

# **A Discussion on the Planned Expansion and Improvements to the Drop-Off Recycling Program**

Trafford Borough

Westmoreland County



B-Y Park, Trafford Pennsylvania

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## **BACKGROUND**

The Pennsylvania Department of Environmental Protection (PaDEP), the Governor's Center for Local Government Services, the Pennsylvania State Association of Township Supervisors (PSATS) and the Solid Waste Association of North America (SWANA) formed a training partnership for Pennsylvania local governments interested in achieving higher recycling rates. Through this partnership, Trafford Borough was awarded \$6,000 in technical assistance services from Gannett Fleming, Inc. to review the Borough's plans for expanding its drop-off recycling program.

## **INTRODUCTION**

A special interest group of Borough residents called "Target-Force" began a recycling program in 1993 to serve the Trafford area. Target-Force developed a drop-off program at B-Y Park for newspaper, which eventually expanded to include aluminum, bi-metallic cans, and mixed-grade paper. The group also initiated a special clean-up day for residents to recycle tires and scrap metals, called "Make Trafford Beautiful" day. In January 2002, Target-Force transferred the administrative responsibilities of the recycling program to the Borough staff. The group remains active in promoting and educating residents in the Trafford area on the importance of recycling.

The goal of the Commonwealth is to achieve a recycling rate of 35% by 2003. On the basis of the Annual Recycling Report to Westmoreland County, Trafford Borough successfully diverted 714 tons of commercial and residential waste from landfills in 2001. This tonnage equates to a recycling rate of 28% when compared against the average statewide waste generation rate of 0.8 tons per person per year, and the US Census estimate of 3,205 Borough residents as of the year 2000.

To help Pennsylvania reach its recycling goal, the residents of Trafford Borough would like to expand and improve its recycling efforts. Expansion plans include: adding PET and HDPE plastics to the list of recyclables, working with local schools to increase the amount of paper recycled, and placing recycling containers at Borough parks, playgrounds, and baseball fields for

aluminum cans. The Borough would also like to have extra recycling containers available for special events, such as summer festivals and community gatherings. Additionally, the Borough would like to pave the access road to the recycling drop-off center, stabilize the hillside, and improve the overall appearance of the recycling center. The Borough requested technical assistance to review these plans prior to submittal of a 902-grant application with the Pennsylvania Department of Environmental Protection (PaDEP) in Fall 2002.

Approval for 902-grant funds is contingent upon an assurance to the PaDEP that Borough ordinances and regulations do not allow for the burning of materials that are a part of its recycling program. The Borough contacted the Council of the City Jeannette, who worked through this process in 2001, for guidance on the necessary amendments.

## **SCOPE OF SERVICES**

Reynold Peduzzi of Trafford Borough and Ray Regan of Gannett Fleming, Inc. worked together to develop the following tasks for this SWANA project:

- Task 1:** Review the list of materials that the Borough would like to add to the drop-off program, and suggest other materials to add, if necessary.
- Task 2:** Review the expansion plan, which includes providing containers Borough parks, playgrounds, and special events for aluminum can recycling, providing containers to schools for paper recycling, and purchasing a vehicle to service the containers. Suggest equipment vendors to contact where applicable.
- Task 3:** Review the plan for improving the drop-off center, which includes paving the access road, stabilizing the hillside, and improving the overall appearance.

These three tasks were reformatted in the report to match the nine items (A through I) listed in the Trafford Borough's preliminary 902-grant application for 2002, which is presented in **Appendix C.**

## **TASK COMPLETION**

The Borough has a preliminary plan to expand and improve the recycling program. A list of the plans discussed for program expansion and improvement is as follows:

- A. Add new materials, such as PET and HDPE plastics, to recycle at the drop-off center;
- B. Provide containers at Borough parks, playgrounds, and baseball fields for aluminum can recycling;
- C. Have extra containers available for special events, such as summer festivals and community gatherings;
- D. Purchase a recycling vehicle for servicing the containers at the parks, playgrounds, and special events;
- E. Construct a storage facility for the recycling vehicle;
- F. Place containers in school classrooms for paper recycling;
- G. Pave the access road to the drop-off center;
- H. Stabilize the hillside adjacent to the drop-off center;
- I. Improve the overall appearance of the drop-off center.

The locations for these planned improvements include: three parks, five playgrounds, two baseball fields, a recycling drop-off center, and the Trafford area school. These locations are presented in **Figure 1**, which is located at the end of this report.

Some of the recycling equipment to be purchased is available through the Pennsylvania Department of General Services (DGS). The advantage of procuring equipment through DGS is that the bidding requirement is waived because contracts are developed through the Commonwealth's competitive bidding process. It is assumed that the Borough would prefer to procure equipment through the DGS, if possible. In cases where a DGS contract is not available, this report provides contact information for three equipment vendors. A summary list all of the equipment to be purchased as part of Trafford Borough's 902-grant application in 2002 is presented in **Appendix A**. Further details, recommendations, and additional considerations are provided in the following sections.

**A. *Add new materials, such as PET and HDPE plastics, to recycle at the drop-off center:***

The Borough would like to add a bin for PET (soda bottles) and HDPE (milk jugs) at the B-Y Park drop-off center. To implement plastic bottle recycling, the Borough contacted Unipaper Recycling Company of Carnegie. The vendor suggested a service agreement for a 15 cubic yard bin to commingle plastic bottles and metal cans.

The Borough might also consider adding glass bottles to the drop-off program. There are several companies in Allegheny and Westmoreland counties who accept brown, green, and clear glass for recycling. A list of these companies, as listed on the PaDEP Recycling Homepage, is provided in **Appendix B**. Glass bottle collection can increase the recycling rate by several tons per year. The drawback of glass bottle collection is that some housekeeping is necessary to keep the area around the drop-off bin free of broken glass.

**B. *Provide containers at Borough parks, playgrounds, and baseball fields for aluminum can recycling:***

Containers for aluminum can recycling are proposed for three Borough parks, five playgrounds, and two baseball fields. If the Borough contracts Unipaper Recycling Company, who offered a commingled bin for aluminum cans and plastic bottles, then consideration should be given to adding plastic bottles to the park collection program. Co-collection would be easy to implement because separating the two materials at the recycling center would not be necessary.

An appropriate recycling container should be easy to service, weather resistant, and designed to deter people from dumping their refuse in it. It should also have a cover to prevent rainwater infiltration as well as wasp attack. The 108JB unit from Busch Systems, as pictured in **Figure 2**, can be used for the outdoor collection of aluminum cans and plastic bottles. It is a plastic 54-gallon container with a round hole at the top, which is equipped with a wasp flap. The Busch Systems unit is available through the DGS.

Since the 108JB unit is a plastic container and will drift in the wind, consideration should be given to chaining it to a fence or strapping it to a pole. Plastic liners can also be considered to ease servicing, clean up, and to prevent cans and bottles from falling out from the recycling vehicle during transport. The optimum bag size for the 108JB unit is 46 inches wide by 48 inches tall.

The Borough should also consider two sets of stickers to place on the recycling containers: one that identifies the Trafford Borough recycling program, and another that instructs people to only place aluminum cans and plastic bottles in the container.

**C. *Have extra containers available for special events, such as summer festivals and community gatherings:***

The Borough would like to purchase extra recycling containers to use at special events, such as summer festivals and community gatherings. The 108JB unit from Busch Systems is also appropriate for this purpose. The containers are stackable, which reduces the storage space requirements. The Borough should probably purchase at least four or five extra bins for special events.

**D. *Purchase a recycling vehicle for servicing the containers at the parks, playgrounds, and special events:***

A recycling vehicle is desired to service parks, playgrounds, ballparks, and special events. The Borough is considering a utility vehicle, which resembles a golf cart with a large utility bed. Since there are several types of utility vehicles available, this section focuses on design specifications as related to the collection of aluminum cans and plastic bottles.

The key component for selecting an appropriate vehicle in this case is the bed volume. With a total of 10 locations to service, each with a 50-gallon recycling container, there is the potential for 500-gallons or 70-cubic feet of bottles and cans (one cubic foot is equivalent to 7.48 gallons). Beds for a utility vehicle range from eight to ten cubic feet.

The bed height of some vehicles, however, can be extended to increase the hauling capacity. Consideration should be given to extending the bed height with a cage or wooden slats.

Two other vehicle specifications to consider are the tires and the engine type. As a gesture of environmental consciousness, the Borough might consider purchasing a vehicle with an electric, rather than a gasoline, powered engine. Tires should handle on-road and grass surfaces equally well.

Trafford Borough received a price quote for two models of the Kawasaki Mule, which resembles the utility vehicle shown in **Figure 3**. The Kawasaki Mule appears to be adequate for the Borough's recycling needs. The John Deere Electric Gator (**Figure 4**) and the Carryall from Club Car Online (**Figure 5**) also appear to be adequate. For additional quotes, please refer to the contact information provided in **Appendix A**. Pre-owned utility carts are also available from many vendors.

**E. *Construct a storage facility for the recycling vehicle:***

An extension onto the restroom facilities at B-Y Park is proposed to provide storage space for the recycling vehicle. Other recycling equipment, such as spare recycling containers, will be stored in another shed that is available to the Borough. The facility for the recycling vehicle will be designed with volunteer assistance, and constructed using donated materials and volunteer labor.

In this case, technical assistance is offered for determining the appropriate size of the storage facility. A utility vehicle is typically 9 feet long and 5 feet wide (45 square feet). If other recycling equipment is to be stored in the proposed facility, a facility sketch plan can help to ensure that the storage capacity is adequate.

**F. *Place containers in school classrooms for paper recycling:***

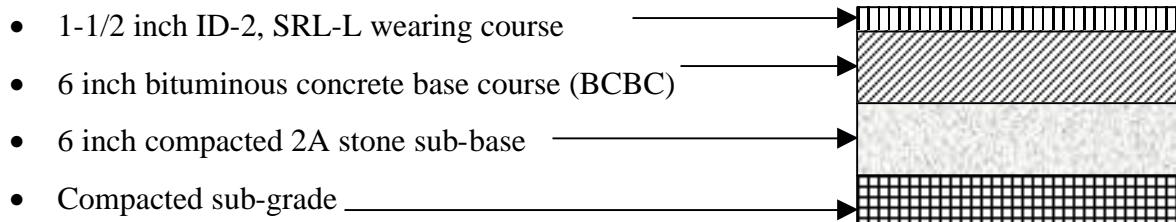
As a service to local schools, the Borough is considering the purchase of desktop and floor kit receptacles for office paper recycling. These receptacles are cardboard collapsibles, and can be placed on the teacher's desk and/or next to the trash can. The kits under consideration from Bruce Mooney Associates, Inc. through a DGS contract appear to be adequate.

It is anticipated that the janitorial staff at the school would service the receptacles for office paper recycling, and use the newspaper drop-off bin located at the school.

**G. *Pave the access road to the drop-off center:***

The gravel road to the recycling drop-off center is a one-lane path nested between a set of railroad tracks and a steep hill. The Borough proposes to pave this road to improve its accessibility to the residents and service providers.

In this case, the Borough requested technical assistance with the paving details. A typical bituminous pavement detail for a road upon which truck traffic is expected consists of the following specifications from top to bottom:



It is important for the contractor to provide details of the proposed paving plan prior to the start of work, and to have a professional engineer review the contractor's proposal.

**H. *Stabilize the hillside adjacent to the drop-off center:***

The hillside adjacent to the drop-off center is too steep to support vegetation, and consequently, debris and rocks tend to slide off of the hill and onto the access road. To reduce the amount of debris that accumulates on the access road, the Borough plans to place concrete barriers along the base of the slope.

A local highway construction contractor should be able provide and install these barriers. If the height of the barriers is inadequate for containing all of the debris that falls off of the hillside, a metal or nylon catch screen can be placed upon the barriers. The selected barriers should have a notch along the top edge for inserting fence posts.

**I. *Improve the overall appearance of the drop-off center.***

Very little can be done to improve the overall appearance of the drop-off center due to its locality. It sits between a steep hillside and railroad tracks, and provides just enough space for the recycling bins and vehicle access.

Directional signs to the recycling center are suggested as a means of increasing awareness and use of the center. Signs are available from PennDOT and can be placed along State roads within the vicinity of the recycling center at no cost to the Borough. For more information on recycling signs, Rocksroy Bailey, the Recycling Coordinator for the Bureau of Environmental Quality can be contacted at 717-214-3748.

## **CONCLUSIONS AND RECOMMENDATIONS**

The Borough staff appears to have put together a comprehensive plan for improving and expanding its recycling program. When the Borough is prepared to move forward with the corresponding 902-grant application, a meeting should be arranged with the PaDEP Regional Recycling Coordinator to review the modified grant application. The 902-grant application is expected to be due around the end of September or beginning of October of this year. A summary of additional considerations for the nine preliminary 902-grant items (the Borough's recycling plan) is provided below:

- A. Consider adding glass bottles to the drop-off program. Glass bottles can increase the recycling rate by several tons, and several vendors in the area are willing to accept brown, green, and clear bottles.
- B. Three considerations were presented in Section B:
  1. Consider adding plastic bottles to the park collection program. The commingled recycling bin offered by Unipaper Recycling Company for aluminum cans and plastic bottles makes co-collection at the parks easy to implement.
  2. Consider the 108JB unit from Busch Systems, Inc. for aluminum can and plastic bottle collection at parks, playgrounds, and ball fields. This 54-gallon container is durable, easy to service, and comes equipped with a wasp flap.
  3. Purchase recycling stickers to place on the recycling containers to provide identification and user instructions.
- C. Purchase at least five extra containers for use at special events and to have available as needed. The extra containers can be consistent with those purchased for the park program.
- D. Consider a utility vehicle with an electric motor and a large bed volume for servicing the park recycling containers. Vendors should be asked about extending the bed height with a cage or wooden slats as a means of increasing the bed volume.
- E. Sketch the proposed storage facility with scaled versions of the equipment to be stored within the facility to determine spatial requirements.

- F. No additional considerations to the proposed office paper recycling program at the school were offered.
- G. Consider using the bituminous pavement specifications presented in this section of the report. These specifications are typical for an access road upon which truck traffic is expected.
- H. Consider the use of concrete barriers that can be extended with a metal or nylon catch screen for securing the slope that is adjacent to the recycling drop-off center. These barriers will have a notch along the top for inserting a fence post.
- I. Directional signs to the recycling center are available from PennDOT at no cost to the Borough if placed along State roads. Upon request, Gannett Fleming contacted the appropriate people to initiate this process.