

Via Facsimile

October 13, 1998

Ms. Cathleen M. Prosek
Administrative Aide
Centre Region Council of Governments
Fraser Plaza, Suite #4
131 South Fraser Street
State College, PA 16801

Subject: **Analysis of Centre Region Municipal Yard Waste Management Issues**

Dear Kathleen:

The purpose of this letter is to provide the Centre Region Council of Governments (COG) with the results R. W. Beck's analysis of options for the management of yard waste generated in the five COG member municipalities. The two primary concerns of the COG are the management of grass clippings and to ensure availability of sites to compost leaves collected during the autumn leaf season. All member municipalities provide a fall leaf collection program and pick-up tree limbs and branches from residents.

Presently, only one COG member, State College Borough has an approved site for composting yard waste materials. At this site, the Borough Public Works Department staff compost leaves, grass and wood chips collected from Borough residents and businesses. Other COG member municipalities have stockpiled leaves and tree limbs and branches collected from residents over the years. The COG is interested in coming up with a long-term solution for all of its members in dealing with the management of yard waste collected in these communities.

Additionally, because of a Solid Waste Ordinance readopted with minor amendments in 1992 by each municipality, which prohibits the disposal of grass clippings, some residents are having difficulty dealing with the management of clippings they collect.

To address these two concerns, R. W. Beck has identified options for the COG to review and consider. The following are the factors considered for this analysis:

- Define the most effective method for the COG members to manage yard waste on a regional basis.
- Minimize to the greatest extent possible, the distance anyone municipality would have to travel to deliver yard waste materials collected to a site approved for processing the materials.

- Maximize the use of equipment purchased to manage the yard waste materials collected from member municipalities.
- Set-up a collection system for grass clippings.

ANALYSIS OF REGIONAL PROCESSING OPTIONS

EXPAND STATE COLLEGE BOROUGH COMPOSTING OPERATION

Since, the Borough has successfully composted yard waste materials for over ten years, has an approved site and has acquired the necessary equipment through State grants to manage these materials, one consideration is expanding the program to accept materials from other COG municipal members. This option was discussed at a meeting with State College Borough staff, who reported that the site was only large enough to handle the materials presently delivered there from Borough collection programs and the leaves from Patton Township. Because of the site's location, there is no opportunity to expand the processing area much beyond its current configuration. Therefore, using this site as a regional processing area is not an option. In fact, because of the development of a shopping center next to the site, there have been inquiries by the Developer, regarding the Borough forfeiting the land and moving the composting operation to a new location.

UNIVERSITY AREA JOINT AUTHORITY

The University Area Joint Authority (UAJA), which provides regional waste water treatment services to the Centre Region including the COG members, has land area available for accepting and processing yard waste materials. In fact, College Township has placed some leaves in a designated area at the UAJA facility in the past. Presently, UAJA operates an in-vessel system for composting sewage sludge generated by the wastewater treatment process.

The UAJA Director was contacted, to determine the ability and interest of the Authority in providing additional land area and the necessary services associated with a regional system for the management of yard waste materials collected from the COG members. The Director suggested that it is part of the Authorities mission to assist in coordinating regional approaches to waste management issues facing the Centre Region communities. Below are the approaches discussed with the Director for a regional program:

- Develop a regional composting site at the UAJA facility, operated by Authority staff or by municipal crews from one or more of the member municipalities.
- Site facilities in each of the municipalities and have the Authority coordinate rotating equipment around to the sites to process materials.

Regardless of which system is implemented, the Authority will bear costs to operate and coordinate the program. Therefore, a fee system will have to be established and will be function of the form the program takes and the level of involvement required from the Authority.

SITING A REGIONAL FACILITY AT THE UAJA PROPERTY

The Director offered that the property owned by the Authority includes a twenty two (22) acre farm field that is currently available to serve as a composting area. The field is located off of Trout Road. This area is being proposed as the site for a long-term operation sited at the UAJA facility and would be adequate to process the quantities of materials anticipated from the communities. To meet the immediate needs of the municipalities, requiring a place for leave collected this Fall (1998), the Authority will accept leaves at the location presently being used by College Township for some of their leaves collected in the past.

To develop the proposed area and make it suitable for composting municipal yard waste, the Authority will work with the communities in preparing an Act 101-Section 902 grant application to fund site development costs and to procure any equipment required to operate the program. It was suggested that the level of involvement from the Authority in the facility operations, is really a function of what the municipalities' desire.

One option proposed by the Director, was having State College Borough move their operation out to the UAJA facility and either continue to operate a expanded program to process materials from all COG members, or make the equipment available to Authority staff to operate the program on members behalf. This could be done in the event, the Borough elects to move the site due to development pressures. Alternatively, if the Borough elects to keep their existing site active, the UAJA regional facility would be designed to handle materials from the balance of the members and new equipment would be purchased with grant assistance.

The advantages of a regional composting/processing site are:

- Not all municipalities have area available for a municipal composting facility.
- By consolidating the operation, there is the opportunity to maximize the use of processing equipment.
- Municipalities are not duplicating a service.
- Yard waste composting is a user-friendly activity out at the UAJA facility and less subject to public scrutiny.
- UAJA staff, are familiar with the principals of composting given the existing sludge composting operation at the facility.

The disadvantages of a regional composting/processing site are:

- The travel distance to the regional site may create a disproportional time and cost burden with the member municipalities.
- A fee would have to be assessed for the service, which will represent a direct cost, rather than the cost of a municipal operator's time to manage the system.

COOPERATING WITH COMPOSTING ACTIVITIES PROPOSED AT PENN STATE UNIVERSITY

University representatives have indicated to the surrounding communities an interest in involving them in a composting program being developed by the University to manage organic wastes generated by the institution. University representatives involved with the project, foresee a need for additional sources of carbon materials such as leaves. However, the extent to which additional materials will be required is uncertain at this time. The University is interested in involving the communities in this effort, but expect it will be awhile before the program is fully formulated. The University is not in a position to assist with meeting short-term needs, but could offer an option sometime in the future.

As the program takes form, there would be advantages to discussing the sharing of equipment if their needs are reasonable, and those municipalities that could benefit from shorter transportation distances could deliver yard waste to a University operation. The University would serve than as a satellite site for a regional management system.

The advantages to cooperating with the University's proposed program are:

- Assists the University in securing additional sources of carbon materials.
- Shorter travel distances for certain member municipalities.
- Reduces the operational requirements at the UAJA site, by reducing the amount of materials being delivered to the site.
- Uses a resource that is being developed otherwise to manage the organic waste stream generated by the institution.

The disadvantages to cooperating with the University's proposed program are:

- Program does not address communities' immediate need for land area to compost Fall 1998 leaves, therefore is not a single short-term solution.
- Involving a third party in a system that's in place could complicate the fee structure.
- If equipment is not shared, there would be some duplication and a reduction in the utilization efficiency of the equipment at the UAJA facility by a factor of the amount of material displaced from the facility by the University operation.

Basically however, if this is something that the University is going to do as an alternate method for managing its organic waste and are willing to accept

vegetative waste from surrounding communities, then it certainly opens up a new opportunity for the municipalities in the future.

SITING A COMPOSTING OPERATION AT THE CENTRE COUNTY SOLID WASTE AUTHORITY'S FACILITY

The Solid Waste Authority, which operates a municipal waste transfer station and Recycling Center, has suggested an interest in siting and operating a municipal yard waste composting operation at their facility. However, present land constraints prohibit the Authority from developing a program in the near term. The Authority is having discussions with the adjoining property owner, Rockview Correctional Institution, about acquiring additional land to expand its recycling operation. As part of these discussions, the Authority is factoring in, the area needed to operate a composting project. In fact, the Authority participated in a study with the correctional facility that examined a joint composting operation that would also manage food waste generated at the institution. This option like the project proposed by the University offers a longer-term solution, but does not address the immediate needs of the member municipalities.

The advantages and disadvantages of utilizing this proposed site as part of a regional management system correlate with those discussed with the University.

ESTABLISHING A SERIES OF MUNICIPAL SITES AND SHARING EQUIPMENT BETWEEN SITES

To reduce the distance anyone municipal crew would have to travel to deliver yard waste materials collected to a composting site, each municipality could establish its own composting site and share equipment. This concept has been implemented in Cumberland County, Pennsylvania, where the County's Solid Waste Authority purchased composting and grinding equipment on behalf of municipalities, and coordinates rotating the equipment out to the participating municipal operations on a scheduled and as-needed basis. For this service, the Authority assesses a nominal fee and supports the balance of the costs of the program by using revenues from a County Administrative fee collected by landfills accepting the County's municipal waste for disposal. The municipalities using the equipment are responsible for all operating costs when the equipment is at their site. The Authority trains municipal staff to operate the equipment and bears no costs associated with operator's time.

The advantages of this regional approach are:

- Shorter driving distances for all municipal crews collecting yard waste materials.
- Sharing equipment optimizes the utilization of the equipment.

The disadvantages of this regional approach are:

- Equipment may not be available when it is optimal for a specific municipality to process materials.

- There is an additional cost to transporting the equipment from site to site.
- Requires a fee structure to generate revenue for equipment maintenance and repair.
- Duplicates composting operations in each municipality.
- Sites would have to be identified and developed in each municipality.

RECOMMENDED SYSTEM

Short-term Program

To address the immediate needs of the municipalities, the COG should direct member municipalities that require a site to deposit leave collected this Fall (1998) to work with the UAJA Director to use the land area at the facility for placement of the leaves. Ultimately, the Authority will have to obtain an approval from the Pennsylvania Department of Environmental Protection (PADEP) to operate a yard waste composting project at its facility. However, in the past, PADEP has allowed yard waste materials to be placed at a site that is not approved if it serves an immediate need in assuring the proper management of the material. The leaves will have to be placed in windrows not exceeding 2,000 cubic yards per acre. Generally, a windrow is configured to be ten (10) to fourteen (14) feet wide at the base, and up to ten (10) feet in height. The length of the windrow is a function of the site size and is not restricted by the PADEP guidelines. Once all parties are in agreement as to the role of the Authority, efforts can be made to obtain appropriate approvals for the selected system.

For those municipalities that require the use of the site, however transportation distance is a burden, could establish a storage/transfer site in the municipality, to reduce the distance traveled by a collection vehicle. After the collection process has been completed, or when space at the site becomes restricting the leaf waste could be transferred to the UAJA site in larger transfer vehicles that can also compact the material. This results in double handling of the material, but could greatly reduce the off-route time of the collection crews. When the primary responsibility of the municipal crew is to get the leaves collected in a compressed period of time, reducing off-route time is critical. It can easily offset the cost associated with loading the material at a later time into larger transfer vehicle. Rear packers can be ideal for this situation.

Long-term Program

There is interest from at least three separate entities to accept and process the yard waste materials collected from the COG member municipalities. The most immediately available is the UAJA option. Therefore, the COG and its members should explore further with the Authority representatives what can be done at the facility to provide a long-term solution for yard waste management. Details such as, the number of municipalities using the facility, the materials delivered (i.e.

leave, grass clippings and tree and brush debris), arrangements for the operation of the program, and what equipment will be required, need to be addressed before the Authority will be in a position to determine what the costs will be for the program. This will define the fee required for the municipalities involved in the program.

Given that the UAJA facility is not necessarily geographically convenient to all the municipalities, the COG should continue to monitor the developments with the University's and the Solid Waste Authority's proposed projects. When these become available, there may be transportation advantages for certain municipalities to utilize these sites. If these are developed in cooperation with the UAJA efforts, there could be equipment shared and these sites serving as satellite sites.

A system of three sites, geographically distributed through out the Centre Region, offers a hybrid of the single site and the site in each municipality. If the projects proposed by the University and Solid Waste Authority offer a more convenient alternative for certain municipalities, it should be taken advantage of. On going dialogue with representatives of these entities will help ensure a place for the COG members in these systems if there is an advantage.

MANAGEMENT OF GRASS CLIPPINGS

In the interest of maximizing the diversion of materials from the waste stream and in fulfilling a legislative mandate, the COG member municipalities adapted Solid Waste Ordinances that prohibit the disposal of grass clippings. To offer residents an alternative to disposal, educational materials were developed and distributed to encourage home management practices. Residents were encouraged not to bag grass clippings and let them lay on the lawn. The benefits of letting grass clippings lay on the lawn were included in the public educational materials. The materials also, discussed home composting and mulching with grass clippings. Despite this effort, some residents complain that grass clippings impose a problem and request the municipalities to offer a solution to this issue.

State College Borough while promoting home management as the preferred method of managing grass clippings developed a drop-off program for those residents that insist on collecting this material. The drop-off system consists of five (5) drop-off points in each of the Borough's parks. The drop-off locations also serve as a pick-up point for residents to obtain finished compost. During the growing season a Borough employee services the sites with a vacuum truck each work day. The collected clippings are delivered to the composting site and incorporated in the windrows of leaves from the previous Fall season. The grass clippings are incorporated at one to three ratio with the leaves, and is a source of nitrogen for the system, which helps accelerate the decomposition process.

While the drop-off system is meant to specifically serve the needs of Borough residents, due to the lack of other organized collection programs, residents from other COG member municipalities, place grass clippings at the drop-offs. This is tolerated because it is impossible for the Borough to monitor the drop-offs. However, the practice is not promoted.

With residents complaining about the absence of alternative management practices for grass clippings, COG staff in a letter to the State College Borough Manager inquired if the Borough would allow the other municipalities to direct residents to the Borough's drop-off points. The letter suggested that only residents inquiring about an alternative would be directed to utilize the Borough's drop-off points (see Attachment 1). The Borough responded with a conditional yes, suggesting that a fee structure would be required to compensate the Borough for the additional costs associated with collecting material from other communities (see Attachment 2). This option was being sought only as a short-term solution to a problem in the 1998 growing season.

This issue like leaf waste, must have a long-term solution developed to address meeting an ongoing demand by selected residents for an alternative management practice. There are several options for approaching this issue including: utilizing State College Borough's drop-offs and paying a fee to the Borough; developing drop-off points in each of the other member municipalities; or establishing a curbside collection program for the material. Below is a discussion of each option.

UTILIZE STATE COLLEGE BOROUGH'S DROP-OFF POINTS

As the letter, Attachment 2, from the State College Borough Manager indicates, residents of other COG member municipalities could officially use the Borough's grass drop-off locations for grass clippings, provided a fee was paid for this service by the participating municipalities. The longer-term conditions would have to be negotiated with Borough staff, however it is a possibility and uses an existing system.

DEVELOP DROP-OFF LOCATIONS IN EACH MUNICIPALITY

Each of the COG municipal members other than State College Borough could establish a drop-off location similar to the Borough's. The servicing of the drop-offs could be done through an arrangement the Borough or could be a function of the UAJA if they ultimately become an active participant in the program. Otherwise, one municipality could take the lead and apply for 902 grant money to purchase a vacuum truck and service the drop-offs in all the municipalities and assess a fee for the service.

ESTABLISH A CURBSIDE COLLECTION PROGRAM

The City of Allentown years ago established a curbside collection program for grass clippings after adopting an Ordinance, which prohibits the disposal of grass

clippings. The program uses a per-bag system to collect material and the revenue required to fund the program. The City buys large brown paper yard waste bags and sells them to residents that want to place grass clippings at the curbside for collection. The cost of the bag reimburses the City for the cost to purchase the bag, plus the fees associated with collecting and composting the material. The bags sell for less than \$2.00, the cost of which also acts as a disincentive for the residents to collect and dispose of this material.

This type of program could be established in the COG communities with little up-front investment. Collection could be preformed by each of the PWD's staff, using dump trucks as collection vehicles. Also, the municipal costs associated with each program could be built into the cost of the bag.

The cost of the bags also acts as an economic disincentive for a resident to collect and place the material at the curbside for collection. This correlates with the COG's goal of encouraging home management practices for yard waste materials. Though curbside collection of the material, provides a convenient means of getting-rid of yard debris. Clearly, studies of have shown that participation rates increase with recycling programs when materials are collected at the curb rather than at drop-off locations.

RECOMMENDATIONS

Based on the evaluation of options available to the COG member municipalities regarding the management of yard waste materials, R. W. Beck makes the following recommendations.

- Immediately initiate efforts with the UAJA staff to establish a regional yard waste composting facility at the wastewater treatment facility.
- Develop an Act 101-Section 902 grant application to secure grant funds to prepare the site and purchase equipment to facilitate the management of the yard waste at the site.
- Monitor the developments with the other two proposed composting projects at the University and with the solid waste Authority.
- If additional sites become available, develop a cooperation agreement to share the equipment purchased for the UAJA facility.
- Determine the interest of State College Borough, in expanding the current grass collection system to include material from other member municipalities, either at the existing Borough sites, or by servicing sites in each of the other four municipalities.
- Assess the public's interest in a pay-per-bag program for collecting grass clippings at the curbside.

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Ideally, a system which includes several composting sites conveniently located to minimize travel distances for collection vehicles, sharing composting equipment and a COG wide grass collection program, provides the efficiencies needed to minimize the cost of the overall program to each municipality. However, in the short-term, it is important to ensure a location exists for the municipalities to deliver leaf waste for this fall season. The UAJA is willing to provide the COG members with a site for immediate use. Over the winter, dialogue with State College Borough representatives will need to take place to determine how grass clippings will be handled in the 1999 growing season.

Please feel free to call me at (717) 730-0404 if you have any questions on the analysis explained in this letter report.

Sincerely,

R. W. BECK, INC.

Richard Schlauder
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