a resident lives in one township or borough, shops in another, and sends their children to school in yet another. Natural boundaries, like rivers and mountains are more tangible barriers than municipal boundaries that influence where residents live and how business is conducted.

Intergovernmental cooperation can improve the economies of scale for the Townships and create other benefits and opportunities. Multi-municipal cooperation helps to reach critical thresholds, distribute overhead costs, and maximize use of capital equipment, facilities, staff and other resources. Effectiveness of the services provided is also affected by the limited resources, including available staff of a single municipality. Joint efforts increase labor resources, especially for specialized skill sets like knowledgeable management of waste and recycling programs. Regionalization of programs is effective when dealing with large numbers of customers, purchasing and maintaining expensive specialized equipment, and handling day-to-day operations of a program.

## **4.2 Why Regionalize Waste Management and Recycling?**

Developing a regionalized, integrated solid waste management system in SBW will be beneficial for municipal officials and the residents in both the short and long term. In the short term, immediate benefits will result from planned collection routes over a larger geographic area that will reduce costs of the new residential waste collection program. There will be a reduced burden on area roadways, improved quality or level of service, and improved waste reduction and recycling performance. Residents who don't pay for service now will now be accounted for through an affordable and fair program that assures waste is disposed properly.

Future economic development of the three Townships can be managed more efficiently in a structured and well organized waste management program. Long term improvements will be an extension of the short term benefits via a sustainable, cost effective program that performs more efficiently with time. Regionalization of waste management and recycling services improves the following:

- **Economics (lower cost to residents)**
  - A competitive bidding process will reduce costs while increasing the level of service beyond what is currently provided.
  - A larger service area creates a better economy of scale for effective collection.
  - Volume and tonnage of wastes/recyclables are more predictable and profitable for haulers.
  - Equipment sharing can be conducted in municipal collection efforts.
  - Cost/capital investment sharing will happen among the participating townships.
  - Overall system management will have fewer requirements for the implementing municipalities.
  - Haulers can cost effectively utilize labor resources in a larger, more concentrated collection area.
- **Convenience to residents**
  - Waste and recycling collection can be required to be provided on the same day.
  - Using a single hauler will reduce truck traffic and require fewer days when waste receptacles, cans, or bags are placed on the streets.

- Administration
  - Overall program administration is much more comprehensive but this is largely a function of the executed waste contract, not excessive time by municipal staff.
- Reduced pollution/energy and natural resource savings
  - Reduced emissions and reduced gas consumption.
- Transportation – reduced traffic and nuisances
  - Haulers will be able to create more effective collection routes, reaping a larger volume of wastes within a given geographic area. A regional system will also increase collection efficiency for the overall collection system through planned routes and "house-to-house" collection rather than sporadic routes in a multi-hauler system.
  - Fuel and labor efficiencies are improved through a regionalized waste collection effort.
  - Less traffic from garbage trucks will reduce public nuisances and lessen ongoing impact to streets, alleys and infrastructure (one garbage vehicle is comparable to 300 cars in terms of impact).
- Education or promotion of the program
  - Uniform collection requirements within a region allow for a more effective and cost efficient education program.
- Planned regional growth/ development of waste/recycling programs – long-term outlook.

Enforcement – Existing waste and recycling enforcement in SBW is very limited. In the regional program, enforcement will improve since waste service will be provided under a service contract.

Ability to educate/communicate - The ability to educate the residents or users of the program is crucial to the success of the program, but it is noted that a regionalized waste program will simplify and facilitate the education process. Cooperative education efforts should be evaluated in the planning stage. Costs and efforts for education can be shared among the municipalities.

Distance to the disposal or transfer site - Local haulers will rely on the local disposal/transfer facilities to minimize fuel costs, truck travel, and labor savings.

Housing density – Higher housing density and shorter distances between stops usually correlates to effective collection routes and reduced collection costs for haulers. Housing density may dictate the establishment of “collection districts” that may not include all households in a municipality, but act as a service area or zone.

Topography/roadways - Hauling routes are dramatically affected by steep grades, narrow streets, or other topographic restrictions.

Existing collections - Proximity of the municipality to other areas served by the contracted hauler is desired for efficient collection.

### 4.3 Considerations for Implementing a Regional Waste and Recycling Contract

The following criteria or conditions are believed to influence/impact the successful implementation of a cooperative, multi-municipal arrangement for curbside waste and recycling services.

Public opposition to change – A primary barrier to any new waste management system will be public opinions concerning the change. It is critically important the elected officials become educated on these complex issues and understand the importance of the long term benefits that will be provided to their residents. *A vocal minority should not decide the outcome of this very important planning process, which will be determined by the elected officials.*

Consistency among waste systems - Waste management systems in the three Townships should begin with consistent program structures supported by ordinances. Ordinances should define collection methods and specify the waste streams to be collected, managed and processed. Program features and economics for each Township should be similar to maximize the benefits of the partnership. A single, agreed upon implementing mechanism must be chosen to represent the interests of all three municipalities.

Consistency of recyclables management - As with waste management, SBW should have consistent ordinances governing recycling. The collection methods and materials should be consistent.

Willingness to cooperate - SBW must be committed to work together for a regional program, and keep focused on the benefit potential for the regional community. Working cooperatively to select a sound implement mechanism and waste program structure will be a key to success.

Demographics - SBW demographics, for the most part, are strongly suited for a regional waste management program. Addressing rural service areas in Walker Township and in other areas is simply a part of the planning process.

Pay-As-You-Throw (PAYT) – SBW should weigh the pros and cons and consider incorporating a PAYT waste structure into the regional contract waste system. PAYT is discussed in more detail in Section 7.0.

### 4.4 Advantages of a Regional Waste and Recycling Contract

As opposed to continuation of the existing individual subscription system for waste and recycling management, establishing a regional contract would provide the following advantages:

Decreased costs – It is GF's experience that bidding and contracting waste and recycling service will reduce the amount of residential waste bills by at least 20 to 35 percent and will remain cost-competitive on an ongoing basis.

Equitable service and customer accountability – In the current private subscription system in SBW, an unknown but appreciable number of households do not have trash service and

contribute to illegal waste management practices. The contracted system would ensure all customers would be required to pay the same fair price for trash and recycling service and would be accountable for proper waste and recyclables management.

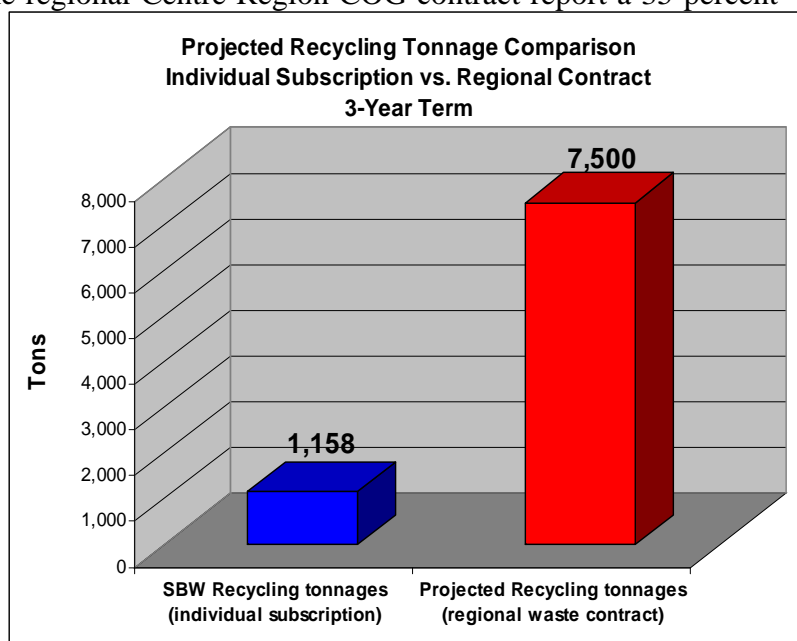
Increased collection efficiency - Using a contracted hauler system will improve collection efficiency through planned collection routes. It will reduce the amount of truck traffic, the number of collection days, and the labor resources needed to collect waste and recyclables.

Increased services – The current system does not in any way specify that all residents receive curbside recycling services, bulk waste collection, brush collection, and/or educational services. Establishing a regional contract could prescribe these services for all residents equally, and as discussed in later sections of this report, will likely decrease costs, while increasing these services.

Community benefits – The SBW Region and residents will experience improved safety, health and welfare, reduced environmental harms and improved community appearance/aesthetics through better waste management and a sizeable reduction in the number of garbage trucks, duplicate routes and associated nuisances.

Enforceability – Enforcing one, and possibly two service providers in a standardized system will be simplified and effective when compared with the current multi-hauler system.

Increased recycling – The addition of curbside recycling to all (or most) residents in SBW will dramatically increase recycling rates in the region. Implementation of a PAYT program will result in a higher diversion of recyclable materials than in other program structures. Should the Townships implement curbside recycling, it is likely that the total recycling rate (for curbside and non-curbside materials) would increase to 35 percent, which is the State recycling goal. The nearby municipalities involved in the regional Centre Region COG contract report a 35 percent recycling rate. The current recycling rates range from 6 percent in Walker and Benner Townships to 11 percent in Spring Township. Recycling tonnages based on 2006 figures and reported by the CCSWA, reflect approximately 1,158 tons recovered over a 3-year term. Should a program be implemented that would address recycling regionally in conjunction with waste collection, it is projected that the region would realize a 35 percent recycling rate or have the potential for 7,500 tons to be recovered.



## 5.0 REGIONAL WASTE AND RECYCLING PROGRAM STRUCTURE

Standardizing collection methods and implementing similar waste management requirements among participating municipalities has the potential to lower costs and improve the existing collection system(s). Numerous waste collection system inefficiencies have been identified during this study for SBW. Largely, these inefficiencies are a function of the existing multi-hauler private subscription system where services offered vary and overlapping hauling routes contribute to higher costs, environmental harms, enforcement issues, education inefficiency and other nuisances.

### 5.1 Recommended Waste and Recycling Structure

The new regional waste and recycling program should have a clearly defined structure and services should be performed under an executed contract. This regional program should be convenient for residents, cost effective, implementable and should effectively and safely manage waste while diverting materials to recycling. To the extent feasible, it is recommended the participating municipalities implement comprehensive curbside waste and recycling programs that are similar in structure, methods and requirements for all three municipalities, which will essentially be treated as one larger service area.

GF recommends the following baseline waste and recycling structure as a guideline. This structure of desired services would be finalized and written into the bid specifications for securing a regional contract-based program for residential waste management.

#### 5.1.1 Program Administration/ Design

Ordinances - Ordinance(s) that outline the program and are consistent among the three Townships should coincide with Centre County's Solid Waste Plan.

Pay-As-You-Throw (PAYT) Program- PAYT is a program in which participants are charged a fee in accordance with the amount of waste generated and put at the curb for disposal. Implementing a straight system where residents pay for each bag of waste individually would maximize recycling, but likely a hybrid PAYT system where a specified number of bags are set out at a base price and additional bags/containers that cost extra may be more realistic because it guarantees revenue for certain level of service. Although this is a highly recommended program, it requires additional administration and program coordination and should be considered carefully by SBW. See Section 7.0 for additional discussion on PAYT.

Recycling Requirements - Residential, commercial and industrial recycling requirements will increase recycling and prepare SBW for continued residential and commercial growth.

Ownership of Recyclables - Designate by ordinance the ownership of the recyclables. Whether ownership is by Townships or ownership by Collection Agent, the revenue from the sale of these recyclables will be important to the economics of a successful program. Enforcement of pilfering from recycling bins will be more effective with this in place.



### 5.1.2 Waste Collection

- Once-per-week curbside trash collection (using a single collection entity, either a hauler or municipal collection).
  - Limit and specify via ordinance and/or contract the allowable collection days for each municipality.
  - Establish a curbside trash set out limit via ordinance and specify the time frame when trash can be placed at the curb: 2-4 bag limit per week on waste collection or two trash cans per week limit.
  - Set weight limits for trash bags and/or containers (e.g. 35 pounds per bag).
  - If PAYT is validated, set a per-bag or per-container fee structure for additional bags/containers that are not included in the basic weekly trash service and fee.
- Bulk wastes like tires, furniture and similar large waste items should be collected through the program as part of the standard fee (weekly or monthly collection is recommended).
- Construction/demolition wastes are frequently generated by homeowners and should be addressed through the program/contract.
- White goods (appliances) have local markets and should be separately considered as part of the program.

### 5.1.3 Trash Collection Districts

It may be necessary, primarily due to costs, to limit some curbside services to extremely rural areas of SBW. Curbside waste and recycling service in some portions of SBW (particularly Walker Township) may be inefficient due to long service routes and sparse housing. These areas could be excluded from having municipally contracted curbside service as determined by the structure of a regional contract. Residents excluded from the contracted service may look unfavorably on this decision, and their waste service may offer less service at higher costs when compared with residents in the new waste contract. However, establishing this structure would likely reduce the average cost for contracted residents, increase hauler efficiency, and be an acceptable way for SBW to get a program implemented in the most populated, rapidly growing areas of the Townships. SBW should consider collection options for those areas excluded from the contract, and may specify collection terms with a lower frequency, drop-off locations for waste and recycling, and/or other provisions for these residents to manage their wastes.

### 5.1.4 Recyclables Collection

Once-per-week or every other week recyclables collection – Preferably, recyclables are collected on the same day as trash. Recyclables collection schedules may vary (e.g. weekly, bi-weekly, or monthly) and often a municipal service area is broken into zones that have a different service day per zone. GF recommends weekly collection of recyclables on the same day as trash collection. Weekly collection is the current collection frequency offered by many municipalities in the region and the collection equipment in place is suited to a weekly collection schedule. However, there may be a cost savings realized by offering bi-weekly collection of recyclables and this should be evaluated closely, particularly in light of rising fuel prices. If bi-weekly collection is initiated it is recommended larger volume containers are procured (e.g. 34 gal., 64 gal., etc.)

Curb sort - Source-separated recyclables should be collected by curb sort. This method is in conformance to the majority of recycling efforts conducted by the Centre County Solid Waste Authority and other private sector efforts in the County.

Recycling containers – 24-gallon or larger recyclables containers are recommended since it has been demonstrated that larger containers are more convenient for residents and promote increased participation in recycling when compared to smaller containers. Recycling containers should be made available to all households and in some cases more than one container for each household may be necessary for large generators. 14-gallon containers plus bundling or bags is currently implemented in many areas of the County, but these are not optimal.

Collection of recyclables that have regional processing or regional markets - Recycle according to specifications allowed by the Centre County Solid Waste Authority; materials to include:

- paper – newspaper, mixed paper, junk mail, magazines and office paper
- cardboard (bundled)
- plastic narrow neck bottles and jugs
- glass bottles and jars (clear, brown and green)
- steel/bi-metallic or tin cans
- aluminum cans

### **5.1.5 Recordkeeping**

Waste and recycling records - The bidding documents and resulting contract should require the waste and/or recycling service provider to report waste tonnage and recycling volume (or tons) for each municipality on a set schedule and in a preferred format as agreed by SBW.

Participation - While customer lists are proprietary to haulers, the Townships should be periodically privy to them to verify compliance and participation in the program.

Cost tracking - Standard tracking procedures for waste management costs should be implemented.

### **5.1.6 Economics**

Reduce costs – A properly designed regional program will reduce the cost of services (waste and recycling) for residents and participating municipalities.

Residential billing structure - Waste collection and recycling service should be a separate line item on the residential bill. The bill can be issued through tax bills, existing utility bills or even a separate billing structure or contracted billing service. Money collected from the waste program service, such as administrative fees or fees gained from the sale of recyclables, should be tracked and/or managed independently from other municipal financial accounts.

Revenue source for beneficial programs – An administrative fee should be recovered as a nominal per-household fee included in the residential bill and placed into a solid waste and recycling account to cover administrative costs and to support beneficial waste management programs. As demonstrated in the COG refuse contract, even with the administrative fee, the residents will still have very affordable waste and recycling service.

Additional services - A regionalized collection program can include additional services that can be performed for residents (e.g. monthly bulky item pickup) as part of the standard service package.

Grant monies - The municipalities can increase Act 101 Recycling Grants awards through increased recycling as well as PADEP's prioritization in supporting regional programs. Recycling Grants may be available for recycling ordinance preparation, recyclables collection bins, and other eligible capital equipment.

Program evaluation – Program data and costs should be reviewed periodically to evaluate the program.

### **5.1.7 Enforcement**

Effective program design - As a precursor to enforcement, a well-designed program will reduce the enforcement required for the program. Providing cost effective and convenient options for residents will reduce illegal dumping and littering. Education and enforcement should be closely linked. Residents who understand the requirements/responsibilities will usually follow the program. Municipal officials should work with the judicial system (district magistrates, etc.) to support proper and timely enforcement of the waste program. COG refuse contract participants have been surveyed and are happy with their service.

Enforcement provisions – The waste program should address enforcement through ordinances, education, sound legal waste contracts and enforcement staff. Using enforcement methods that are consistent in SBW and similar to those already in place in Centre County, the CCSWA and nearby Townships will improve the effectiveness of the enforcement program and save time and money by sharing resources. CCSWA enforcement resources may be available to support the SBW program.

### **5.1.8 Education**

Educational strategies - Educating residents and commercial establishments is an important first step in building a regional waste management program. Education can be conducted using existing publications, a periodic newsletter, flyers, newspaper advertisements, brochure, etc., but maximizing results will require use of a variety of media sources including on-line tools and websites. The CCSWA should be used as an educational resource.

Timing - The timing of educational pieces is very important. An effective educational program will include communication with participants before, during and after implementation of the program. Periodic reminders and notices for the need for improvement in certain areas will need to be offered after the program is in effect. Fact sheets with frequently asked questions are helpful to incoming/new residents and commercial establishments.

Widespread education – In the initial stage of planning, it is critically important to educate municipal officials to understand the issues and support decisions for the regional program and to ensure a smooth transition. Misconceptions about current recycling economics and other misinformation about waste management should be clarified so they do not create impassible

barriers. As the program moves ahead, it is important to educate others, including judicial officials and police to help ongoing implementation of the program.

## 6.0 REGIONAL IMPLEMENTING MECHANISMS

As Spring, Benner and Walker Townships consider a regional waste management program and its structure, it is important to identify the most beneficial implementing mechanism. GF evaluated mechanisms that the Townships could employ to implement a regional waste, recycling and leaf waste composting system. Four primary implementing mechanisms identified include:

- Council of Governments
- Municipal Authority
- Intermunicipal agreement with another municipal entity - by ordinance
- Cooperative, uniform bidding for a Regional Waste and Recycling Contract
- Non-ordinance (handshake) agreements

Each mechanism can vary in the specific way they are implemented. These options are graphically and descriptively represented in **Appendix D**.

### 6.1 Public Meeting to Select Implementing Mechanisms

GF conducted a meeting of Township officials from Spring, Benner and Walker Townships, as well as representatives from the Centre County Solid Waste Authority on October 9, 2007. The purpose of the meeting was to discuss this report and review the implementing mechanisms. The minutes and a Power Point presentation from this meeting are included in **Appendix E**. Through analysis and discussions at this meeting, GF selected two regional waste program implementing mechanisms that may be beneficial for SBW:

- Participating in the Centre Region COG Contract
- SBW cooperative, uniform bidding for a Regional Waste and Recycling Contract

These mechanisms and their variations are discussed in the following sections of the Report.

### 6.2 Participating in the Centre Region Council of Governments (COG) Contract

Pennsylvania's Act 177 of 1996 spells out the function of a Council of Governments (COG) as coordination among a group of municipalities to work together on programs or projects of mutual interest. COGs can have a broad range of responsibilities, and municipalities can enter into agreements to participate in one or more projects conducted by the COG. As discussed at the public meeting by participants, formation of a new COG is not desirable for the Townships at this time. This section explores the option of SBW joining the existing Centre Region COG's regionalized refuse and recycling contract.

The Centre Region COG hosts a number of projects and services including a Regional Refuse and Recycling Program. According to their website ([www.crcog.net](http://www.crcog.net)), the purpose of this

program is to promote public health, safety, and welfare and to eliminate public health hazards, environmental pollution and economic loss in the Centre Region through the collection, transportation, and disposal of residential, commercial, industrial and institutional municipal solid waste. College, Ferguson, Harris, and Patton Townships participate in this regional waste contract and program for private sector waste collection and recycling services.

The Centre Region COG initiated the Refuse and Recycling Contract in 1992 and has added over 4,000 customers since the program began. Prior to the contract, the typical cost for refuse collection only was **\$20.50** per household per month. By switching to a regional contract, the COG added curbside recycling to the services provided and reduced the cost of collection to **\$16.74** per household per month. The initial savings to residents (including the increased recycling collection) was **18 percent** or about **\$45 per year per household**. This program fulfills the recycling requirements of Pennsylvania's Act 101 for these mandated municipalities, including the curbside collection requirements for leaf waste.

### **6.2.1 Description of COG Services**

The Centre Region COG recently extended their service contract with Veolia Environmental Services, Inc. (Veolia), formerly Onyx Waste Services. The contract in place was originally in effect from January 2004 to December 2006. An extension of the contract has been enacted from January 1, 2007, to December 31, 2009. The Centre Region COG will bid on behalf of the participating municipalities in 2009 for the next contract.

This COG contract is for residential curbside service of waste and recycling within College, Ferguson, Harris and Patton Townships and includes approximately 12,000 households. By ordinance, all residents in these Townships are required to pay for, and utilize the refuse and recycling services provided by Veolia.

Waste and recycling service - Refuse services include weekly collection of an unlimited number of trash cans or bags (30-35 gallon) which can not weigh more than 40 pounds. Collection service does not include multi-family complexes using trash dumpsters.

Recycling is collected on the same day as trash. The Centre County Solid Waste Authority subcontracts with Veolia to conduct these services. All recycling bins and bundles are to be placed at the curb by 7:00 am on the day of collection. The following items are collected, curb sort, for recycling:

- glass bottles and jars (clear, brown, blue and green)
- aluminum and other metal cans (including aluminum foil, empty aerosol and paint cans)
- newspapers
- phone books, magazines, junk mail and catalogs
- plastic bottles with a narrow neck
- office paper
- dry corrugated cardboard

The Townships in the Centre Region COG contract divert **35 percent** of their waste to recycling, including curbside-collected and other reported recyclables.

Days and hours of collection - Waste is collected weekly from the hours of 7:00 am to 7:00 pm. Trash is to be placed at the curb prior to 7:00 am. Holidays delay collection by one day during the week of the holiday.

Rates - The average customer pays **\$14.74 per month**: \$12.38 base collection plus \$2.36 recycling collection or **\$176.88 per year** for contracted services.

#### **Centre Region COG Refuse Contract Services and Rates (2007)**

Service	Cost per month
Weekly unlimited curbside trash collection	<b>\$12.38</b>
Additional at the door service	<b>\$2.50</b>
Low usage customers (<30 gallons per month)	<b>\$9.56</b>
Weekly curbside recycling (CCSWA)	<b>\$2.36</b>

Bulk waste collection - Bulk waste collections are conducted at no added cost in the spring and fall of each year. Residents can place small bulk items at the curb on regular collection days. Bulk items must weigh less than 40 pounds and must be able to be lifted by a single person. No more than three items per week are accepted. Up to 10 tires per household per year are accepted during designated bulk waste collection times. Additionally, appliances (white goods) must be set out in accordance to the bulk waste collection guidelines. There is a limit of one of each type of appliance per household.

Brush collection - Three bundles of brush per week will be taken should they meet the following requirements: no longer than six feet, no larger than four inches in diameter, and securely tied in bundles. Each bundle can not weigh more than 40 pounds. Brush is currently landfilled. No grass clippings or leaves are accepted under this program. Residents must contact their individual Township for leaf collection schedules.

Billing and payment system - The successful contractor, in this case Veolia, is responsible for billing and collections on behalf of the COG (and its participating municipalities). Residents are billed quarterly and have the option for online payment. Provisions for late fees, returned checks, suspension of service, credits and citations are explained in educational materials.

### **6.2.2 Implementation Considerations**

In order for SBW to participate in the Centre Region COG contract, the following items must be evaluated and decided upon:

Timing – The COG contract will be rebid in 2009. To participate in the COG contract, planning and coordination with the Centre Region COG, Centre County Solid Waste Authority, SBW and others should begin in early 2008 so that elected officials can make the necessary decisions and approvals to participate in the COG contract rebid process. If SBW does not move forward early in 2008, and does not participate in the COG contract and rebid process, this opportunity will not be available again until the contract expires and is rebid in at least four or more years.

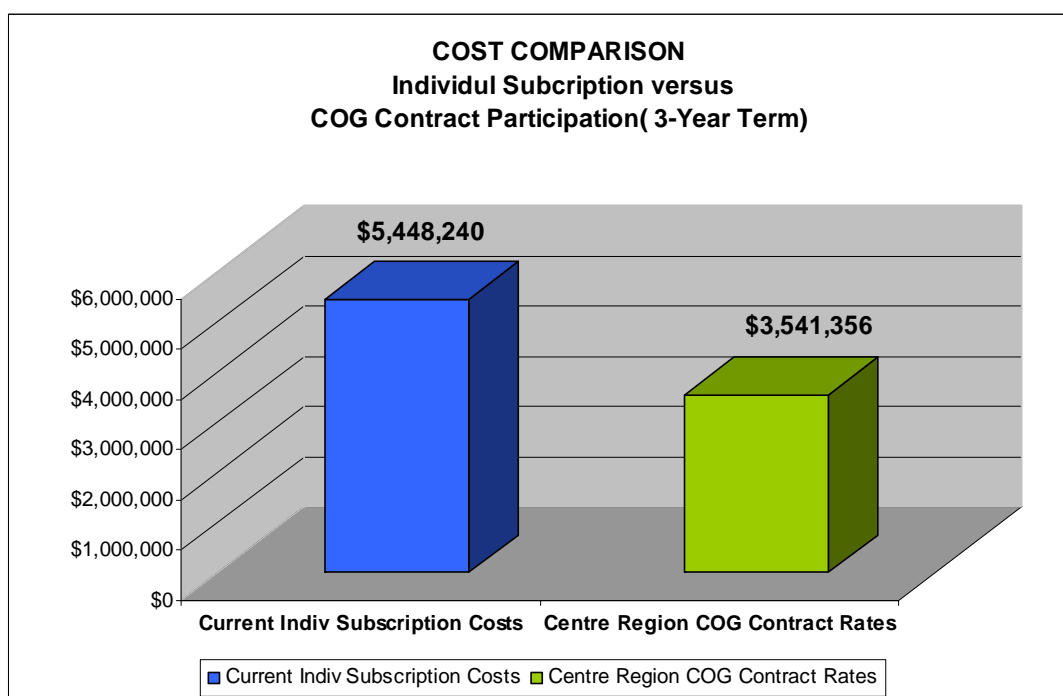
Administrative preparations – SBW will need to implement agreements and/or ordinances consistent with those required by the COG. The College Township ordinance is included in **Appendix C** for reference. In addition, SBW can subscribe in the COG for only the service(s) desired (e.g. Refuse and Recycling Contract). The COG recovers \$13,750 per quarter from COG participants. The money comes from the residential waste and recycling fees and is used to administer the contract, handle customers, and to provide education. Other requirements and fees should be reviewed with the COG prior entering a contract.

***Advantages of Participating in the Centre Region COG***

Aside from the previously described advantages to a regional contracted system in general, the following are additional advantages to joining the Centre Region COG contract for regional services in SBW:

Economics

Currently, residential customers under the COG contract pay **\$14.74 per month** or **\$176.88 per year** for weekly trash collection and recycling services.



COG trash and recycling service is **35 percent lower** than the average cost of **\$23.00 per month** paid currently by SBW residents. As a region, there are 6,580 households potentially affected by converting to a regional waste and recycling contract. Assuming that all households are participating at \$276 per year, the total amount paid for waste collection would be **\$1,816,180 per year**. Should the same number of households participate at the COG contract, the residents of the Township would save over **\$635,000 per year** or nearly **2 million dollars** through the term of a 3-year contract. A cost comparison of the existing individual subscription costs versus a regional waste and recycling contract is found in **Appendix F**.

Joining a proven waste management program – If permitted by the COG to participate, SBW will be included in a system that has a long history of success, residential satisfaction, 35 percent waste diversion, established educational programs, built-in administration, and many other benefits. This could dramatically facilitate implementation, even when compared to SBW regionalizing a program through multi-municipal bidding arrangements.

Minimizes administrative duties – Many administrative duties are handled by the successful private hauler and the COG.

Economies of scale – Using the current COG contract costs, the average cost per household would be reduced from \$23.00 to \$14.74 per month. This is a 35 percent decrease in costs to residents. The actual cost savings will be influenced by many factors and can only be verified when bids are received. Adding SBW to the COG contract will add approximately 6,500 residential units.

Effective Educational Resources - The existing COG Refuse and Recycling Program has an effective educational program. The COG has the experience to implement an expanded regional COG contract.

#### **6.2.4 Disadvantages of Using the Centre Region COG**

Economic, social and political realities – The Townships participating in the existing COG program may not be congruent in nature to Spring, Benner and Walker Townships (politically or socio-economically), and some officials may oppose a cooperative arrangement.

Private haulers – Some existing waste haulers that service SBW will be negatively impacted by customer loss and they will publicly oppose the change, creating a barrier in the decision making process. Any hauler, or combination of haulers, could bid on the COG contract provided they can meet contract requirements.

PAYT deficient - A noticeable difference between the GF recommended program structure and the existing Centre Region COG contract is PAYT. While the COG may move to a hybrid PAYT system in the next contract, the current COG contract has very limited financially-based incentives for residents to limit the amount of waste placed at the curb.

Timing - Rebid of the current COG contract is in 2009. Planning should begin in 2008 to participate in this process, and not miss this opportunity.

Membership/participation requirements – **SBW participation in the rebid process for the next Centre Region COG refuse contract must be confirmed for this option to be valid.** The COG may not be favorable to SBW joining as true COG members, but could potentially arrange for, and even realize some benefit (economies of scale) from SBW participation in the COG refuse contract.

### **6.3 Cooperative, Uniform Bidding for a Regional Waste and Recycling Contract**

Many municipalities in Pennsylvania have implemented some variation of a contracted collection system. Usually, the primary motivations for bidding for collection services are the



**resulting cost savings** (seen in the lower cost per household) achieved from the resulting waste collection and/or recycling contract (due to a larger customer base – bid competition, and increased efficiency) and the **increased level/quality of service made available to all affected residents**. A regional waste and recycling management contract will allow SBW to tailor the waste and recycling programs and improve economies of scale by bidding a large regional service area. Through cooperatively bidding for a regional waste and recycling contract, all SBW residents included under the contract would receive fairly priced and comprehensive curbside waste and recycling service.

In the regional curbside collection service contract, SBW would enter into an agreement awarded as the result of a **competitive bidding process**. The contract would likely secure a single hauling company for waste collection and recycling, but the award may include two or more hauling entities for specific collection services (e.g. one waste hauler and one for recycling service.) “Uniform” means the three Townships should work together to secure consistent waste and recycling programs as reflected in the bid documents. GF has recommended a baseline waste and recycling structure.

Depending on the SBW contract terms and bid responses, this approach is proven to achieve cost effective service that is reflected in a lower residential waste bill. Periodic re-bidding will allow SBW to “manage competition”. Three to five-year contract periods are common. If SBW bid out as one regional service area they will secure a better bid price (lower cost per household) than by bidding each municipality separately.

This multi-municipal bidding approach for waste collection services establishes a contractual relationship with the service provider(s), which helps ensure service expectations are met. The contracts between the hauler(s) and municipality can be an important factor in **securing a waste stream** for delivery to a specific transfer or disposal site. The municipality may elect to handle customer billing for the services, or may leave billing tasks up to the contracted hauler, as is done by the Centre Region COG. The **choice of municipal administration of the billing** allows for some additional oversight of the collection services. Regardless of who does the billing, nominal per-household fees may be recovered via the residential bill to cover the municipal administration and public education costs.

### **6.3.1 SBW Region Contract Services**

In a regional waste contract that is bid by SBW, many of the waste collection and recycling services should be consistent with existing waste services and recycling programs that have been implemented successfully in the low cost Centre Region COG contract. Services desired by SBW should be debated and agreed upon, and GF has provided a recommended waste collection structure in **Section 6.2** as a starting point for bid preparations and finalizing the service component for a regional waste management system.

Service choice is influenced by a number of factors, and the services and service requirements will impact cost and should be clearly written into the bid specifications. GF has recommended a PAYT system as described in Section 7.0, with an understanding that PAYT does have some barriers in initial implementation. Additional services can go beyond standard municipal waste collection including: recycling services, bulky item pick-up, leaf and yard waste services

(curbside or roll-off service), tire pick-up, and many other specific hauler collection requirements.

Primarily, the cost savings in a contracted collection system stem from coordinated and efficient service routes that can improve scheduling, consolidate staff, improve equipment efficiency, reduce staff time, and generally provide for a more organized and efficient collection system. These cost savings are then passed on to the residents who receive higher quality collection services at a lower cost.

### **6.3.2 Implementation Considerations**

Should SBW further develop and implement a regional contract for waste and recycling collection, the following should be considered:

Implementation documents – To implement this option, the Townships must act in unison with similar ordinances, mandates and service requirements. The Townships should consider bidding waste services consistent to those in the Centre Region COG contract, and should require recyclables to be managed to meet the requirements of the CCSWA recycling operation.

Bidding – SBW should work together to develop a single bid document, with arrangements/agreements in place to identify one municipality to act as the lead for the regional bid process. Bid specifications/requirements should be as consistent as possible among the three Townships.

Residential fee – With the exception of possible low rate discounts or low income based rates, the residential fee should be the same for residents included under the regional contract for all three Townships.

Administration and billing – SBW administration could include intermunicipal agreements, bid document preparation, ordinances, and contract administration. SBW could elect to administer billing for residents or write this into the specifications as the responsibility of the hauling company. A hauling company may inflate the cost of the billing service a little to adjust for handling delinquent accounts. Regardless of who does the billing, an administrative fee should be recovered as part of the residential service fee to cover the cost of these tasks and to support other beneficial waste-related programs.

Potential bid respondents and service arrangements - As bid specifications are created, the varied types of bidders should be kept in mind, and it may be beneficial to have one service provider for waste and one for recycling:

- **Private hauler**
- **Solid Waste Authority**
- **Municipality (e.g. State College Borough)**

It may be preferable to implement an agreement directly with the CCSWA instead of entering into a contract where recycling services are then subcontracted to the CCSWA as is currently done for some Townships.

In the case of a solid waste authority or another municipal entity, the Townships may enter into an intermunicipal agreement for services, and could bypass the bidding process if desired. As an example, it may be beneficial for the Townships to enter an agreement to utilize the CCSWA for curbside recycling services.

Timing of the bid - Changes in the local hauling competition and other less tangible factors may result in decreased or increased collection costs.

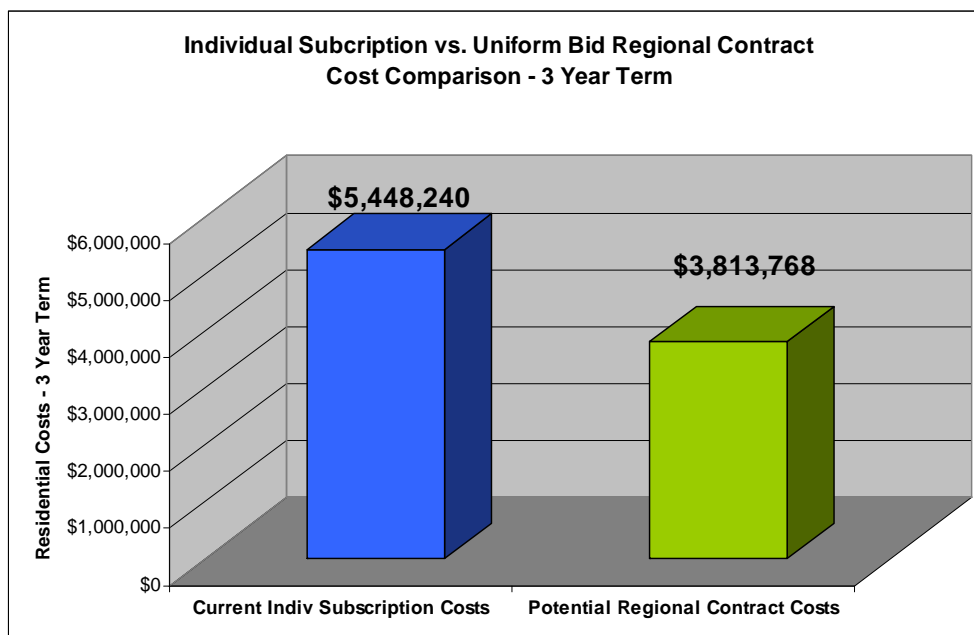
Local hauler competition - The level of competition between local haulers will depend on the types of services bid, size of the service area, and the capabilities of the local haulers.

***Advantages: Cooperative, Uniform Bidding for Regional Waste and Recycling Contract***

Aside from the previously described advantages to a regional contracted system in general, the following are additional advantages to implementing a cooperative, uniform bid for regional services in SBW:

Economics

Should SBW implement a regional contract through a uniform bidding process, GF estimates that the average annual cost per household at a 30 percent savings would be roughly **\$192.00** (using current price formats). Likely, this total cost will increase some in upcoming years, but the 25 percent or higher savings from a municipally based contract with a hauler is still expected.



As a region, there are 6,580 households potentially affected by converting to a regional waste and recycling contract. Assuming that all households are participating at \$276 per year, the total amount paid for waste collection would be \$1,816,180 per year. Should the same number of households participate in the regional contract; the residents of the Townships would save over **\$544,000 per year** or over **\$1.6 million** through the term of a 3-year contract. A cost comparison of the existing individual subscription costs versus a regional waste and recycling contract is found in **Appendix F**.

Tailored waste program – This option would allow for the tailoring of the program to best meet the needs of SBW residents and the municipalities. The Townships would be able to specify waste management methods and provide new or additional waste disposal and recycling opportunities.

Decreased waste and increased recycling – Contracted collection service for the region including convenient and comprehensive recycling service will decrease waste disposal, and realistically achieve a 35 percent waste diversion rate considering curbside recycling plus recycling of other non-curbside materials.

Increased levels of service – A regional waste contract will reduce per-household costs while increasing the types and level of services beyond what is currently provided. These services might include collection or handling of appliances, other bulky wastes, organic materials, etc., which are not currently addressed uniformly in the individual subscription systems.

#### ***6.3.4 Disadvantages to Competitive, Uniform Bidding for a Regional Waste and Recycling Contract***

Administration - Implementing this option will require more administration on the part of the Townships when compared to the current individual subscription setup that essentially leaves the waste system in the hands of the hauler and residents. This option would also likely require more administration than joining the Centre Region COG contract.

Haulers – Existing waste haulers, except for the successful bidder, will be negatively impacted through customer loss and will express their opposition to the waste system change.

Resident discontent – One of the most difficult issues faced by the Townships in implementing a regional waste and recycling contract will be addressing public complaints concerning the change. This will be especially true for residents who do not currently pay for services, but would have to pay for service under the new program. These same residents could be participating in illegal dumping, burning of wastes, and/or littering since there is no accountability/verification of service in the current private subscription service areas. The vocal minority should not determine the outcome of this important regional decision.

## **7.0 PAY-AS-YOU-THROW**

This section provides a discussion of Pay-As-You-Throw (PAYT) waste management. PAYT is a part of the recommended waste structure for a program in SBW and should be carefully considered. In a PAYT waste management program, residents are charged based on the amount of waste that is disposed thus creating a direct financial incentive for residents and the Township to reduce waste disposal and to increase recycling. Although PAYT programs are highly variable, when properly implemented, these waste collection systems have repeatedly demonstrated the capability to divert more waste from disposal to recycling than other traditional recycling programs. PAYT programs achieve **35 to 50 percent curbside** recyclable diversion rates and therefore, are worthy of consideration for a regional waste strategy.

Two basic structures of PAYT programs include:

- 1) **“True PAYT”** – In a “True PAYT” waste collection and recycling system, residents pay for EVERY bag, or pay based on the quantity of waste that is set-out at the curbside. If containers are used, they may be weighed by the collection vehicle to determine customer cost, or are priced based on the size/capacity or number of the container used by the customer. Typical curbside containers may be 32 gallons, 64 gallons, or 96 gallons.
- 2) **“Hybrid PAYT”** – There are many “Hybrid PAYT” systems. One common program includes two tiers. In the first tier, residents pay a monthly or quarterly fee for “base” or standard trash and recycling services. The base services commonly include up to three bags of trash per week plus other services including recycling, leaf waste pick up, and bulky item pickup. As a second tier, residents purchase additional bags, stickers, or additional container capacity to dispose of waste exceeding the service set-out limit under the first tier waste services.

Regardless of what type of PAYT program is implemented, bid specifications should clearly explain the responsibilities of the hauling entity as it relates to implementation of the PAYT collection system. Residents pay for the costs associated with collection and disposal/processing of waste and recyclables through the per bag/container fees. Municipal per-bag fees vary but can often range from **\$2.00 to \$3.50 per bag** in Pennsylvania. The average cost per household per month in contracted waste collection programs in Pennsylvania is \$12.00 to \$16.00.

Of the two types of PAYT programs, a True PAYT program, where residents are required to purchase each bag/container used for curbside set-out of waste is believed to create the greatest financial incentive and greatest potential to divert materials to recycling. On average, households in a True PAYT program generate 1.25 bags per week and the average bag weighs 27.5 pounds. If this direction is taken, it is important SBW set the per-bag fee at a rate that will cover program costs, but not be set too high that it is negatively perceived by the public. Primary disadvantages to a true PAYT is that it is a very significant change to the private subscription programs in place now, the revenue is based on actual bag purchases by residents, and illegal dumping could increase without proper enforcement that ensures residents participate.

Because “Hybrid” PAYT programs have a base fee, it guarantees revenue from all households to cover the cost of the base level of service. Hybrid PAYT offers some financial security and can be effective, but it creates less financial incentive to recycle than True PAYT programs.

PAYT will be a significant program change from the current system, so effective education will be required and public resistance may be a barrier, especially where recycling is not a priority. Initial implementation of a PAYT program will require more administrative effort than implementation of other contract collection alternatives. GF recommends that the uniformly bid regional waste contract carefully consider incorporation of a PAYT waste system and weigh the advantages and disadvantages.

**Phoenix Recycling** offers a complete PAYT turn-key program including manufacturing of municipal trash bags, delivery of bags to local grocery stores (and others), invoicing at stores, management of inventory and accounting administration ([www.payasyouthrow.com](http://www.payasyouthrow.com)). Act 101,

Section 902 Grant funding may be available for trash containers for PAYT collection programs. The Townships might work with CCSWA on pursuit of Recycling Grant funding.

## 8.0 CONCLUSIONS

GF concludes that implementing a regional waste and recycling contract would be beneficial for the elected officials and residents of Spring, Benner and Walker Townships. Implementing a regional waste management contract would accomplish the following:

- Reduce cost per household by 20 to 35 percent – with a **realized savings for residents estimated between 1.6 million and 2.0 million dollars over** a three year contract.
- **Tailor and improve collection service:** fewer missed stops, consistent collection schedules, additional standard collection services (e.g. bulky items, leaf waste collection, etc), additional recycling opportunities.
- Include a mechanism (i.e. bidding) to **allow local and regional hauling companies to compete for service periodically**, ensuring the Townships receive fair, competitive pricing on behalf of the affected residents, while allowing the flexibility to add new services in the future if warranted.
- Reduce waste and increase recycling from the current 6-11 percent to **35 percent recovered from the waste stream.**
- **Facilitate community planning efforts** for current and future growth.
- Improve ability of the Townships to **manage inflating waste and recycling costs.**
- **Improve compliance** with the Township ordinance waste and recycling ordinance(s) already in place as well as provide opportunity to **implement consistent ordinances and programs in the region.**
- Reduce truck traffic nuisances: noise, traffic and safety, emissions, road damage.
- Ensure proper handling, processing and documentation of recyclables by hauler.
- Program standardization: facilitates waste and recycling program education.
- Facilitate enforceability and education.

While many implementing mechanisms were identified, two were chosen for a closer analysis in the scope of this study. Findings for these options are summarized as follows:

### Centre Region COG Contract (rebid)

Utilizing the Centre Region COG contract potentially reduces the average cost per household from \$23.00 per month currently paid by SBW residents to \$14.74 per month; a **35 percent reduction**. This is a cost savings to residents of approximately **2 million dollars** over the 3-year contract period, assuming all residents receive service. Aside from the economic reasons, the primary advantages for participating in the COG are:

- Joining a proven waste management program.
- Minimizes administrative duties.
- Maximizing economies of scale in COG contract and potentially reducing costs further.
- Effective existing educational resources.
- Increased services including curbside recycling and bulky item collection.
- Decreased wastes and increased recycling.

See section 6.2 for all the advantages and disadvantages of implementing this option.

### Uniform Bidding for a Regional Waste and Recycling Contract

Should SBW implement regional PAYT system through a uniform bidding process, GF estimates that the **average monthly cost per household would be \$16.00 or \$192.00 per year**. This is **30 percent lower** than paid currently by SBW residents. Should all participate in the regional contract, the residents of SBW would **save over \$544,000 per year or over 1.6 million dollars** through the term of a 3-year contract. Aside from the economic reasons, the primary advantages for participating in a regional waste and recycling contract are:

- Tailored waste program.
- Decreased waste and increased recycling.
- Increased levels of service.
- Potential to work through Intermunicipal Agreements, bidding.

See section 6.3 for all the advantages and disadvantages of implementing this option.

While both options discussed in this Report are suited to achieve a cost effective regional waste system and the final choice is ultimately the decision of SBW elected officials, GF recommends partnering with the Centre Region COG Contract due to implementation advantages. The cost savings, economies of scale, valuable expertise, educational programs, and administrative assistance distinguish this option over starting a new program in SBW. After gaining experience with the COG Contract, SBW may want to revisit the options and enter into the waste management arena through their own separate regional contract.

## **9.0 RECOMMENDATIONS**

GF recommends Spring, Benner and Walker Townships do the following to successfully plan for and implement a contractually-based regional waste management system:

- Officials, individually and in concert, should review the information in this Report and formalize the commitment to establish a regional waste and recycling system. This may include forming a committee of representatives from the Townships and the Centre County Solid Waste Authority.
- Utilize the recommended program structure contained in this Report as a guideline for the services specified in the regional waste contract. The following are key baselines:

### Overall Waste System

- Consistent program structures in SBW supported by similar ordinances enacted in all three Townships.
- Clearly defined waste management services secured through a competitive bid process and executed contract(s) for the SBW service area.

### Waste Structure

- Once-per-week trash collection with trash bag/container set-out limits.
- Some form of Pay-As-You- Throw waste collection (if implementation is not a barrier).
- Designated collection or “trash” districts (considered) that limit cost-prohibitive curbside service in certain rural areas.
- Bulky wastes, construction/demolition and white goods (appliances) service.

### Recycling Structure

- Curb sort recyclables collection program.
- Same recyclable materials collected in each Township (those accepted by the CCSWA; see section 5.0).
- Residential and commercial recycling requirements.

### Administration/Implementation

- Recover a small per-household fee for ongoing beneficial waste and recycling programs.
  - Ongoing recordkeeping, cost tracking, and program evaluation.
  - Effective enforcement.
  - Ongoing education (require hauler to educate at least once per year and with changes to services).
- 
- Make a determination of the preferred implementing mechanism: Participating with the Centre Region COG Contract or Uniform Bidding by SBW for a regional waste contract.
  - Implement standardized waste and recycling ordinances consistent with the selected mechanism and reflective of the desired programs, requirements and current waste and recycling markets.
  - Execute formal contracts or agreements for services regardless of the implementing mechanism/approach chosen.
  - Overcome negative public perceptions to change and promote the program through an effective educational campaign. This can be done in the form of a newsletter, flyer, brochure, web site or other Township communication method that is already in place. The CCSWA is a resource for educational materials. Fact sheets about contracted waste hauling, illegal dumping, open burning, recycling and a variety of other topics are available, free of charge, at the Professional Recyclers of Pennsylvania (PROP) website at [www.proprecycles.org](http://www.proprecycles.org). Build strong relationships with local media and thoroughly explain the positive and long-term benefits and opportunities that are at stake.
  - Periodically reevaluate the regional contract to determine its continued efficiency and consider additional options as they might arise to facilitate continued regional planning.



Regardless of what alternative is selected, it is essential the Townships' new program has a fundamentally sound waste collection and recycling structure that is convenient for residents, is cost effective, and effectively manages waste and diverts materials to recycling. Standardizing waste and recycling practices in all three Townships, and supporting these with similar ordinances, will improve the ability to manage and make improvements to waste and recycling programs in the future.

## PART 2 – REGIONAL LEAF AND YARD WASTE EVALUATION

**Preface:** *Importantly, it is **NOT** the goal of this regional leaf and yard waste evaluation to determine how to recover every blade of grass and yard debris generated in the backyards of SBW, collect it curbside, and then haul it to a large scale compost facility. Ongoing cooperation among regional municipalities, the Centre County Solid Waste Authority, the Centre County COG, Penn State University, local farmers, and others can contribute to a realistic organics diversion program that encourages residents to compost items in their back yard and to take source-separated leaf and yard wastes to one or more approved processors to be recycled and returned as a resource to the community.*

**Part 2** of this study, should not distract from the importance of, or become a barrier to, the implementation of a contractually-based regional curbside waste and recyclable contract for SBW described in **Part 1**. Although a regional leaf and yard waste management program can be implemented in SBW without a regional curbside waste and recyclable contract in place, there are clear advantages to coordinating these two programs.

### 1.0 EVALUATING REGIONAL LEAF AND YARD WASTE MANAGEMENT

Many Pennsylvania municipalities and counties are beginning to evaluate, develop and implement regionalized programs for the management of leaf and yard waste. As a local example, the Centre Region COG conducted a residential survey in 2007 that included questions pertaining to waste, recycling and leaf and yard waste management. Results from the COG survey are not complete at this time, but will offer valuable insights about the public opinions related to organics recycling and other topics. This trend to evaluate regional programs for organics management is attributed to a number of factors, some of which include:

- Composting programs in Pennsylvania have matured, gleaned valuable information about maximizing the process and reducing costs. Finished compost has proven to have value, including nutrient and economic potential.
- PADEP has increased the pressure on Act 101 mandated recycling communities to maintain Act 101 compliance related to proper management of leaf and yard waste, including implementation of curbside and drop-off programs for leaf waste.
- As costs associated with transportation, waste management and waste disposal continue to increase; identifying economical solutions for residents and municipalities is prioritized.
- Increased environmental awareness has changed the public's desire to recycle increased amounts and more diverse materials.
- Increased processing capacity, and the ongoing development of a wide variety of uses for organics (e.g. as fuel, soil blends, etc.), has created improved markets, demand, and revenue opportunities.
- Procurement of capital equipment for leaf and yard waste processing equipment (e.g. windrow turners, grinders, chippers, trommel screens, etc.) can cost hundreds of

thousands of dollars for a single piece of equipment. Therefore, sharing the initial cost burden and maintenance costs among multiple municipalities is advantageous.

- PADEP has dedicated a substantial portion of Act 101, Section 902 grant funds to support the establishment of regional leaf and yard waste management programs.

## 2.0 EXISTING LEAF AND YARD WASTE COLLECTION SERVICES IN SBW

Currently, SBW does not participate in a regional leaf and yard waste management program where efforts are managed cooperatively and resources are shared. However, there are some early signs of cooperative use of compost sites. At this time, the three municipalities are not mandated by Act 101 to provide curbside recycling or to meet specific Act 101 and PADEP requirements for leaf waste collection and processing, although applicable Municipal Waste regulations apply in any region. Future population growth, coupled with increased waste system costs and possibly Act 101 recycling mandates, will increase the need for a planned effort for managing organic wastes. The interest in collecting food residues from residential and commercial establishments is being tested in some Pennsylvania municipalities.

The following sections describe existing leaf and yard waste management methods in each municipality.

### 2.1 Spring Township

Spring Township provides curbside brush collection, using municipal staff and equipment, for one week in April and one week in the fall (early October). “Brush” accepted includes tree limbs, tree trimmings, shrubs and similar material. It does not include leaves. After collection, the Township chips the brush at a location behind the municipal building located at 1309 Blanchard Street in Bellefonte. The chipping equipment was originally purchased in part with a grant from the Act 101, Section 902 Recycling Grant program. Residents can pick up the resulting mulch year round, at this location, at no cost.

The Township also provides leaf pick up using a leaf vacuum truck, from the end of October through November (approximately 4 weeks). In 2002, municipal crews collected 18 loads per week for 4 weeks, or 72 total loads. Using an average of 20 cubic yards per load, the Township collected **1,440 cubic yards** of leaves in the fall, or about 144 tons of leaves using EPA’s 200 lbs. per cubic yard conversion for loose leaves as a conservative estimate. GF notes that some new leaf vacuums pack leaves 400-500 lbs. per cubic yard. The Township utilizes three staff, four days a week, during this time. Collected leaves are taken to a private landowner’s property, less than a mile from the Township building, where they are composted. The material is turned three times per year. Residents may take the leaf compost for free. The Township does not currently use leaf compost for any municipal applications (e.g. landscaping).

The Township does not currently own a land plot suitable for a compost facility. Spring Township has had some preliminary discussions with Bellefonte Borough, a mandated community, about entering an agreement that would permit Spring Township residents to use Bellefonte Borough’s compost facility for drop-off of leaf and yard waste. At this time, Spring Township believes this would be a favorable arrangement.

## 2.2 Benner Township

Benner Township residents are permitted to drop off brush at a designated area adjacent to the Township Building located at 1224 Buffalo Run Road in Bellefonte, PA. After brush accumulates, the Township fire police conduct a controlled burn of the brush. The Township does not own any leaf or yard waste processing equipment.

Complaints about open burning, including burning of leaf and yard waste are common in the Township. The Township has limited staff resources to enforce the existing anti-burning ordinance.

## 2.3 Walker Township

Walker Township residents are permitted to drop off brush (excluding grass and leaves) year round at the Township building located at 816 Nittany Valley Drive in Bellefonte, PA. Accumulated piles of brush are processed by a chipper owned by the Township. In 2007, the Township began to offer residents the resulting mulch at no cost. Dumping of unwanted materials at the brush drop-off required the Township to limit access to the site with a security cable. Residents are now required to call in advance prior to dropping off material.

The Township collects leaves with a leaf vacuum truck in the fall, from the end of October into November (typically three weeks). The Township collected 47 loads of leaves in 2007. Using an average of 20 cubic yards per load, the Township collected **940 cubic yards** of leaves in the fall. The Township reported 94 tons of leaves in 2007, which is equivalent to 200 lbs. per cubic yard using EPA's conversion for "loose" leaves. Leaf collection areas are broken into three zones, allowing Township staff to cover about one zone per week. In 2007, the Township initiated a new program for leaf composting. They paved an area adjacent to the Township Building for use as a compost pad. The compost area has jersey barriers to designate separate areas for leaf waste drop-off, compost processing and compost pick up. The dimensions of the paved areas are 70'x100'; 10'x20' and 37'x80' (~1/4 of an acre paved). Finished compost produced from the site will be made available to residents. At this time, the Township has not pursued Act 101, Section 902 Grant funding to offset any of the costs associated with this program.

The Township does not have a burning ordinance and complaints about open burning occur frequently. The Township does not have an enforcement officer to address waste management issues and the zoning officer only works part-time.

## 2.4 Existing SBW Regional Leaf and Yard Waste Management Overview

Summary of the existing regional leaf and yard waste management practices in SBW:

- Consistent with many Pennsylvania waste programs, residents from SBW frequently dispose of grass, leaves and brush at the curb along with their municipal trash. There are very few incentives and/or programs and very little enforcement in place to counter this activity.

- Spring Township has the most comprehensive curbside leaf and yard waste recycling program of the three municipalities; offering seasonal curbside brush and curbside leaf collection. Compost is produced and made available for residents. There is no public leaf and yard waste drop-off program in Spring Township.
- Benner and Walker Townships have brush drop off programs, but residents must call in to use Walker Township's site and brush at the Benner drop-off is burned, not processed into mulch or compost for use by residents.
- SBW does not host any PADEP-permitted compost facilities that are open to the public on a regular schedule.
- SBW does not own or rent large-scale composting equipment (e.g. grinder, screener, windrow turner) to process material. Chippers are used for some brush processing.
- None of the three municipalities is mandated by Act 101 to provide curbside leaf waste collection services.

### 3.0 REGIONAL COMPOST FACILITIES AND PROCESSING OPPORTUNITIES

A list of permitted compost facilities in Centre County is shown in **Appendix G**. GF has highlighted the following compost sites and brush and yard waste drop-off sites in the region also shown in **Figure 3**.

- **Bellefonte Borough's compost site**
- **Borough of State College compost site**
- **Penn State University's compost site**
- **Benner Township's brush drop-off site**
- **Walker Township leaf compost site and brush drop-off**
- **Spring Township's leaf composting area (private landowner)**

These processing sites and other identified outlets can each offer value to a regional leaf and yard waste management program for SBW. Where SBW can cost-effectively manage brush, leaves and/or other yard wastes generated within their municipalities, they should continue to do so. However, if a certain material (e.g. leaves) is difficult or cost-prohibitive to manage, it can be advantageous to work with another municipality. In some cases, compost facilities have a deficit for material and need to increase an inbound stream to maximize efficiency, improve compost processes, and generate more revenue through product sales. If a contractual arrangement for a regional waste management program is pursued by SBW, the bid specifications can require the contractor collect and deliver leaf and yard waste to one or more regional facilities.

### 3.1 Leaf and Yard Waste Processing Opportunities

A number of **cooperative leaf and yard waste management opportunities** are shown below and should be confirmed on a case-by-case basis. There are many programs available in the local area that can be cost-effective options for SBW to enhance their leaf and yard waste management practices. Likely, a combination of more than one option will be optimal. Initial

discussions are favorable that outlets and sufficient local processing capacity for yard waste is available and municipalities and others are willing to cooperate with SBW.

Borough of Bellefonte - The Borough of Bellefonte Public Works Department provides leaf and yard waste collection as well as drop-off programs. Borough residents (only) can take compostable items such as grass clippings, brush, limbs, etc. to the Yard Waste Composting Facility on Musser Lane. Materials are accepted on Saturdays from 9 a.m. to 12 noon from April until November at no charge. This compost facility may be a viable outlet for yard waste materials from Spring Township, and possibly for Benner and/or Walker. Mutually beneficial arrangements could be established (examples):

- Spring Township (and possibly Benner and Walker others) could pay a processing fee and/or maintenance fees to participate, allowing residents to use the drop-off program on a scheduled basis.
- Spring Township (or others) could donate staff time to the facility in lieu of payment.
- Spring Township and Bellefonte (and possibly other municipalities) could joint-apply for Act 101, 902 Recycling Grant funds to expand the Bellefonte compost site so it may efficiently manage material from Spring Township and possibly from other municipalities.

Borough of State College – The Borough of State College has a compost site on North Atherton Street in Patton Township. This site processes grass and leaves at a 1:3 grass to leaves ratio. The Borough will load finished compost material for a nominal price per scoop (2 cubic yards) for residents of the Borough and the Centre Region who have trucks to haul their own material. One or more of the Townships (SBW) could enter a yard waste disposal agreement with the Borough to accept leaves (for a tip fee), grass and woody wastes. An example of this contract is presented in **Appendix H**.

Penn State University compost site – Penn State University’s composting program is a valuable information resource and a leader in the nation’s composting efforts. At times, this operation is carbon-deficient because of moist to wet food waste that can be high in nitrogen content. A mutually beneficial arrangement may be pursued for this facility to accept a controlled amount of leaves from one or more of the Townships.

University Area Joint Authority (UAJA) – UAJA oversees the largest municipal treatment facility for the disposal of wastewater in the Centre Region. The Treatment Plant is located at 1576 Spring Valley Road, and borders Benner Township. UAJA is considering organics recycling at their facility and may become an outlet for SBW to take leaves to serve as a bulking agent to facilitate the organics composting process.

Local farms/land application – Farms can accept leaves and yard waste for composting if they have suitable land and processing equipment (if needed). Land application of yard waste to farmland requires completion and approval of PADEP’s Land Application Yard Waste Form which falls under the Permit-By-Rule Guidelines. These guidelines specify acceptable handling procedures. When approving farms for land application, the source (e.g. generating

municipality) of the leaf waste must be identified. These farms do not operate as a blanket approval for processing material from any generator. Tait Farm Foods in Centre Hall Borough, Centre County, is a permitted farm for land application of yard wastes, and recently was approved for an On-farm Composting Permit. Tait Farm Foods currently has an agreement to accept yard waste from Harris Township and could be an outlet for SBW yard wastes.

Equipment sharing – High costs for composting equipment (e.g. grinders, screeners, windrow turners) coupled with this equipment's (especially grinders) ability to process very large quantities of material quickly, make compost equipment sharing feasible and fairly common in Pennsylvania. A couple equipment sharing opportunities include:

- Centre County or the CCSWA could administer the program by procuring (with Recycling Grants) and maintaining yard waste processing equipment. The equipment should be mobile (e.g. on a trailer system) and GF suggests a grinder be made first priority. New horizontal grinders can exceed \$300,000. As needed, and as available, SBW and other municipalities in the region could rent the equipment and/or pay a maintenance fee to offset costs incurred by the equipment owner. It is suggested an operator and specified maintenance personnel be dedicated to the equipment so that it is properly maintained and not abused/neglected by people less familiar with the equipment.
- Spring, Benner and/or Walker might purchase a grinder and/or other compost processing equipment using Act 101, Section 902 Recycling Grant funds. The Township would share this equipment with other municipalities as feasible to minimize and offset costs.

Processing equipment rentals – Yard waste processing equipment can be very expensive. At the same time, equipment like grinders and trommel screens have high processing capacity and can process large volumes of material in a short period of time. Often, this equipment sits around unused most of the year. Typically 1-2 day rentals are all that may be needed for processing brush that has accumulated at a municipal compost site over a period of months, or to screen leaf compost that has been composted and cured from the year before. Equipment can be rented from equipment vendors and from municipalities. The Clinton County Solid Waste Authority (Authority) in McElhattan, Pennsylvania owns and rents Morbark Model 1300 Tub Grinder and Morbark Trommel Screen. The grinder is rented for \$200 - \$300 per hour depending on material type and the trommel screen is rented \$150 per hour plus a separate mobilization fee that varies.

Multi-municipal leaf collection – A municipality (SBW or other) that operates leaf vacuum trucks could be secured to provide curbside leaf collection service in another municipality (or designated areas of a municipality) that currently lacks this service. For example, Benner Township, who does not have curbside leaf collection, could have some level of service provided to them by Spring or Walker Township or another municipality. This could be done through an intermunicipal agreement and include a cost sharing arrangement to offset operational and/or equipment costs. New one-man operated leaf collection vehicles (like the ODB SCL800) have a high initial capital cost, but can do the work of a three-man leaf crew with one person, thus creating higher potential for sharing the equipment and very cost effective leaf collection. Locally, State College Borough, College Township and Ferguson Township use this type of one-man leaf collection vehicle. Use of this type of vehicle would dramatically reduce the man hours and total number of truckloads needed to collect leaves in Spring and Walker Townships.

New or expanded compost site(s) – A joint-municipal effort could be used to cost effectively develop or expand one, or possibly more, compost sites in Spring, Benner or Walker Townships or another nearby municipality (see Section 5.0).

#### **4.0 LEAF AND YARD WASTE QUANTITIES**

An accurate total amount of yard waste currently collected and processed for recycling in SBW is unknown. Estimating these quantities accurately is difficult due to the variability in collection methods, participation and reporting. We do know that the combined total of leaves collected in Spring and Walker Townships included 119 vacuum truckloads or approximately **2,380 cubic yards** (assuming 20 cubic yards per load) in the fall of 2007. Benner Township does not collect leaves at the curb. Based on the combined population in Spring and Walker Townships (10,302), residents recycle about .25 cubic yards per person per year (leaves). Brush and yard waste totals are not documented.

Estimating potential quantities can be done by reviewing reported information for other municipalities. Based on the R.W. Beck regional compost study conducted for Ferguson Township (2001), municipal crews collected an average of nearly 12,000 cubic yards per year from College, Ferguson, and Harris Townships. At that time, the combined population according to the 2000 U.S. Census data was 27,209 persons. Based on these figures, the average person recycled (not generated) about .5 cubic yards of yard waste per year. As a guideline, GF used these figures to roughly estimate the quantity of material that could be collected from SBW. Combined, SBW has 15,724 residents (2005). At .5 cubic yards per person per year (which is more than the current rate of collection in SBW), SBW residents could potentially recycle about 7,800 cubic yards of leaves (primarily) and yard waste. To achieve these quantities, the collection program should offer comprehensive curbside fall leaf collection services and some spring collections. The actual amount of yard waste collected for processing will correlate to the level/frequency of curbside service provided. It is noted that College Township's contract in 2005 with State College Borough was for processing 563 tons of leaves. These tons equate to 2,252 or 2,815 cubic yards of leaves using a 400 or 500 lb. per cubic yard conversion ratio commonly used with the ODB SCL800 leaf vacuum.

Some Pennsylvania municipal compost facilities report .25-.50 cubic yards per person for yard waste drop-off (excluding grass and including local landscaper deliveries). Using this figure, 5,000 – 10,000 cubic yards of additional yard waste, primarily brush, could be collected each year through a comprehensive compost facility and drop-off program. Actual quantities will vary based on site location, participation, hours of operation, and many other factors.

#### **5.0 NEW OR EXPANDED COMPOST SITES IN OR NEAR SBW**

Because of the number of compost options in close proximity to SBW, it is recommended SBW evaluate the use of these existing outlets for leaves and other yard wastes before proceeding with the development of a new compost site, or expansion of an existing drop-off area or compost site for leaf and yard waste management.



A permanent, convenient compost facility with regular hours for public drop-off can dramatically increase the amount of material collected and processed. A compost site can be used to process curbside collected leaves and brush and/or other yard wastes that are brought to the facility. The existing leaf compost and drop-off sites for brush in SBW are limited in size and processing capacity. One or more of the existing compost sites or brush drop-off sites could be expanded if space and resources permit, but this does not appear possible for sites currently used in SBW due to space limitations. If other compost options are not determined to be suitable, or one of the municipalities wants to get into composting, a new site could be developed to serve one or more of the municipalities.

The compost site should be sized to meet the processing needs for the material generated by participating municipalities, and also meet applicable zoning requirements and local and State requirements for leaf waste compost facilities. In the beginning of the program, potential volumes of leaves from SBW could be efficiently windrowed and managed on less than 5 acres. Provided accumulating brush is ground quarterly or as needed, brush receiving, processing and mulch stockpiling can be performed on approximately one acre. As a general guideline, a municipal compost site should be 5 acres minimum, while 7-10 acres is preferable to allow for future expansion and space for temporary material storage, equipment storage, easy site access, traffic flow, etc. Too often, municipal compost sites are sized smaller than is optimal to maximize processing and operations, and are limited in their ability to expand as the program matures.

Any compost facility should be buffered from residential and commercial sector receptors. Buffers include distance from occupied dwellings (300' minimum for Permit-By-Rule facilities) plus trees, fences or earthen barriers that help to minimize noise, odor and visual impacts to neighbors.

## 5.1 Permit-By-Rule Application

If a compost site is developed, it should be permitted according to Permit-By-Rule Application and Guidelines ([www.depweb.state.pa.us](http://www.depweb.state.pa.us)). The Guidelines establish criteria for proper siting of the compost facility. The permit allows active composting on up to five (5) acres of the site. The typical Permit-By-Rule application and PADEP approval process is:

- Permit-by-Rule application submittal by municipality (CCSWA may be able to assist with application),
- PADEP Engineer or PADEP Regional Staff will conduct a site visit and evaluation,
- A permit review letter will be generated listing either an approval or deficiencies that must be addressed prior to approval,
- Mail Permit-by-Rule letter to PADEP Region Recycling Coordinator and/or PADEP Region Recycling Coordinator Supervisor, and
- Approval time is usually 2 to 4 months from submittal of the Permit-by-Rule application.

## 5.2 Site Development And Start-up Equipment

GF has not provided a cost estimate for developing a compost site as this was not in the scope of this study, and because SBW has not identified a land plot or proposed a regional compost facility at this preliminary stage in the planning process. Compost facility development costs will vary considerably based on land prices, land clearing and preparation, working surface (e.g. paving), access, and all other site development variables. If a regional compost facility is pursued, GF suggests the equipment in the table below as the key piece of equipment for operating the facility.

### Suggested Start-up Equipment for a Regional Compost Facility

Equipment	Estimated Costs	PADEP Recycling Grant (90%)	SBW Cost (10% Match)
Front end loader (e.g. Case 721)	\$120,000	\$108,000	\$12,000
Horizontal grinder (e.g. Bandit - 700 hp)	\$300,000	\$198,000	\$22,000
Pull beside windrow turner (e.g. CT670 Vermeer)	\$100,000	\$90,000	\$10,000

## 6.0 BARRIERS FOR ESTABLISHING REGIONAL LEAF AND YARD WASTE MANAGEMENT PROGRAM

There are a number of real barriers that face SBW when it comes to implementing a planned and effective regional leaf and yard waste management strategy. These barriers do not make the development of a regional program impossible, but they do influence the diversion expectations, potential, timing, implementability, public and elected official support, program design, economic feasibility and the goals and methods for collection and processing. The barriers primarily occur at collection, since local processors are available. Some key barriers include:

- Local waste disposal is convenient and cheap and therefore fiercely competes with other processing activities including recycling and composting. With few limits on how much trash can be set out the curb, and without a financial disincentive structure like PAYT that discourages waste disposal, residents have little motivation to manage leaf and yard waste material any differently than waste.
- Generally, the public prioritizes cost-effective waste service and curbside recycling service ahead of leaf and yard waste management.
- SBW staff, resources and time is limited, and they do not have extensive experience with regional planning, including planning for leaf and yard waste.
- Common and largely accepted historic practices for leaf and yard waste disposal in SBW include curbside disposal with trash, burning, and illegal dumping. Even when prohibited by ordinance, these activities are rarely enforced.

- The existing multi-hauler system provides highly variable services, limited services, and in some cases, no household service, which makes it difficult to assess the current status of waste management practices and participation. This complicates the ability to evaluate programs and develop effective management strategies.
- Public participation in organic drop-off programs is directly related to convenience. Current drop-off opportunities for yard waste are limited within SBW, therefore, it may be necessary to expand existing drop-off points and/or add new ones. This would reduce the distance traveled by residents and possibly commercial vendors (e.g. landscapers) who may participate in one or more regional compost sites or other drop-off points. Adding compost sites or more functional drop-off sites may become a barrier due to costs, land use and other priorities.

## **7.0 CONCEPTUAL PLANNING FOR REGIONAL LEAF AND YARD WASTE MANAGEMENT**

This Recycling Technical Assistance study is the very early stage of the regional planning process. SBW will need to make decisions on a number of planning concepts to determine how to proceed to improve upon the current leaf and yard waste management program. Some of the existing leaf and yard waste management programs are improving gradually, but for the most part, this is being done without cooperative planning and regional participants in mind. Generally, GF believes that expanding these programs should be a coordinated and phased approach.

Since Spring, Benner and Walker Townships are below population density requirements established by Act 101 for mandated recycling, they are not subject to certain collection and management requirements for “leaf waste,” which includes leaves, garden residues, shrubbery and tree trimmings, and similar material, but not including grass clippings. In some ways, this favors cost-effective planning for managing targeted materials for either curbside collection or drop-off. Rapid population growth might result in Spring Township or possibly Benner and/or Walker Township to be subject to Act 101 curbside leaf collection mandates. Planning therefore, should include flexibility for fulfilling Act 101 requirements.

### **7.1 Goals for Regional Leaf and Yard Waste management**

With consideration of the barriers, existing collection programs, and processing sites in the region, GF offers some realistic goals for establishing a regional leaf and yard waste management program in SBW:

- To the extent feasible, standardize the leaf/yard waste collection and processing methods, residential services offered in all three Townships, and ordinances to support these programs. Implement consistent ordinances including anti-burning ordinances.
- Give residents the opportunity to participate in seasonal curbside leaf collection in all three municipalities. This may require identifying “collection districts” that might exclude this service to extremely rural areas within one or more of the Townships.

- Ensure residents from Spring, Benner and Walker Townships have the opportunity to use at least one PADEP-approved drop-off site that is open on a regular schedule for brush and as feasible for other yard wastes (e.g. stumps, grass, leaves, etc.).
- Develop a program that discourages residents from mixing leaf and yard waste with curbside trash.
- Keep costs down by sharing resources with other municipalities and/or entities.
- Submit Act 101, Section 902 Recycling Grants to offset eligible costs associated with the regional composting program.
- Utilize PADEP-approved compost sites or approved leaf application sites.
- Complete Permit-by-Rule applications for existing, non-permitted compost sites (and applicable future sites) and for yard waste land application sites.
- General: When leaf and yard waste is source-separated, it should be recycled/composted and returned to the community as a beneficial material.

## 7.2 Strategy for a Regional Leaf and Yard Waste Management Program

SBW should develop a fundamental strategy to serve as a guideline for making decisions related to enhancing current programs and adding new ones. The key in this early stage for a successful strategy will be to identify the level of support, regional participants, and the base level of services that benefit the public, but are cost-effective. GF places emphasis on a “decentralized” strategy where many participants work in concert to share resources and minimize material hauling distances. GF highlights components of this strategy as follows:

Elected officials in SBW should confirm their position on the regional waste management and recycling system described in Part 1 – If SBW participates in either of the two options recommended for a contractually-based, regional waste and recycling management system, there will be an opportunity to recover funds to support enhanced leaf and yard waste management. This may be implemented by incorporating a small per household fee. There may also be opportunities to include specific leaf and yard waste collection/processing services within the contracted program that could be very cost-competitive. For example, a monthly or quarterly brush collection service using a roll-off container for collection could be included in the bid to create an enhanced drop-off program for brush. The successful contractor could take brush to a local processor. Periodic curbside brush or possible leaf collections could also be added to the bid.

Confirm SBW elected officials commitment for a regionalized leaf and yard waste management program. Without genuine support from elected officials and a plan, progress will falter.

Confirm cooperative arrangements for collection and processing – Identify which municipalities and other entities are willing to participate. Nearby municipalities that are currently managing brush and/or leaves and/or other yard wastes can become cost-effective opportunities for managing materials generated in SBW Townships.

Clarify service arrangements – After willing municipalities or other entities are identified, the specific cooperative arrangements should be clarified. Brief operating and/or disposal agreements are recommended to reinforce ongoing, positive business relationships. Compost facilities often have specific requirements for contamination limits and facility use, and these details should be outlined in a written document. Facilities may also require visitors show an ID each visit or upon request.

Focus on managing brush and leaves – SBW should focus on the management of leaves and brush first. Residential generation/volume for these two material types, in addition to their special handling needs, heightens the importance of offering service for these materials to the public. Many residents do not want brush and leaves to accumulate on their property and some do not have adequate space to manage them. Brush can be quickly ground into a beneficial mulch product that can be sold from \$10-\$20 per cubic yard. Leaves can be composted using relatively simple and inexpensive technology, but windrowing leaves and other organics is land intensive. Generally a site that is at least five acres is recommended for municipal compost sites, but size will vary based on incoming material, site features, operation, etc. PADEP Permit-By-Rule compost facilities allow a maximum loading rate of 3,000 cubic yards per acre of windrowed yard waste.

Backyard composting – There is no closer, more cost efficient outlet for organics than someone's backyard, and collecting and transporting yard waste at the curb can be expensive. Backyard composting can reduce the amount of waste generated by an average of 12 percent while the addition of food waste will divert another 11.2 percent (U.S. EPA, 2000). Backyard composting is a reasonable solution for households that do not receive curbside yard waste services. Backyard composting bins could be distributed or sold at a discounted rate as part of this program. Simple backyard compost bins may range from \$30 to \$100 and cost less if bought in bulk. PADEP is directing monies and compost bins to County Extension Offices to conduct educational seminars.

Minimize hauling distances – Take materials to nearby sites to the extent feasible. Avoid hauling unprocessed brush by grinding it before hauling.

Outsourcing services - As a strategy for labor savings, where municipal employees perform collection and processing of organics (e.g. leaf and brush collection), it may be advantageous to outsource this service via contract to lower costs and to allow municipal staff to complete different work tasks. When the waste portion of the system is secured under contract, there will be more data available, and increased participation (i.e. all household will have waste service), which will help each municipality assess what programs should be prioritized.

Education – Proper education of ongoing and new programs is as important as any ordinance and will help to minimize the amount of enforcement required. Since diverting organics to composting is not a priority in SBW for many residents, education will have to be stressed and sharing resources, including the CCSWA and Penn State will be beneficial and cost effective.

Enforcement – Illegal dumping of leaves, brush and other yard debris is common. Enforcement of some of this activity is done on the County level, but SBW should also employ proper enforcement measures as part of the regional composting strategy. Consistent ordinances that prohibit open burning are encouraged, and the ordinance language should designate an enforcement officer and grant them the right to issue citations.

## 8.0 CONCLUSIONS

SBW Township's existing leaf and yard waste management programs are improving gradually, but for the most part this is being done without cooperative planning and regional participants in mind. There are many local opportunities available for SBW to cooperate with their neighbors to regionalize their leaf and yard waste programs (see Section 3.0). Many of these opportunities appear to be cost-effective solutions and can be "win-wins" with other municipalities with the proper arrangements in place. Encouraging backyard composting through education, while at the same time, prohibiting burning, dumping and other illegal disposal activities is a simple but effective management approach that will increase leaf and yard waste diversion to recycling.

SBW will face barriers, including making a regional composting initiative an ongoing priority. Many other municipal services and activities may be more important to elected officials and to the public. These barriers do not make the development of a regional program impossible, but do influence the diversion expectations and potential, timing, implementability, public and elected official support, program design, economic feasibility and the goals and methods for collection and processing. **It is important these programs build upon realistic program changes and reasonable leaf and yard waste diversion goals that are not cost-prohibitive. Structuring these programs to be consistent with other programs in the region will facilitate implementation and future regional planning efforts.**

It will be beneficial for SBW elected officials to confirm the direction of a contractually-based regional waste and recycling management program before enhancing the regional leaf and yard waste program, since there can be advantages for planning these programs simultaneously.

## 9.0 RECOMMENDATIONS

GF has provided a number of recommendations to SBW in **Part 2** of this Report. The recommendations are a guide for SBW in the planning process for an enhanced regional leaf and yard waste management program. At the forefront of these recommendations, SBW should identify the level of ongoing commitment from elected officials to support future leaf and yard waste management programs. The programs should be implemented in a "decentralized" approach with regional neighbors, processors (i.e. compost facilities) and resources in mind. SBW should confirm the existing opportunities and willing participants and processors (e.g. local municipal compost programs, farmers, Penn State University, etc.) that can help SBW improve the level of leaf waste management services extended to residents at an affordable cost. GF recommends that SBW make official, mutually beneficial arrangements with these regional participants. SBW should consider the development of a regional compost site to serve SBW only after other local processing options have been seriously considered, or if it is mutually agreed that SBW wants to get into the composting business. SBW should work toward the following enhanced leaf and yard waste management program structure to benefit SBW residents and the regional community:

- Existing and future SBW leaf and yard waste programs should be developed so that the material collection, handling and processing requirements are standardized in all three Townships. As feasible, these standardized programs should be consistent with methods

and requirements in the existing successful municipal programs in the region. Standardization will help to facilitate the following: program implementation, cost sharing, and education. Similar programs that are consistent with surrounding successful programs will improve SBW's position in terms of long-term planning for regional growth. All three Townships should implement similar solid waste management ordinances, including anti-burning ordinances.

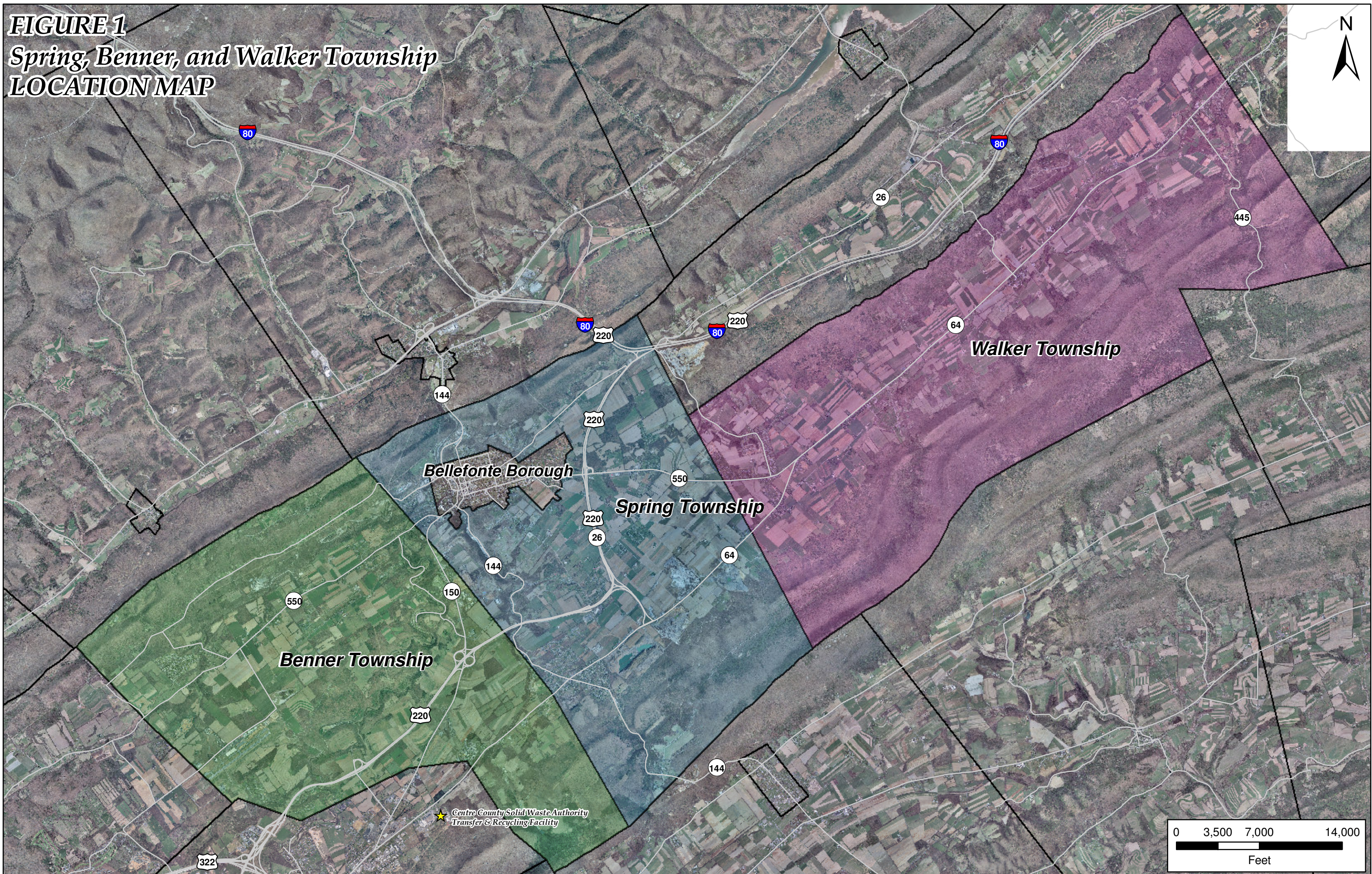
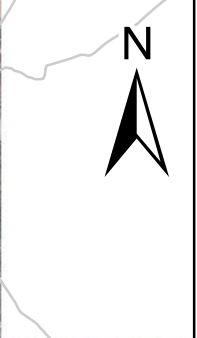
- SBW should prioritize efficient **curbside leaf collection** and **public drop-off sites for brush**. Provide seasonal curbside leaf collection (using vacuum trucks) in all three Townships, which may require the exclusion of some rural areas in one or more of the Townships to minimize collection costs. The curbside leaf service could be provided by the host municipality, another municipality or contracted to a private service provider and should utilize efficient vacuum trucks that reduce labor costs and maximize collection per vehicle.
- Residents from Spring, Benner and Walker Townships should be provided at least one drop-off location, that at a minimum accepts brush for recycling (e.g. grinding into mulch). The drop-off point or compost facility could be located in one or more of the SBW Townships or include another local compost facility that will permit participation by SBW residents (refer to the scenarios described in Section 3.1).
- Mutually beneficial arrangements with regional participants for leaf and yard waste processing services should be reinforced with written agreements/contracts to ensure interests of all affected parties are protected in a way that supports a positive business relationship.
- Applicable sites used for composting should be permitted along with land application sites. The Permit-By-Rule application process is described in Section 5.0. There is no application fee for Permit-By-Rule compost sites, and the CCSWA assists municipalities with these applications.
- SBW should pursue state grant funding as necessary to help offset the costs of developing new or improving existing yard waste programs. Act 101, Section 902 grant funding is available on a competitive basis for up to 90 percent reimbursement for costs associated with purchasing eligible composting equipment and PADEP has given Recycling Grant priority to regionalized recycling and leaf waste management programs. The Townships should not solely rely on grant funding as the support mechanism for its programs. Walker Township should work with the CCSWA in the preparation of a Section 902 Recycling Grant to recover costs incurred from enhancing their yard waste program/drop-off site in 2007.
- GF encourages the CCSWA to host an annual Centre County Region Compost Summit that is designed to get Centre region municipalities, farmers, compost facilities and other interested parties together to discuss composting solutions. This Summit could address existing programs, identify opportunities to share resources and facilities, identify ways to cost-effectively expand collection systems and improve processing capacity. Summit efforts could create a larger diversion from the landfill and return organic wastes as a resource to the community.

**FIGURE 1**

**Project Location Map**



**FIGURE 1**  
*Spring, Benner, and Walker Township*  
**LOCATION MAP**



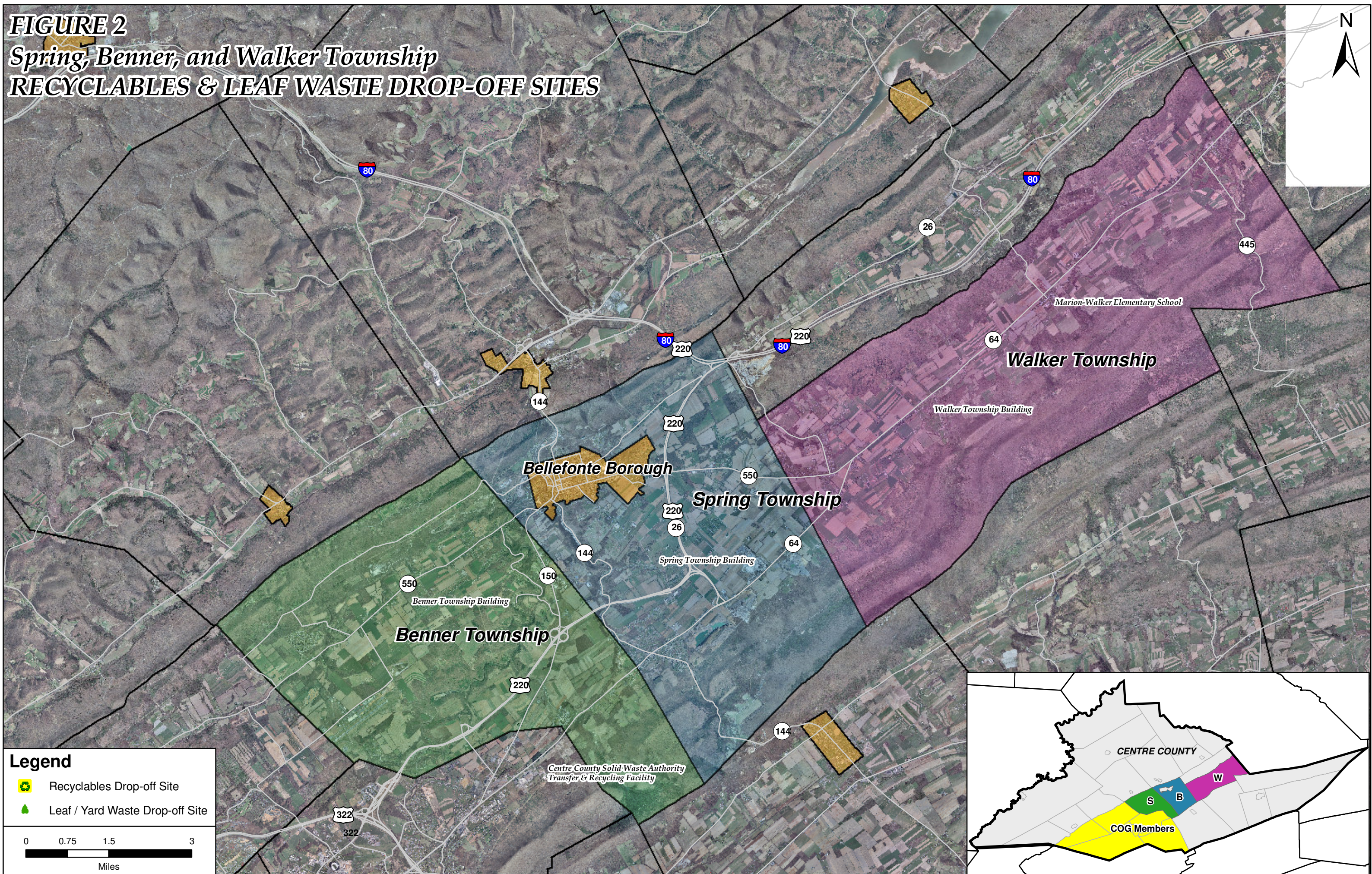


**FIGURE 2**

**Drop-off Recycling Sites**



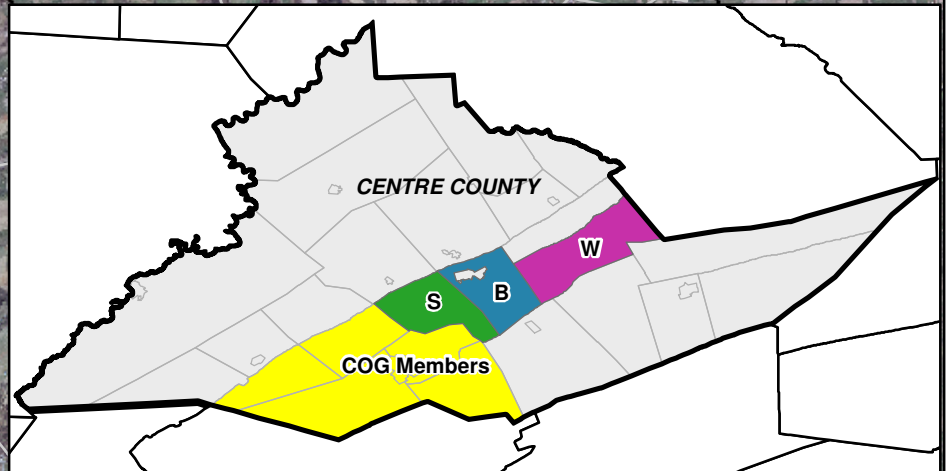
**FIGURE 2**  
**Spring, Benner, and Walker Township**  
**RECYCLABLES & LEAF WASTE DROP-OFF SITES**



**Legend**

- Recyclables Drop-off Site
- Leaf / Yard Waste Drop-off Site

0 0.75 1.5 3  
 Miles



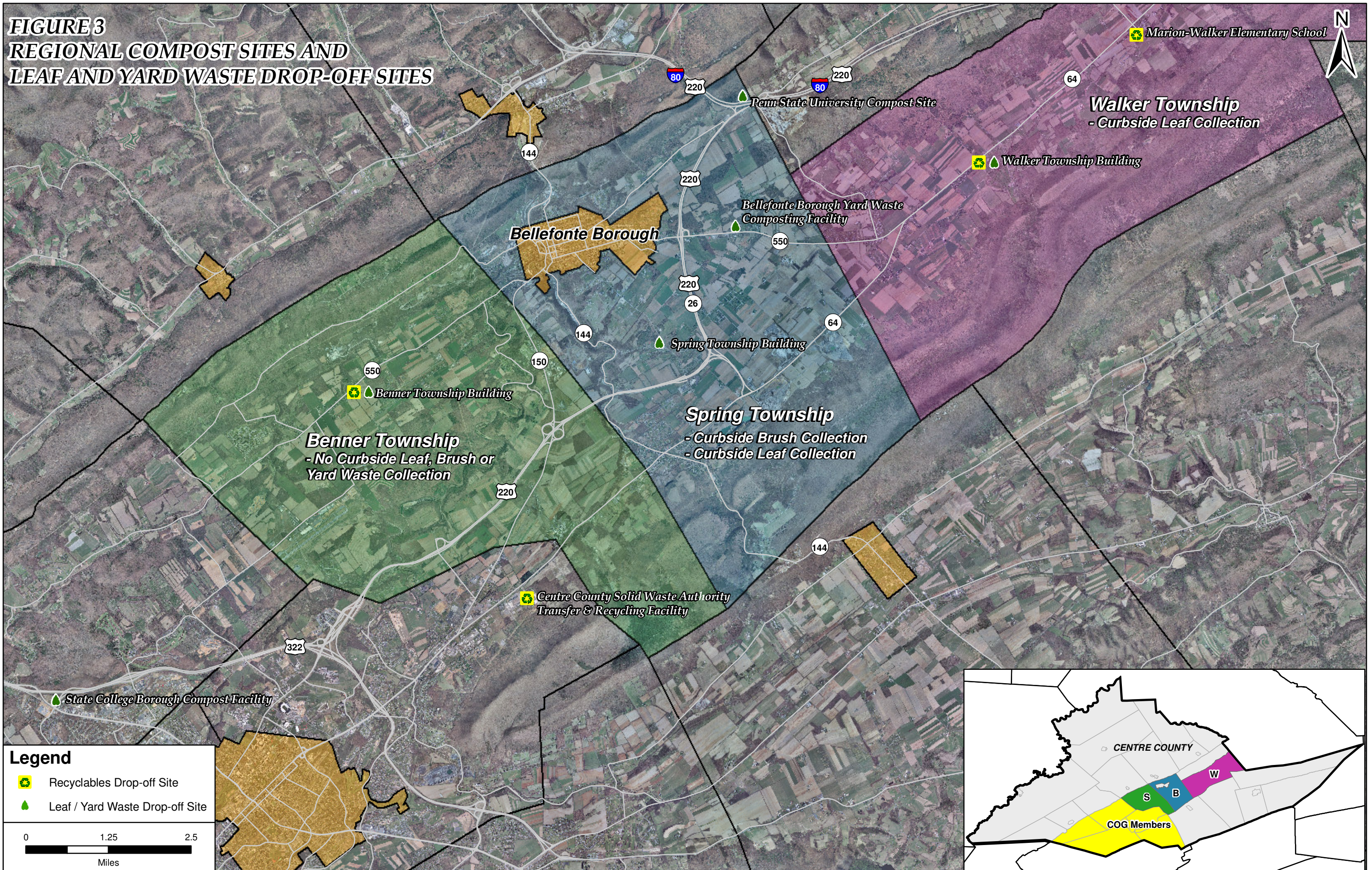


**FIGURE 3**



**Regional Composting Sites**



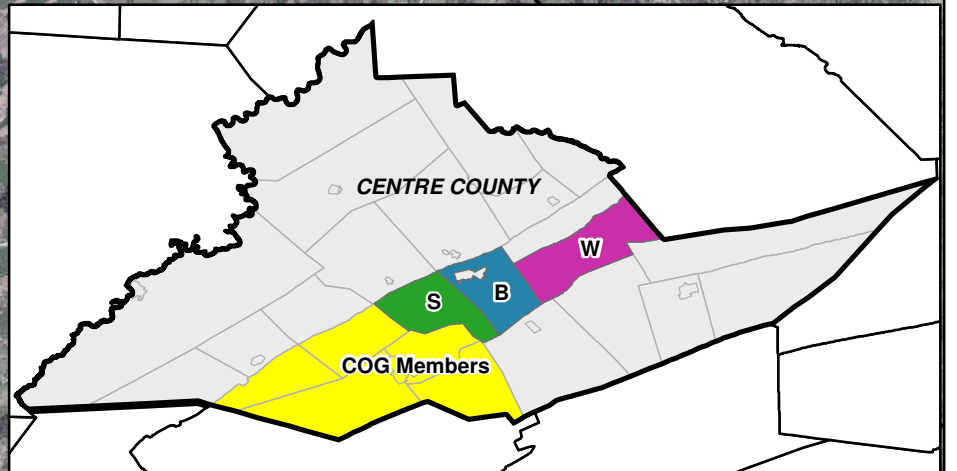
**FIGURE 3**  
**REGIONAL COMPOST SITES AND**  
**LEAF AND YARD WASTE DROP-OFF SITES**



**Legend**

-  Recyclables Drop-off Site
-  Leaf / Yard Waste Drop-off Site

0 1.25 2.5  
 Miles





**APPENDIX A**

**Local Hauler Listing and Waste Hauler Survey Results**

**Listing of Waste Haulers  
in Spring, Benner and Walker Townships**

Primary haulers operating in Spring Township:

- John Glen Sanitation Services
- Veolia Environmental Service (Formerly ONYX)
- B.E. Newman, Inc.
- Love Disposal, Inc.
- Fred Carson Sanitary Disposal Service

Primary haulers operating in Benner Township:

- John Glen Sanitation Services (John Glen)
- Fred Carson Sanitary Disposal Service

Primary haulers operating in Walker Township:

- Love Disposal, Inc.
- Veolia Environmental Service (formerly ONYX)
- John Glen Sanitation Service
- B.E. Newman, Inc.
- JJ Peters Disposal Service

7 different haulers active in SBW

**Centre Region, PA  
Hauler Telephone Survey  
Spring, Benner, and Walker Township  
Regional Waste Management System Evaluation**

Hauler	Trash cost per month per household	Bag Limit	Collection Frequency	Bulky item collection	Bulky item cost	Recycling service	Recycling fee	Recyclables handling	Collection frequency/schedule	Yard waste collection/cost	Comments:
<b>Love Disposal, Inc.</b>	\$22.00	8 bags/month	Once per week (Wednesday)	By appointment		NO				NO	Residents are allowed 8 bags per month. If residents exceed 10 bags their cost increases. If residents have less than 7 bags per month they are given a credit. No recycling services, residents use drop-off facility at Centre County SWA.
<b>John Glenn Sanitation Services</b>	\$23.00 (weekly) \$21.00 (bi-weekly)	4 bags (30 gal) or 8 bags (15 gal)	Once per week	YES	Landfill pricing	NO				NO	Centre County arranges the recycling services. They do not collect yard waste, but if you put it in a bag they will pick it up and take it.
<b>Newman Hill, Inc.</b>	\$22.00	3 bags	Once per week	YES	Included	YES	Included with trash	Comingle	Same day as trash	See Comment	The Newman Hill employee stated that it may be their responsibility to collect yard waste, but Spring Township provided regular brush pick-up.
<b>Veolia Environmental Service</b>	\$24.00	NO	Once per week (Tuesday)	By appointment	Cost varies by item	YES	Included with trash	Glass, Cans, Newspaper, Mixed paper	Once per week (Tuesday)	YES - Brush only all year round	Unlimited curbside collections. Brush pick-up is all year round and is included in the price. The brush must be less than 6' length and 4" diameter, bundled weighing less than 40 lbs. \$72.00 billed quarterly for trash and recycling.
<b>Ray Walker Trucking</b>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Currently Ray Walker only has roll-off dumpsters and are not collecting trash/recyclables at this time.
<b>Fred Carson Sanitary Disposal Service</b>	\$21.00	Three 30-gal cans/wk.	Once per week	Yes (call)	None	YES	Included with trash	Subbed to CCSWA (curb sort)	Once per week (Tuesday)	NA	



**APPENDIX B**

**Comparison of Existing Waste Management Attributes**

## Spring, Benner and Walker Townships Comparison of Existing Waste System Attributes

X - denotes attribute exists

		Spring	Benner	Walker
<b>Solid Waste Features</b>				
<b>SW Ordinance</b>		X	X	
	Mandatory Refuse Collection	X		
	PAYT Program			
	Mandatory Recycling			
	Enforcement	X		
	Bulky Waste Program	self-haul		
	C/D Waste Program	self-haul		
	Illegal Dumping/Littering Program		X	
	Hauler Licensing	X		
<b>Number of Waste Haulers</b>		6	3	4
<b>Township Tracking/Recordkeeping</b>				
<b>Other Enforcement</b>				
<b>Burning Ordinance</b>		X	X	
<b>Recycling Features</b>				
<b>Separate Recycling Ordinance</b>		X		
	Commercial Recy Mandate	X		
	Licensed Recy Haulers	X		
	Admin Fee for Recycling	X		
<b># Mandated Recy Municipalities</b>		1		
<b># Households w/ Curbside Collection</b>				
	Glass			
	Plastic Bottles			
	Tin Cans			
	Aluminum Cans			
	Newspapers			
	Other			
<b># Drop-Off Sites</b>			1	2
	Glass		X	X
	Plastic Bottles		X	X
	Tin Cans		X	X
	Aluminum Cans		X	X
	Newspapers		X	X
	Other			
<b>Composting Features</b>				
<b>Composting Program</b>		X	X	X
	Permit-By-Rule			
	Leaves	X	X	X
	Brush/Yard Waste	X		X
	Food Waste			
<b>Composting Ordinance</b>				
	Leaves	X		
	Brush/Yard Waste			
	Food Waste			

**APPENDIX C**

**Municipal Ordinances: Spring Township & College Township**

Ordinances not included in online version of Report

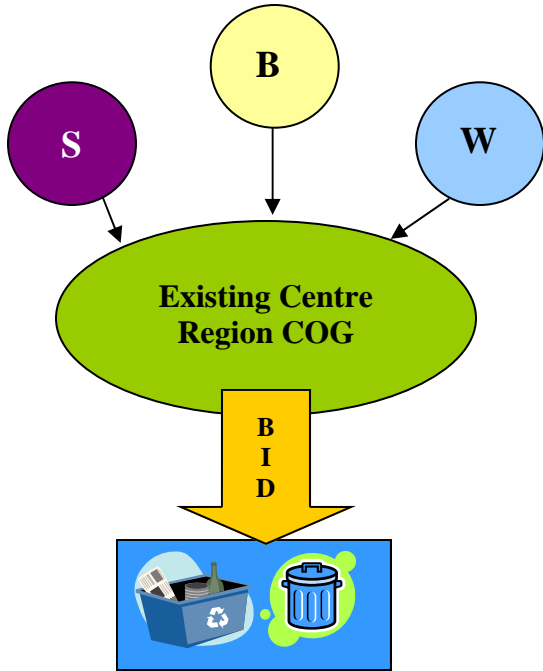
## **APPENDIX D**

### **Implementing Mechanisms – Graphic & Descriptive Representations**

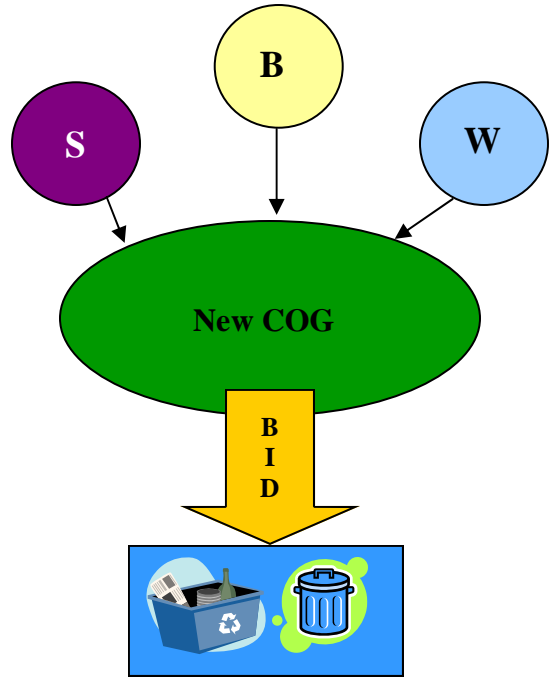
Spring-Benner-Walker Townships  
Recycling Technical Assistance Study—2007  
Scenario Variations

OPTION 1 – Implementation Through a Council of Governments (COG)

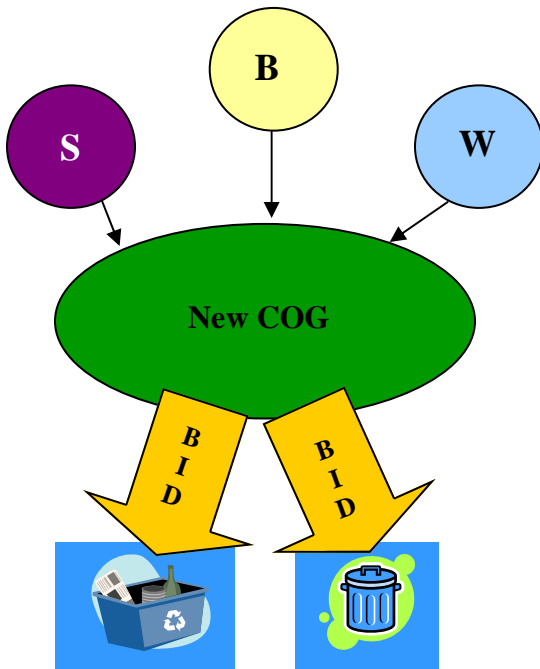
1A—Join Existing Centre Region COG



1B—Form New COG—Joint Contract



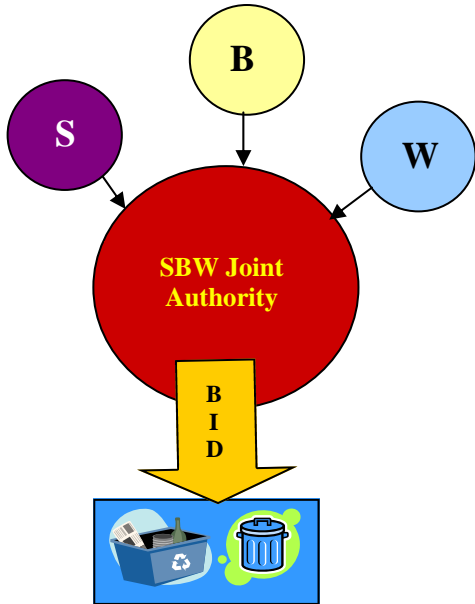
1C—Form New COG—Separate Contracts



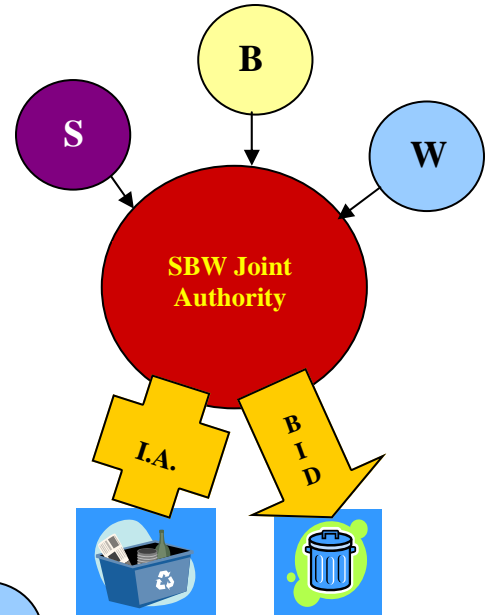
# Spring-Benner-Walker Townships Recycling Technical Assistance Study—2007 Scenario Variations

## OPTION 2 – Implementation Through a Municipal Authority

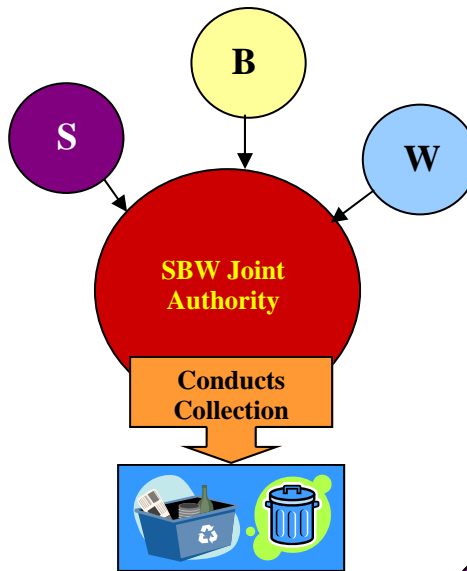
**2A—Join Existing SBW Auth - Joint Svc Bid**



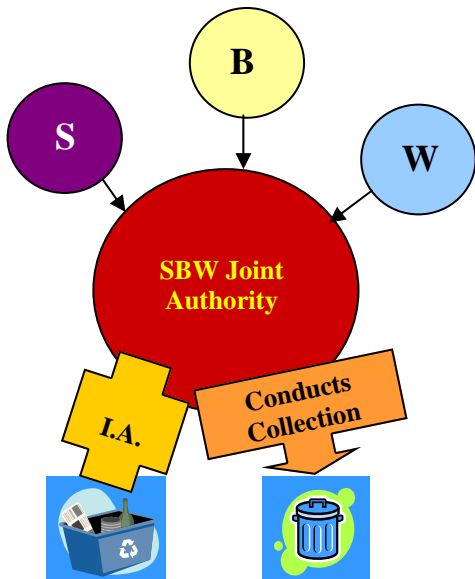
**2B—Join Existing SBW Auth - Separate Bids**



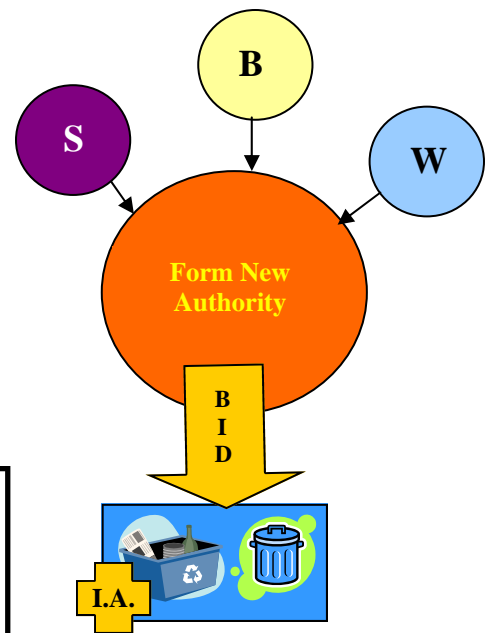
**2C—Join Existing SBW Auth - SBW Collects All**




**2D—Join Existing SBW Auth - Bid Recy—Collect Waste**



**2E—Form New SW Auth - Joint Bid for Services**

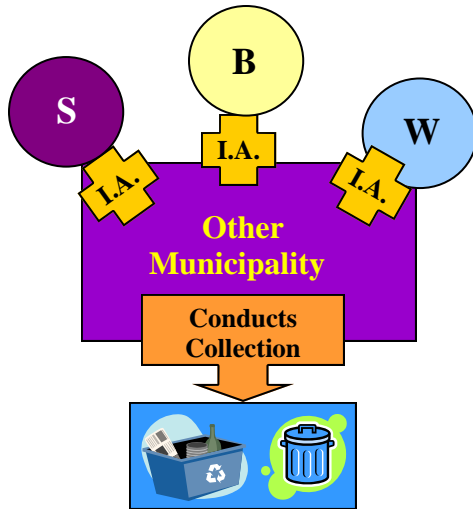


 Form Intermunicipal Agreement with CCSWA for Service

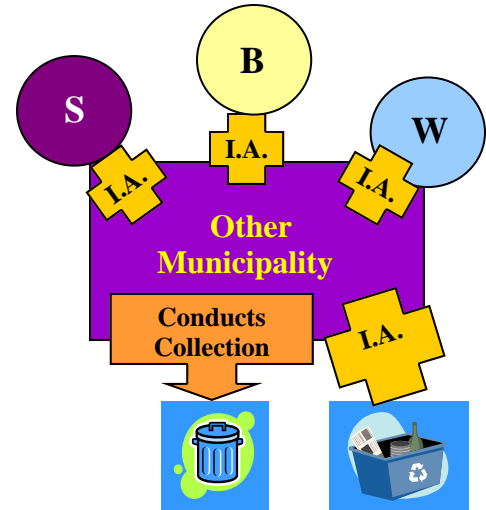
# Spring-Benner-Walker Townships Recycling Technical Assistance Study—2007 Scenario Variations

## OPTION 3 – Intermunicipal Agreement with Another Municipality

3A—Intermunicipal Agmt—Joint  
Collection



3B—Join Existing SBW Auth -  
Separate Bids

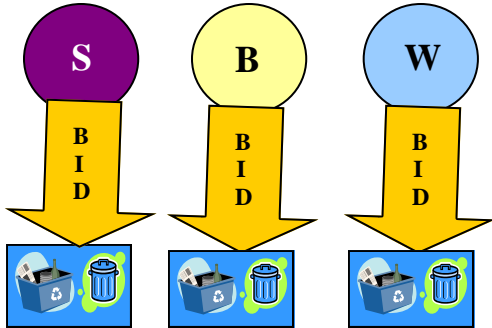


Form Intermunicipal  
Agreement

# Spring-Benner-Walker Townships Recycling Technical Assistance Study—2007 Scenario Variations

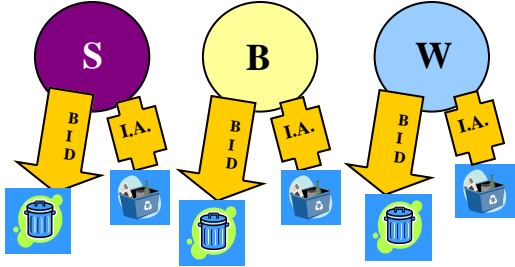
## OPTION 4 – Uniform Bidding/Collection—Non-Ordinance

**4A— Uniform Bidding  
—Joint Waste/Recy Bid**

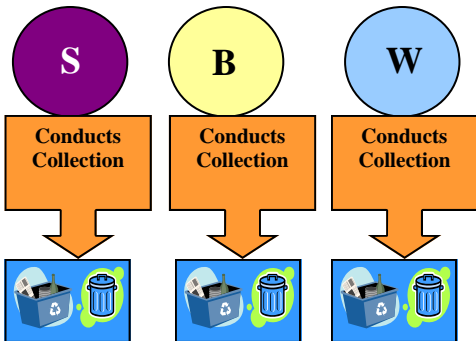


**4B—Uniform Bidding**

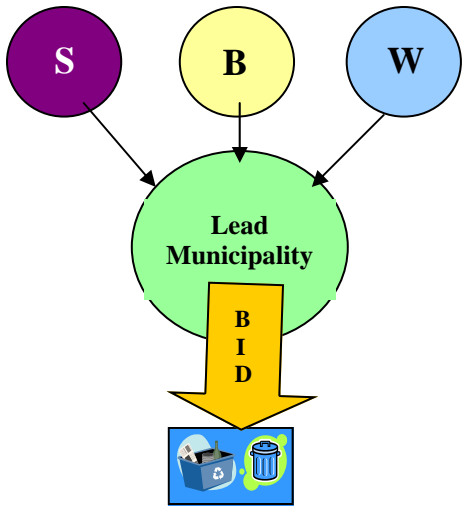
- Waste Contract Private
- Intermunicipal Agmt Recy-



**4C—Uniform Collection—Each  
municipality collects Waste/Recy**



**4D—Uniform Collection—Lead  
Municipality  
Bids Collection**



 Form Intermunicipal Agreement



**APPENDIX E**

**Public Meeting Records (October 9, 2007)**

## **Record of Minutes**

Public Meeting  
Spring, Benner, and Walker Township Recycling Technical Assistance Study  
October 9<sup>th</sup>, 2007  
Centre County Solid Waste Authority Offices

### **Attendees:**

Bill McMath – Spring Township  
Ron Burd – Walker Township  
Jim Heckman – Walker Township  
Frank Royce – Spring Township  
Sharon Royer – Benner Township  
Joanne Shafer – Centre County Solid Waste Authority  
Ted Onufrak – Centre County Solid Waste Authority  
Steve Deasy – Gannett Fleming Inc.  
Lori Robson – Gannett Fleming Inc.

The meeting was opened at 2:30 pm by Lori Robson. Lori introduced the project and discussed the Recycling Technical Assistance Grant that is being used to study a regional waste, recycling and leaf/yard waste management program in Spring, Benner and Walker Townships, Centre County, Pennsylvania.

A computer generated presentation was directed to attendees. Notes from the presentation shall be made part of these minutes. Lori discussed the benefits of regionalizing an integrated solid waste management program and the need for a concerted effort in the three townships involved with this study. A draft of the recommended program structure was presented and discussed with attendees. It was emphasized that ordinances should be used to put in place a system that addressed the collection of waste, recyclables and leaf/yard waste. Specific waste collection, recycling collection and recordkeeping strategies were presented and discussed. Economics and enforcement of the program would be crucial to success.

At this time, Lori presented the various implementing mechanisms and the variety of options that were possible. Through this study, Gannett Fleming researched the various options feasible in Pennsylvania. These include implementation through a:

Solid Waste Authority,  
Council of Governments,  
Intermunicipal Agreement with another Municipal Entity, or  
Uniform Bidding among the Townships (Handshake agreements).

A handout describing the options in text and graphically was provided to attendees. This handout shall also be made part of these minutes.

Through discussion and consensus building, several options were examined. Discussion of these options included:

**Solid Waste Authority** – Discussions ruled out creating a new solid waste authority for the three townships. Representatives indicated that using an existing solid waste authority for bidding or conducting waste collection was also not desirable.

**Council of Governments (COG)**– Participants indicated that the effort to create a new Council of Governments was not desirable. If a COG were used, the nearby Centre Region COG would be the most beneficial route to use. Ted Onufrak provided some information about the cost and level of service of the existing COG contract.

**Intermunicipal Agreements** – Some discussion was held about partnering with a nearby municipal waste collection entity and utilizing the existing Centre County Solid Waste Authority for collection of recyclables. Attendees indicated that these townships were not likely to enter into the waste collection arena themselves, but might be interested in partnering with another municipal entity for waste collection services. This could be done through an Intermunicipal agreement.

**Uniform Bidding** – Attendees agreed that conducting waste and/or recyclable collection on their own was not desirable, but putting a joint bid out for collection services could be very beneficial for all involved. This uniform bidding process could attract the private and public sector bids.

At this point in the meeting, Steve Deasy provided a handout that examined the current costs and potential cost savings of a regional waste management project in Spring, Benner and Walker Townships. Steve discussed the Waste Hauler Survey conducted by Gannett Fleming as part of this study. He also discussed the conservative methodology in determining the potential cost savings. Steve projected that a regional program could reduce costs by 25%, which would extrapolate to a savings to the residents of over \$450,000 per year. Other discussion ensued.

Lori Robson indicated that the information gleaned from this meeting would be incorporated into the study report. The next step was to examine the implementing mechanisms discussed and provide further recommendations for the regional program. Lori closed the meeting at approximately 4:30 pm.

Respectfully submitted,  
Lori Robson  
Solid Waste Specialist  
Gannett Fleming, Inc.

**APPENDIX F**

**Existing and Proposed Regional Contract System Cost Comparison**

**Spring, Benner and Walker Township Recycling Technical Assistance Study  
Estimated Current Costs and Cost Savings for a Regional Waste Recycling Contract - 2008**

Township	Population <sup>1</sup>	Households <sup>2</sup>
Benner	5,422	2,269
Spring	6,557	2,744
Walker	3,745	1,567
<b>TOTAL</b>	<b>15,724</b>	<b>6,580</b>

Monthly and Year Rates Per Household	Monthly Cost & Savings Per Household (\$)			Yearly Cost & Savings Per Household (\$)		
	\$18	\$23	\$28	\$216	\$276	\$336
<b>Est. Waste &amp; Recycling Cost for All Households</b>	\$118,440	<b>\$151,340</b>	\$184,240	\$1,421,280	<b>\$1,816,080</b>	\$2,210,880
<b>20% Savings</b>	\$94,752	<b>\$121,072</b>	\$147,392	\$1,137,024	<b>\$1,452,864</b>	\$1,768,704
<b>25% Savings</b>	\$88,830	<b>\$113,505</b>	\$138,180	\$1,065,960	<b>\$1,362,060</b>	\$1,658,160
<b>30% Savings</b>	\$82,908	<b>\$105,938</b>	\$128,968	\$994,896	<b>\$1,271,256</b>	\$1,547,616
<b>35% Savings</b>	\$76,986	<b>\$98,371</b>	\$119,756	\$923,832	<b>\$1,180,452</b>	\$1,437,072

**Est. Savings @ 30% Reduction - Uniform Bid**

**\$45,402**

**\$544,824**

**Est. Savings @ 35% Reduction - COG Contract**

**\$52,969**

**\$635,628**

NOTES:

1. Population data from Centre County Annual Population estimates as of July 1, 2005.
  2. Average household data from 2005 General Demographic Characteristics of Centre County.
- Additional Note: An unknown number of households do not pay for waste disposal

**APPENDIX G**

**Centre County Permitted Compost Facilities**

## Centre Region Permitted Compost Sites

**Private:**

Penn State University State College, PA 16801 Phone: (814)-865-1048	Products: Compost Feedstock's: Food Waste, Straw and select waste from Ag-Center  Campus Use Only
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**Municipalities:**

Bellefonte Borough 236 West Lamb Street Bellefonte, PA 16823 Contact: Ralph Stewart Phone: (814)-355-1501	Products: Compost Feedstock's: Leaves, grass, brush, branches  Material may be dropped off Saturday Mornings at the following location: Musser Lane, Spring Township  Marketed Locally
Ferguson Township 3147 Research Drive State College, PA 16801 Contact: Dave Modricker Phone: (814)-238-4651	Products: Compost Feedstock's: Leaves, brush  Curbside Collection
Harris Township P. O. Box 20 224 Main Street Boalsburg, PA 16827 Contact: Allan Clinger Phone: (814)-466-6228	Product: Mulch Feedstock's: Leaves, Brush, Christmas trees
Millheim Borough P.O. Box 421 Millheim, PA 16854 Contact: Sharon Heckman Phone: (814)-349-5350	Product: Mulch, Compost Marketed locally
Patton Township 100 Patton Plaza State College, PA 16803 Phone: (814)-234-0271	Products: Mulch Feedstock's: Leaves, brush  For Sale: \$20 per scoop or \$2 per bag
Phillipsburg Borough P. O. Box 631 4 N. Centre Street Phillipsburg, PA 16866 Contact: John Knowles Phone: (814)-342-3440	Products: Mulch Feedstock's: Leaves, brush  Marketed Locally
Spring Township 1309 Blanchard St. Bellefonte, PA 16823 Contact: Bill McMath Phone: (814)-355-7543	Product: Mulch Residents Only
State College Borough 2145 North Atherton State College, PA 16801 Contact: Mark Whitfield Phone: (814)-234-7134	Products: Compost, Mulch Feedstock's: Leaves, grass and brush
University Area Joint Auth. Spring Valley Road State College, PA Phone: (814)-238-5361 URL: <a href="http://www.uaja.com/compost/compost.htm">http://www.uaja.com/compost/compost.htm</a>	Product: Compost (over 5,000 yards <sup>3</sup> per year) Feedstock's: biosolids

**APPENDIX H**

**State College Borough Yard Waste Disposal Agreement**

Not included in online version of Report