



February 10, 2000

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Subject: Implementing a Recycling Program in Allegheny County Parks

Dear Pete:

This letter is to provide Allegheny County with information and options for establishing a program to recycle plastic, glass and metals in Allegheny County's North and South Parks, with the intent to expand into all County parks. There is no recycling in County parks at this time, though it was tried briefly and unsuccessfully in the early 1990s.

IMPLEMENTING A RECYCLING PROGRAM IN ALLEGHENY COUNTY PARKS

This report considers the following:

- Various program structures, including an investigation of multiple collection points in picnic groves versus central collection scenarios
- How the program should be phased into the parks
- Discussion of cost factors
- Public education

CHARACTERIZATION OF ALLEGHENY COUNTY PARKS

There are nine County-owned and operated parks in Allegheny County. The largest park is North Park, at 3,010 acres, followed by South Park, at over 2,000 acres. The remaining seven parks are significantly smaller. Examples of facilities that are available at one or more of the parks include: (1) picnic groves; (2) ball fields; (3) ice skating rinks; (4) tennis courts; (5) swimming pools; (6) lake and boathouse; (7) rental buildings; (8) ski slopes; (9)

nature/wildlife centers; (10) basketball courts; (11) horse arena; (12) cabins; and (13) trails. There are also special events scheduled throughout the year at the parks.

The County has expressed interest in implementing recycling programs in North and South Parks, with the possibility of eventually expanding to the other seven parks. For purposes of this report, the focus will be on implementing a program in North Park, with the assumption that many, if not most, of the features will be transferable to other County parks.

Attachment A contains information about the size, location and facilities available at North Park.

CHALLENGES TO ESTABLISHING RECYCLING IN COUNTY PARKS

The major challenges to the County in implementing recycling in the parks are as follows:

- **Size**—These parks each cover large tracts of land, and activities are spread over large areas as well.
- **Facilities**—The facilities differ from park to park, and no single scenario will fit all types of facilities. Also, the large number of facilities located in any given park makes it nearly impossible, not to mention cost-prohibitive, to provide conveniently located containers in all areas where they might be beneficial.
- **Public education**—Because of the wide range of people who use the parks, the many different types of activities that take place, and the lack of direct contact with many users, it is difficult to prepare and distribute public education materials that effectively deliver recycling information to all park users.
- **Contamination**—Contamination will almost certainly be an ongoing problem because it will be difficult to provide ongoing monitoring of drop-off locations and because of the problems delivering educational information to park users.
- **Collection/management of drop-off locations**—Personnel at North Park have reported that they plan to manage collection from any drop-off points. This is an additional duty that will probably need to be managed within the existing personnel structure. While collections may be managed on a set schedule, park personnel may need to be prepared to pick up materials more often or on call through particularly heavy use periods.
- **Seasonal nature of park use**—The parks are used most heavily in the spring/summer/fall (with heaviest use during the summer), and use is minimal during the winter. Any system selected would need to accommodate the heavy summer use and address the need to either monitor little used containers to discourage vandalism and illegal dumping or provide for storage during low use times.
- **Special events**—Special events present a particular challenge, because of heavy generation and the need to coordinate with vendors, event organizers, and others

involved with a given event. Education and monitoring is important, because contamination is a problem at most special events. Heavy volume of material will probably require frequent pick-ups, and heavy traffic (both vehicle and pedestrian) may complicate these pick-ups. Collection of materials from other drop-off locations separate from the special events area may need to be more frequent and may be complicated as well because of heavy traffic.

The methods for addressing these challenges will depend on the system selected for managing recyclables in the parks.

MANAGEMENT OPTIONS

GROVE-BASED RECYCLING

In order to provide grove-based recycling, the County would need to purchase some type of container for each grove. The ideal container would be one that inhibits contamination, but these types of containers are significantly more expensive than standard trash containers. For example, the “cluster” type containers sold by Windsor Barrel Works are attractive and configured so that only the desired containers can easily be deposited, but these units are extremely expensive for placement at every picnic grove. Other less expensive and no cost (costs covered by advertising revenues) multiple material containers are currently becoming available, and these should be considered if containers are to be placed at each grove.

Less expensive containers could be fabricated by using standard containers with opening cut to accommodate the desired containers. Lids must be fixed, however, so that they cannot simply be opened and used for waste, but this would make the collection task more time consuming.

However, even with well-designed containers contamination will almost certainly be a factor, possibly rendering much of the material unusable. Also, with 121 picnic groves in North Park alone, servicing drop-off recycling containers at each grove would be cumbersome, time consuming and expensive.

Another option for grove-based recycling is to provide users who reserve groves with a bag to collect recyclables during the time they are using the grove, along with instructions for where to deposit materials for recycling. These materials could be issued along with the permit for use of the grove. While this is less convenient than having recycling containers at each grove, and may result in less material collected because of the inconvenience of taking it to a drop-off area in the park, the materials that are collected will probably be less contaminated.

DROP-OFF RECYCLING

Drop-off recycling would be a simpler, more cost-effective method from a management standpoint. A very basic drop-off program would involve strategic placement of large containers for park users to deposit recyclables generated during their stay in the park.

The main decisions required for establishing a drop-off system in the parks are as follows:

- Determining the number of drop-off locations needed
- Determining where drop-off locations should be placed so that they are visible, convenient for users, and less prone to contamination
- Determining the size(s) and type(s) of containers required

- Determining frequency of collection required

The goals for a drop-off program should be to maximize the amount of material collected, minimize contamination, make it efficient for park employees that manage it, and keep it cost effective.

Number/Placement of Containers

It would be difficult to determine number or placement of containers independently. There are several ways to view the number/placement requirements.

Drop-Off Containers

- Placement of drop-off locations at or near the major entrances/exits to the parks. This type of placement means: (1) park users will always drive past the containers; (2) they will always be in visible locations; (3) visibility gives County/park personnel an opportunity to educate the public, demonstrate the County's commitment to recycling, and encourage use by others without access to curbside recycling. A potential problem is traffic tie-ups if the locations are not large enough and in a dedicated area away from the main flow of traffic.
- Placement of drop-off containers at or near park facilities that are major focal points. Rather than placing containers where there are no other activities, it may be strategically beneficial to place containers near areas that are natural gathering points within the parks. For example, at North Park, drop-off containers could be placed in the parking area for the lake/boathouse, at the swimming pool, at the golf course, or other similar locations. Advantages to placement in these types of locations are that there is always a steady flow of park users and the containers should be readily visible to user. The same problem exists for traffic tie-ups at these locations. Also, users of groves, fields and other park facilities may never see these containers or would need to make a special trip to these locations to drop-off their recyclables.
- "Hybrid" Drop-Off System. A method that maximizes convenience and visibility would be a drop-off system that involves a combination of drop-off locations at major access points to the parks and at major gathering points within the parks.

With good management and education, grove users and others that must obtain permits for use of facilities can be provided with the proper tools and instructed to save their recyclables and drop them in the drop-off collection areas specified. However, because those using ball fields, the swimming pool and other similar facilities are not required to obtain permits in advance, there is no opportunity to educate them or provide other tools to assist them with their recycling efforts. Therefore, having drop-off containers placed at these locations should help to maximize the amount of material collected and if they are aesthetically pleasing and well designed, proper usage will be promoted.

Other Types of Containers and Placement

The vast range and number of park facilities and lack of direct contact with many park users make adequate placement of containers and comprehensive education very difficult. Consideration must be given to methods that will maximize the amount of marketable (relatively uncontaminated) material without requiring large amounts of time by park personnel.

As noted earlier, there is an opportunity to provide education and tools to park users that are required to obtain permits in advance for use of park facilities. This is more difficult in other locations throughout the parks. Unless park users are willing to keep bags or other containers to store recyclables until they reach a drop-off location, it is most likely that they will simply dispose of their recyclables.

Therefore, placement of some type of containers at locations such as ball fields, the swimming pool, skating rink, golf course, tennis courts, and other heavy use areas may be beneficial. Any containers placed in these locations must be of sufficient size to accommodate the amount of material expected, and must be of a design to minimize contamination. They must also be conveniently placed to maximize use and well labeled and attractive to discourage confusion with waste containers. It is probably easier to place one container for commingled recyclables (metals, glass and plastic containers) at these types of locations.

Signage is extremely important for any containers of this type. "Rules" for usage should be simply and clearly stated and the information should be placed strategically with any containers used. It may also be beneficial to work with individuals and organizations that use these park facilities (league officials, for example for baseball, soccer, etc.) to obtain cooperation and assistance in getting park users to recycle at these locations.

Size/Type of Centralized Drop-Off Containers

The optimal size(s) and type(s) of containers will depend heavily on the number and placement of containers selected.

Assuming that there will be several centralized drop-off locations for materials coming from groves/picnic areas, these should be of a size to minimize the number of pick-ups required during the heaviest use periods—primarily during the summer months. These containers should be capable of holding several cubic yards of material.

These containers should have the following characteristics:

- Sufficient size to minimize pick-ups during heavy use periods
- Convenient to use
- Designed to minimize contamination
- Attractive, aesthetically pleasing
- Easy/efficient to service

There are three basic options that offer sufficient size containers. They are: (1) compartmentalized roll-off containers; (2) large front or rear load dumpsters; and (3) the VQuip (Haul-All) system. Each of these options is assessed below.

Compartmentalized Roll-Off Containers

Compartmentalized roll-off containers are probably the most commonly used containers for drop-off programs. These containers are capable of holding large volumes of material. The drawbacks, however, are as follows:

- The container must be moved once one of the compartments is full. Experimenting with different compartment size configurations may reduce this problem, but will never completely eliminate it. Hauling containers that are not full is costly and inefficient.
- The container must be physically moved to another location to be emptied. A new container can be placed immediately or the container assigned to the site can be emptied and returned.
- If they are not designed properly, they will probably attract contamination.

Large Dumpsters

Separate dumpsters could be placed at central locations to collect source-separated materials. An advantage to dumpsters is that they can be serviced separately and on site. The major disadvantages are:

- The potential for contamination because park users will perceive them as waste containers.
- Loss of material—particularly glass—due to breakage during servicing.

Dumpsters are not widely used for drop-off programs of this type, but they are presented as an option because size and efficiency of collection are considerations.

VQuip (Haul-All) System

The VQuip System is a drop-off recycling system manufactured by Haul-All. This system has come into Pennsylvania fairly recently, and there are installations in Cambria County, Blair County, and North East (Erie County). Schuylkill County is in the process of installing this system, Crawford County has applied for one, and Dauphin County is looking at the system.

The VQuip System involves siting of containers to collect source-separated recyclables. Each container is designed specifically for the material it is intended to store so as to limit contamination. They are sized to hold reasonably large volumes of material, and can be serviced on site with a special truck designed to lift and load the materials into the truck. There is also a special vehicle available for compacting plastics. Each installation can also be outfitted with a “Hid-A-Bag” container for collecting plastic bags, string, and other non-recyclable items.

The advantages of this system are that the containers are attractive, compact, and limit contamination. They are easy and efficient to service, and are serviced on site. The disadvantage is cost, because they are more expensive than other options. However, this

system—as with any other option that may be selected—can be funded by a Section 902 recycling grant that would cover up to 90 percent of the cost.

Size/Type of Other Drop-Off Containers

Assuming that smaller containers may be placed in heavy use areas such as ball fields, pools and similar locations, the size and type should be dictated by the same characteristics as those for the centralized containers. Because space will probably be an issue, it may be best to plan for the use of a single container for commingled materials. The basic options are the cluster or multiple material style containers noted earlier in this report, and Toter or Toter-type containers. Another option would be specially fabricated containers using 55-gallon drums with lids having openings that will only accommodate bottles and cans easily.

Cluster/Multiple Material Containers

The cluster-style and special multi-material containers are very attractive, compact and designed to minimize contamination. They are relatively easy to service, though they must be serviced manually. The greatest drawback is probably cost, though capacity is somewhat limited as well.

There has been a recent development that may be of interest to the Parks. There are now containers available that carry advertising space. The advertising revenues are used to fund placement and servicing of the containers. This option would help to limit the costs to the Parks for adding recycling to its many other duties.

Toter or Toter-style Containers

Toter/Toter-style containers are attractive and compact, and can accommodate reasonable volumes of material. They may not protect as well against contamination as the clusters, but can be configured in ways that should minimize contamination. These containers are easy to move and service, and can be serviced either manually or using a vehicle designed to lift and empty them.

Specially Fabricated Drums

Fifty-five gallon drums that are specially outfitted for the collection of recyclables may be a reasonable option for collection in heavy use areas. Assuming they are designed properly, they can be attractive, and they are compact and can accommodate reasonable volumes of material. If the lids are designed properly, they can also minimize contamination. These containers would need to be serviced manually. They should be sturdy enough to withstand heavy usage.

The drawback is that park users may perceive them as waste containers, since they are often used for waste. An advantage, however, is cost—55-gallon drums can be obtained at a very reasonable cost, and can be modified by County personnel to be used for recycling.

It should be noted that the County has reported that 55-gallon drums were used temporarily for recycling several years ago and that they did not work well for this purpose. It was not clear, however, that they were configured properly or labeled clearly, and whether or not this had any affect on their success.

Frequency of Collection

Determining an adequate frequency for collection is difficult without knowing how much material to expect. Estimating volumes for the parks is difficult, because the success of the program will be heavily dependent on the size of the containers, visibility, efficacy of the education system and dedication of park personnel to servicing and promoting the program. Collection frequency will vary by season, with significantly greater frequency required during the summer, somewhat less in the spring and fall, and very low frequency in the winter. It can probably be assumed that containers may require more frequent servicing on weekends—perhaps daily (or more) on Saturday, Sunday and Monday during the summer, and once or twice a week during the week. Required collection frequency might be able to be reduced to once to twice per week in the spring and fall, and perhaps can be reduced to once or twice per month in the winter. A collection schedule should be established based on expected seasonal volume, but some flexibility will be required to accommodate the actual flow of materials. Park personnel should be able to track volumes and estimate servicing requirements based on scheduled and/or permitted activities such as grove and field usage and use of facilities such as pools.

SPECIAL EVENTS

In addition to the ongoing activities at County parks, there are a number of special events scheduled throughout the year, ranging from one to two days to several weeks/weekends. There are also smaller scale activities such as weddings and graduations scheduled in various locations throughout the parks. These events present a different kind of recycling challenge than regular park activities.

The County has reported several special events that take place at North Park, including: a triathlon in August; Penn's Colony Festival in September; and the Make-A-Wish Foundation Haunted House in October. There was also mention of a possible balloon event in July. There are horse shows scheduled during some weekends in the summer, and North Catholic High School plays its home football games at the park in the fall. Other events are scheduled periodically at the Nature Center.

Larger events such as the Penn's Colony Festival will require additional containers to accommodate materials generated during the events. Generally, such events generate significant volumes of corrugated cardboard from vendors. Generation of steel, aluminum, glass and plastic containers may vary depending on what food/drink vendors are offering. Because it is difficult to anticipate volumes and exact types of materials, it is probably best

to collect all recyclable containers commingled in public areas, and provide separate containers for cardboard generated by vendors in areas not open to the public.

It may be possible to have some control over the types of recyclable containers generated by placing guidelines on what vendors can offer, though this may be difficult to enforce and may result in loss of vendors who are not able to meet the guidelines. Another option is simply to provide guidelines that encourage vendors to reduce waste and encourage recycling through use of recyclable/refillable containers, minimal packaging, bulk condiments in containers (rather than single serve packages), etc.

The number and types of collection containers and how they are serviced will need to vary somewhat based on the size, area, and nature of the event. For a festival-type event—like Penn’s Colony—recycling containers to collect commingled materials should probably be placed at every point where there is a waste container. Toters or similar containers, clearly labeled and outfitted with opening designed to accommodate recyclables only, may be the best choice for this type of event. VQuip/Haul-All also offers a special event recycling trailer capable of handling a range of materials, and this would work in a contained area. Even with specially designed containers, however, contamination will probably still be a problem. To reduce this problem, educate participants and raise recycling awareness, it may be helpful to engage the help of the Boy/Girl Scouts, students, or local service organizations. As an incentive to assist, some or all of the revenues from the sale of recyclables (if revenues are realized) could be shared with these organizations to help fund their other activities. Volunteers from organizations of this type could act as monitors at recycling points to greet and educate the public about recycling.

For sporting events that take place in a confined area, permanent recycling stations could be set up in the areas where waste containers are already located, or something like the special events trailer described above could be placed on site during these events. If there is a permanent area established, signage and other materials could be provided to educate the public about how to recycle. These areas and the containers used should be attractive so as to encourage proper usage. As with the festival-type events, it may be helpful to engage volunteers to monitor containers and educate the public, at least in the early stages of implementation. Sporting events also offer the opportunity to educate the public and provide regular reminders during announcements.

Attractive collection containers for commingled materials could be placed in rental buildings used by the public for weddings, receptions, graduations and similar events to make recycling convenient for the users of these facilities. Guidelines could be issued with the permit for the facility to inform users about recycling requirements and encourage their cooperation. A less attractive option is for the County to provide guidelines that require users to manage their own recyclables, though lack of convenience would probably mean that most materials would not be recycled unless park personnel actively enforce the requirement. As with containers at other locations, the key to success is that the containers be attractive and labeled clearly.

PUBLIC EDUCATION

The need for a strong, comprehensive and sustained public education program has been alluded to throughout this report. The County must implement this type of education program if recycling in the parks is to be a success. The first step is to include recycling information in any park maps or informational materials produced by the County and made available to the public.

Recycling at the Groves

Whether the County implements grove-based or central drop-off based recycling, grove users must be informed about how to recycle in the parks. The easiest method is to provide educational materials and/or guidelines to grove users when a permit is issued for use of a grove. The materials should be kept as simple as possible, with information limited to acceptable materials, how they should be recycled, and the importance of recycling. If recycling is to be at centralized drop-off locations, the County may wish to provide a bag or bags to store recyclables while at the groves. It may also be helpful to post recycling information at each of the groves as a reminder to users.

Recycling at Other Park Facilities

At facilities where some type of permit is required, such as ball fields, recycling information should be provided with the permit. However, many users of these facilities, along with users of facilities like the pool, skating rinks, etc., will not have access to this information, and information about how to recycle should be posted at all park facilities where recycling collection containers are located.

Recycling at Special Events

Recycling information/guidelines should be provided to event organizers to inform them of the recycling requirements for the event and/or facility they are using for the event. For festival-type events, it would be particularly helpful to make use of volunteers to monitor collection points and assist in public education. For sporting events where more permanent collection points are provided, recycling information should be posted and containers clearly labeled.

Other Educational Opportunities

Having nature centers and naturalists at the parks presents a unique opportunity to reach children and their parents with recycling information. Recycling education provided through the nature centers could range from very basic, adhering to information about recycling in the parks, to more comprehensive education about recycling, composting, and other waste-related issues.

COSTS

The following data have been made available for examination:

- It has been reported that North Park generates approximately 150 cubic yards of waste per week, or 7,800 cubic yards per year. At an estimated rate of three tons per cubic yard, this means the Park generates approximately 2,600 tons of waste per year. It is estimated that approximately half of this waste by volume and 25 percent by weight is containers that could be recycled (3,900 cubic yards and 750 tons respectively.) It is very unlikely that a recycling program in North Park would capture most of this material, but it can probably be assumed that the program, once fully operational, might capture 25 to 50 percent of the material. However, it should be noted that any centrally placed containers may capture materials from persons that do not have curbside recycling in their community as well, and this factor is impossible to project with any accuracy.

Table 1 provides estimates of volume and tonnage diversion based on reported generation.

**TABLE 1
PROJECTED WASTE DIVERSION BY RECYCLING RATE**

Recycling Rate	Volume Diverted	Tonnage Diverted
10%	780	260
25%	1,950	650
35%	2,730	910
50%	3,900	1,300
75%	5,850	1,950

It was also reported that the cost of waste disposal is as follows: (1) \$329 per month to pull one 42 cubic yard compactor box, or \$3,948 per year; (2) and \$275 per month to pull one 30 cubic yard compactor box, or \$3,300 per year. The total for both boxes is \$7,248 per year. It is estimated that recycling should reduce the number of pulls necessary proportionate to the diversion rate by volume diverted. Table 2 indicates the potential for disposal cost savings.

**TABLE 2
PROJECTED SAVINGS IN DISPOSAL COST**

Recycling Rate	Volume Diverted	Cost Savings
10%	780	725
25%	1,950	1,812
35%	2,730	2,537

50%	3,900	3,624
75%	5,850	5,436

Until the actual equipment is selected for North Park, it is impossible to determine the time required to service the system. As an example, however, Table 3 presents estimates of the number of collections required to service the VQuip system described earlier, the system that appears to offer the most efficient method of collection. VQuip collection vehicles are available in 12, 21 and 35 cubic yard capacities. It is assumed that materials are commingled. Depending on the rate at which containers are filled, the vehicle may need to service different depots at different times, rather than complete an entire collection route, but it should be assumed that the materials will not be delivered to a processing facility until the vehicle is full.

TABLE 3
PROJECTED COLLECTIONS REQUIRED BY VOLUME

Recycling Rate	Volume Diverted	Total Collections Required		
		12 cu.yd.	21 cu.yd.	35 cu.yd.
10%	780	65	37	22
25%	1,950	163	93	56
35%	2,730	228	130	78
50%	3,900	325	186	111
75%	5,850	488	279	167

The 35 cubic yard vehicle would be the most efficient, particularly in the summer when volume is expected to be high. During lower volume periods, recyclables could remain stored in the vehicle until it is full, and then delivered to a processing facility.

It should be noted that a program might be expected to incur the following costs:

- **Personnel.** North Park’s manager reported that any activities related to operating a park recycling program would be managed using existing personnel. If this is the case, the portion of salaries and benefits attributable to the program should be allocated to a recycling program budget category, though there will be no additional cost to the overall budget.

However, because of the seasonal nature of activities and special events in the parks, which would result in greater volumes of material, the Parks Department should anticipate the potential for needing additional help. Because the greatest need would be during the summer, the Parks Department could probably rely on seasonal personnel—primarily students—to carry out some recycling activities at a reasonable cost. Existing personnel could probably manage the program without additional help during the remainder of the year.

Collections will need to be carried out by a person that holds a Commercial Drivers License (CDL). It can probably be assumed that a minimum of two hours is required for a round trip to a materials recovery facility to deliver materials collected, therefore, vehicles used for collection should have the maximum volume possible to keep these trips to a minimum. Time spent in collection will vary over the course of the year, with more hours required during high park use times, and significantly fewer during low use times. It can probably be assumed that it would take approximately two hours to service five VQuip depots or a system of dumpsters, since these can be serviced in place. A system using rolloff containers will probably take more time because only one container can be serviced at a time. Having an extra container that can be placed upon the pickup of a full container would reduce the time required, while pulling a full container, emptying it and returning it would require more time, depending on where the materials must be taken.

- **Equipment Purchase.** The preferred system for ease of service and appearance for major collection points is the VQuip system. Table 4 presents the estimated cost to purchase a system for North Park.

TABLE 4
ESTIMATED COST OF VQUIP SYSTEM

Product	Cost per Unit	Total Cost
12 Haul-All 6 cu.yd. Single Stream Recycling Bins*	\$5,500	\$66,000
12 Cross Pads*	300	3,600
6 Haul-All Hid-A-Bags**	800	4,800
1 Haul-All Recycling Trailer and Pick-up***	45,000	45,000
5 Site Installations, Signs & Decals	1,300	6,500
1 Haul-All RP-235 Collection Truck (35 cu.yd.)	112,000	112,000
Total		\$237,900

*2 per site for 5 locations, plus two surplus

**1 per site for collection of waste, plus one surplus

***For use at special events and extra duty when needed

Smaller commingled collection containers will be needed for fields and other Park facilities. Specific siting decisions will be required before determining number and size of containers. Once preferred containers are selected, a cost can be estimated. It is suggested that the County explore the possibility of obtaining the newly designed collection containers that carry advertising that would offset the cost. To find out more about this option, the County should contact the following persons: (1) Sandi Childs, NAPCOR—(704) 645-0081; (2) Tom Boushel, VQuip—(888) 590-8331.

All costs related to purchase of equipment are eligible for Section 902 grant funding at up to 90% of the cost.

- **Equipment/Transportation Costs.** The Parks Department would need to factor in costs related to vehicle operation and containers.

Vehicle operating costs include maintenance, fuel and insurance. Some Pennsylvania counties and municipalities use a figure of \$1.25-\$1.50 per mile to estimate operating cost. Assuming that Allegheny County’s cost would be a high end, the average cost to just to deliver materials to Pittsburgh Recycling Services (PRS), at 40 miles per round trip, would be approximately \$60. Additional cost would need to be factored in to account for collection routes inside the Park.

Containers will require regular maintenance, including repairs and cleaning, and will also require periodic maintenance such as painting.

- **Tipping Fee.** Unless the Parks Department is able to negotiate a better deal, there will probably be a cost of \$10 to \$15 per ton for commingled containers delivered to Pittsburgh Recycling Services. There is currently no cost for paper/fiber materials. Table 5 provides estimated costs at various tipping fee rates.

**TABLE 5
PROJECTED PROCESSING COST**

Recycling Rate	Tonnage Diverted	Tipping Fee			
		\$5/ton	\$10/ton	\$15/ton	\$20/ton
10%	260	\$1,300	\$2,600	\$3,900	\$5,200
25%	650	3,250	6,500	9,750	13,000
35%	910	4,550	9,100	13,650	18,200
50%	1,300	6,500	13,000	19,500	26,000
75%	1,950	9,750	19,500	29,250	39,000

- **Administration.** Administrative costs will be dependent on the amount of activity required by the program option selected. For example, if the parks issue recycling-related materials along with a permit for use of a picnic grove, there will be costs related to generating and/or purchasing materials to be handed to users, computer-related and other equipment costs, etc. If it becomes a routine part of the permit process, however, the cost should be kept to a minimum.
- **Public Education.** For the program to be successful, the Parks Department will need to carry out an aggressive, sustained public education program. There will be costs related to preparation, production and distribution of materials, though 90 percent of this cost is eligible for funding under the Section 902 recycling grant program.

CONCLUSIONS

- There is no currently no recycling available for park users, and an attempt to implement recycling several years ago failed.
- Establishing a successful recycling program in the County parks presents unique challenges that do not exist for a traditional municipally based drop-off program.
- Any program established in the County parks must be:
 - Flexible enough to accommodate a range of activities/scenarios
 - Convenient to use
 - Designed to minimize contamination
 - Attractive, aesthetically pleasing
 - Easy/efficient to service
- A strong, comprehensive and sustained public education program is required to ensure success, and educational efforts must extend to cover the range of activities/scenarios that exist in the parks.

RECOMMENDATIONS

- Allegheny County officials should contact Pittsburgh Recycling Services and other potential markets for the materials generated in the parks to get information on material specifications and costs and/or revenues.
- The County should implement a recycling program in its parks, beginning with North Park. Market information should be considered to ensure that materials collected meet market specifications. The program should be implemented in phases, as follows:
 - Purchase of appropriate equipment for collection of materials. The VQuip system is recommended for centralized collection depots placed throughout the Park. Also recommended is consideration of containers that carry advertising to reduce or eliminate the cost of purchase and servicing.
 - Placement of centralized drop-off containers to capture commingled materials generated in the groves, and from any other locations where park users might generate and separate materials, and production of public education materials designed to inform park users about how to use the system.
 - Placement of commingled collection containers at ball fields, the pool, golf course, boathouse, and other permanent facilities and posting of educational information at these locations.
 - Implementation of recycling collection at special events, working with vendors and volunteers to divert materials, reduce waste, monitor containers, and educate the public.

- The County should apply for a Section 902 recycling program grant to purchase the VQuip system for its centralized drop-off locations based on aesthetic and functional design and ease and efficiency of servicing.
- The County might want to consider experimenting with several different designs of containers for collection of commingled materials from ball fields and other permanent facilities to determine which is most successful in encouraging diversion of materials and discouraging contamination. Once the preferred container is determined, the County should apply for Section 902 funds to purchase the containers or pursue obtaining containers that carry advertising, as appropriate.
- The County should determine which of the containers studied would be most efficient to service at special events and apply for Section 902 funds to purchase the containers.
- The County should develop a comprehensive and sustained public education program to ensure the success of recycling in the parks and apply for Section 902 funds to design and prepare the materials.

With careful planning and dedication to the program, Allegheny County should have a program that can serve as a model for parks and recreation personnel in municipalities and counties everywhere.

Sincerely,

Sandra L. Strauss
Environmental Analyst

cc: Kathleen Kilbane, SWANA
Carl Hursh, DEP
Debbie Miller, R.W. Beck