

Abington Township

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# Composting

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## Composting Facility

**Abington Township Public Works Department**

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## 1.) Design of Composting System:



Abington Township's composting facility is located at 2201 Florey Lane, Roslyn, Pa. It is an appropriate site for the quantity and type of compost delivered to the yard. It employs a competent staff with hands on experience in compost use, leaf and yard waste collection and compost marketing, along with the accompanying educational credentials in the science of composting. The facility has suitable equipment and, above all sufficient community support to ensure the success of composting efforts. The facility is positioned at the center of the community so it is close enough to the collection area to minimize driving time.

Abington is an older community with mature tree lined streets. In Abington Township leaf and yard waste can represent 25 to 30 percent of municipal solid waste. What makes our facility so unique and special is our location. We are the best example of partnering with the community as we have a junior and senior high, two apartment complexes as well as a housing development surrounding our facility all within 100 yards of our operation. We generate minimal odors and have had few complaints over the past 30 years.



Both on and off site storm water is diverted from all material handling areas. The composting site is designed with a slight slope to eliminate storm water from ponding. The site pad is constructed of recycled asphalt, specifically millings from our road paving program. The millings were leveled and compacted providing an excellent driving surface for equipment and trucks entering and leaving the site. This virtually eliminates trucks tracking mud and keeping the site clean.

Windrows are placed so that storm water is not trapped. Some storm run off is absorbed by large berms of dirt that are planted with large

trees. Any remaining storm water is channeled into a sediment pit which consists of large rocks placed on top of a filter fabric. As water flows in this channel there also is a gabion wall lined with fabric trapping any sediment. The pit was designed for easy maintenance.

Our driveway and roads provide safe and efficient truck access and movement. The site is also enclosed with fencing and gates which restrict unauthorized entry. The yard is surrounded by trees concealing any unappealing equipment to anyone outside the facility enclosure. These trees also serve to eliminate any dust problems as they capture most of the particles before they can penetrate the surrounding community. We have signage at the entrance and exit of the site which lists the contact names and emergency telephone numbers.

Our program has an overall positive effect on human health, environmental quality and resource conservation. It offers the benefits of resource efficiency by creating a useful product from organic waste that otherwise might have been taken to the landfill.

The compost from our program serves primarily as a soil conditioner, whether it is spread in a layer on the soil surface or is dug in. Our garden soil which is regularly amended with compost is better able to hold air and water, drains more efficiently, and contains a nutrient reserve that plants can draw on. The amended soil also tends to produce plants with fewer insect and disease problems. The compost

encourages a larger population of beneficial soil microorganisms. It also fosters healthy plant growth, and healthy plants are better able to resist pests.

### Overview of Facility





**Trees Surrounding Facility**

## 2.) Regulatory Compliance

The site is regulated by the Pennsylvania Department of Environmental Protection under Commonwealth of Pennsylvania's Pennsylvania Code, Environmental Protection, Title 25, chapter 281. The site is in environmental compliance for operating a composting system and follows the Department of Environmental Protection guidelines for type and size of a yard waste compost facility\*.

Abington Township's Composting Yard has received numerous awards including the Governor's Award for Environmental Excellence for Recycling and Market Development and recently the Waste Watchers Award for a composting facility from the Professional Recyclers of Pa. When Act 101 was first enacted, Abington Township was used as a demonstration site for municipalities that were first developing their programs.

Our composting facility interfaces with and compliments the Montgomery county solid waste management system. Presently we are diverting 12,000 tons of material a year from the landfill.

Pennsylvania Department of Environmental Protection Specialist, Mary Alice Reese has inspected the facility many times and during all of these inspections found that the facility was operating in compliance with the Department's Guidelines for Yard Waste Composting Facilities.

All materials placed curbside for collection are examined prior to collection. Crews using leaf vacuum units are not permitted to pick up leaves if materials other than leaves are found. Personnel at Abington's composting facility are responsible for inspecting all incoming material for contamination. After inspection, Abington Township has the right and will reject any load containing materials other than leaves. Any landscaper abusing this policy results in his company losing dumping privileges for the entire season.



\*Yard Waste Composting Facility: A facility that is used to compost leaf waste, or leaf waste and grass clippings, garden residue, tree trimmings, chipped shrubbery, and other vegetative material. The term includes land affected during the lifetime of the operation, including, but not limited to, areas where composting actually occurs ... in which the natural surface has been disturbed as a result of operation of facility.

### **3.) Planning:**

Our facility was designed to effectively accept and process all of the feedstock generated within its boundaries. These materials are collected and processed year round. There is no downtime associated with our program.

We believe that the design and effectiveness of our facility's planning process was and is excellent. We have complies with all of the Environmental Protection Agency's recommendations with relationship to our facility's size, the organics composted, the technology employed, there is little or no odor emitted, the topography of the site keeps eliminates the possibility of water laying. We have also taken into consideration the winds.

Abington Township accepts leaves, yard waste (grass clippings, hedge and bush clippings, and garden residue, brush and tree limbs) from both residents and landscapers. This material is collected March through December. Holiday trees are collected throughout the month of January. This material is received from Jenkintown Borough, Rockledge Borough, Hatboro Township and Abington Township.



**Layout of Windrows**

## 4.) Performance, Economics & Cost Effectiveness

Abington Township's annual leaf collection program begins in the end of October and runs through December. A [postcard](#)<sup>1</sup> is sent out to each residence serving as notification when leaf collection will begin in their particular area. This communication identifies the weeks of leaf collection for each area as well as reminding them of the manner in which leaves and yard debris is to be handled. Leaves can be raked curbside or placed in brown biodegradable bags. The residents are instructed not to mix [trash](#)<sup>2</sup> or any other debris with leaves. The schedule for the leaf collection is placed on the township's [calendar](#)<sup>3</sup> and updated on Abington's [website](#)<sup>4\*</sup> each year. This information is also provided in the fall [newsletter](#)<sup>5</sup>. During the months of October, [November](#)<sup>6</sup> and [December](#)<sup>7</sup> the leaf collection schedule is placed on each corresponding month of the calendar. A hotline number is established for leaf collection.

Residents who use the services of a private contractor must first have the proper [permit](#)<sup>8</sup> filled out before bringing in leaves to Abington's facility. There is no charge for either the permit or dumping of leaves. Permits are checked for each load as well as the contents of the material brought in for processing.

Abington Township residents are required to separate yard waste from other refuse and garbage. All residents are required to participate in the curbside composting program by placing yard waste at the curb on the same day as regular trash collection. Branches must be bundled and tied and cannot exceed three feet in length and three inches in diameter.

From April through December, residents put leaves and yard waste into brown biodegradable paper bags and place them curbside for collection. These materials are accepted only in 30 gallon brown biodegradable paper bags. No leaves or yard waste bagged in plastic is taken. [No dirt](#),<sup>9</sup> rocks, stumps, large branches, construction material, animal waste, bags, boxes or garbage can be put into these bags. Any unacceptable material set out for collection is left at the curbside and tagged with a [rejection](#)<sup>10</sup> sticker. This provides a preliminary screening of contaminants by the collector prior to being taken to the composting facility.



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<sup>1</sup> postcard.pdf

<sup>2</sup> annual.pdf

<sup>3</sup> calendar\_map.pdf

<sup>4</sup> schedule.pdf

<sup>5</sup> news.pdf

<sup>6</sup> nov\_cal.pdf

<sup>7</sup> dec\_cal.pdf

<sup>8</sup> permit.pdf

<sup>9</sup> notice.pdf

<sup>10</sup> rejection.pdf

\*[www.abington.org/refuse/compost.htm](http://www.abington.org/refuse/compost.htm)



Upon arrival at the facility the leaves are unloaded at the approximate location where the open air windrows are to be formed. The leaves are organized with a front end loader. The piles are 6 to 8 feet high and 12 to 16 feet wide. The mixture in the windrows is one part grass clippings to three parts leaves/ground yard waste to ensure aerobic decomposition. Mechanized equipment is used to promote acceleration and enhance decomposition.



The material is ground before composting using a machine called a tub grinder. The tub grinder chops the material into smaller pieces to decompose faster. A windrow turner then turns long piles (windrows) of organic material that are actively composting. The windrow turner is designed to thoroughly mix material so that all of it reaches high temperatures. The active compost stage ranges from six to ten months. The key indicator for establishing turning frequency is the internal windrow temperatures. The temperatures and water content are constantly monitored and the windrows are turned when the temperatures exceed 140 degrees to ensure maximum decomposition. Once the temperatures have standardized, the composting process is complete.

When the material is sufficiently composted and ready for screening, Abington's composting facility uses a screener machine to improve the quality of the finished material. The screening process removes larger pieces that have not yet broken down that act as contaminants. There is no downtime for broken equipment as the township employs a mechanic who has been schooled in all of the equipment used in our operation.

Both loose leaves and bagged leaves arrive at the yard from October through December. Yard waste is collected in Abington Township March through December. The process of composting begins immediately. The compost is ready for distribution to the public beginning in late April. The majority of the yard waste to be composted is generated in a short period in the fall. The yard waste may require stockpiling during this period until the mechanical processing can catch up with the rate of yard waste collection. The approximate duration of the composting cycle is

120 to 180 days. The curing period for compost is 30 to 90 days. The time required for storage and distribution is 90 days. The total time required for composting is 130-360 days.



Over time we have refined our program and become more efficient through better coordinating as well as upgrading our composting and collection equipment. The success of our program lay in our product. The finished compost is a dark in color humus that has a down to earth smell common to dirt. You cannot recognize any of the leaves or yard waste. It is very crumbly and falls apart when you pick it up.



The compost is ready for [distribution](#)<sup>11</sup> to the public beginning in late April. The compost material is put into local parks which remain open 24 hours a day. It is replenished at each site until all of the compost has been exhausted. The finished product is available to residents,

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<sup>11</sup> clean\_up.pdf

municipal agents and landscapers. The finished product is used for Abington township parks, around the municipal building and to blend in soils.



Abington Township began its composting program back in 1973 by collecting loose leaves at curbside with vacuum units to be composed at our highway facility. We also allowed local landscape contractors to drop off leaves from residents homes at our facility. We purchased six leaf vacuums and that was the start of what would eventually become one of the best and most comprehensive composting programs in the area. In those days we would turn the windrows with a front end loader. We then purchased a Royer shredder to better refine our product. The finished product became popular with our residents and landscape contractors.

In 1989 we decided to expand our program to include yard waste that was collected in 30 gallon biodegradable bags on resident's trash day 9 months out of the year. Abington Township now accepts leaves, yard waste (grass clippings, hedge and bush clippings, and garden residue, brush and tree limbs) from both residents and landscapers. This material is collected March through December.

In [January](#)<sup>12</sup> we also collect Christmas trees and some residents will still put out yard waste to be collected which we will pick up to compost along with the Christmas trees.

We keep both our residents and landscapers very well informed of how our programs work. We provide easy to understand information in our annual calendar which is mailed to every household in Abington Township. In addition, we have this information on our cable TV channel and we provide a dedicated phone line with a recorded message providing additional information concerning collections.

Literature is available at the reception area in the highway yard and Abington Township's web site provides information on grass recycling including tips on mowing your lawn and back yard composting.

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<sup>12</sup> tree\_cal.pdf

## **5.) Utilization of Equipment/Systems and Technologies**

The equipment used at our composting yard includes dump trucks, front end loaders, a windrow turner, tub grinder and screener.

Our screener machine removes stones, glass, paper, plastics and related debris that might be encountered in the mulch. The machine allows us to screen out oversized wood products from the tub grinding process affording us the opportunity to regrind this byproduct down to an acceptable size. This is critical as the residents will not take the mulch if it is not clean of debris or has chunks of wood intermixed which would result in a major storage problem for us. Our screener allows us to blend these two products with discarded fill dirt to make top soil for our Parks and Highway Departments.

The equipment that we have is capable of excellent productivity which enhances our ability to provide our residents with a cost effective product that is properly cleaned and sized. Our composting program is a constantly evolving process in which we refine procedures, deploy equipment and implement new practices to continuously stress economy and efficiency in our overall operation.

## **6.) Workers Health & Safety**

Health and safety precautions are taken to avoid injury or illness at Abington's facility. To avoid injury, care is taken when heavy equipment is operating. This includes water drop off vehicles, front end loaders and any specialized mixing, shredding or aeration equipment. Our operators wear eye, ear and head protection.

Since our facility consists mainly of leaf and yard waste, there is little threat of illness or infection from bacteria. During dry or dusty conditions our men wear dust masks to minimize the risk of infection, particularly during windrow turning activities.

Our facility has an eye wash station, safety shower, first aid equipment and defibulator on site. Over 95 percent of our employees have received first aid training and are CPR certified. All Safety issues are addressed in our Highway Safety Manual. We have never had a composting related accident at our facility.

Our compost facility employees have attended training programs sponsored by the Professional Recyclers of Pa. The program included classroom lectures as well as field training with windrow and aerated static pile composting systems. This training included:

- Hands-on Training and Field Demonstrations
- Compost Biology
- Microorganisms of Composting
- Basic Concepts of Composting
- Compost Materials
- Co-composting (Mixing and Recipes)

## 7.) Public Acceptance, Appearance and Aesthetics

The yard is cleaned on a daily basis. All materials are contained. The site is neat and orderly. There are grass buffers around the site, the grass is mowed and weeds kept under control. Our finished compost is used in flower bed and other landscaping around the site.

Our neighbors and community have been educated about the composting process. We often reassure them that they can still call if there are any problems. We distribute information widely on public health. We use the community newsletters to inform them of all that is happening. We give presentation to the schools and various community groups. We have tours, open houses, and free compost for residents.

Abington's representatives are frequently guest speakers at public meeting to discuss the entire composting program. The boy and girl scouts as well as the school children frequently tour the compost facility.

The yearly [calendar](#)<sup>13</sup> includes educational material on the leaf and yard waste collection. There are several pages on our website dedicated to mulch and composting. A township informational [flyer](#)<sup>14</sup> is sent to every residence in the township several times a year. This also includes information on our yard and leaf waste collection. A [brochure](#)<sup>15</sup> is available at all of the township facilities.

Abington's Vehicle Maintenance Department provides maintenance to the township vehicles in an efficient and timely manner. They are responsible for the scheduling and performance of routine maintenance and major and minor repairs to the vehicles. They are capable of maintaining and repairing heavy duty equipment along with other smaller pieces of equipment. The vehicles are washed and the interiors cleaned on a daily or weekly schedule depending on their use. The equipment is replaced or refurbished as necessary.

There is no lengthy stockpiling of materials in our yard. We distribute all of our compost. We deliver any left over materials to the surrounding nurseries.

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<sup>13</sup> page\_14.pdf

<sup>14</sup> compost.pdf

<sup>15</sup> brochure.pdf

