

**SOLID AND HAZARDOUS WASTE MANAGEMENT BRANCH
MEMORANDUM**

TO: Robert Haynes, Hearing Officer

THRU: Nancy Marker, Environmental Program Manager II, SHWMB *ACM 8/25/09*
Bryan Ashby, Environmental Program Manager I, SHWMB *4A 8/20/09*

FROM: *AD 8/20/09*
Avery Dalton, Environmental Scientist, SHWMB

DATE: August 20, 2009

SUBJECT: Technical Response Memorandum Responding to Public Hearing
Comments for DSWA's Application to Construct and Operate a Sanitary
Landfill at the Central Solid Waste Management Center (Sandtown)

REFERENCE: Hearing Officer's Memorandum Dated July 22, 2009
Permits: SW-03/01, SW-00/01, File Code: 10.C

The application to construct and operate a sanitary landfill Area F at the Central Solid Waste Management Center (CSWMC), submitted by the DSWA was determined to be administratively complete on May 29, 2009. From our review of comments and correspondence received in regards to and during the public hearing, there is no change in our determination that the application is complete, and provides protection of the environment and public health in accordance with the *Delaware Regulations Governing Solid Waste*.

The intent of this Memorandum is to address concerns from the public brought forth during the public hearing process for the Area F landfill cell at the Central Solid Waste Management Center, near Felton, Kent County, Delaware and suggest potential permit conditions to address those concerns. Comments received were limited to two parties; Brenna Goggin of the Delaware Nature Society, and June Satterfield of the Delaware Chapter of the Sierra Club. These comments are addressed below.

One major concern raised was waste diversion, particularly in the form of recycling and yard waste diversion. Below is how the Department is addressing recycling. In regards to yard waste diversion we propose a ban be put in place to divert yard waste from the landfill, similar to the prohibition on yard waste disposal now in place at the Cherry Island Landfill. SHWMB further recommends that DSWA be required to take part in the management of the material, and education of the public and waste haulers regarding this yard waste ban.

A. Recycling

1. June Satterfield's letter expressed frustration with recycling efforts in Delaware. Brenna Goggin's letter urged priority is given to the initiation of an effective statewide recycling

program and waste diversion. The Solid & Hazardous Waste Management Branch strongly agrees that there is much work to be done in the areas of recycling and waste diversion. That being said, it is important for all of the stakeholders to understand that notable progress has been made over the last several years. While the State's recycling rate was formerly estimated at approximately 12 percent, the mechanism for determining Delaware's recycling rate now mirrors the EPA methodology for determining recycling rates and has been adopted by the Recycling Public Advisory Council (RPAC)¹. This methodology was first applied in 2006 during which Delaware was calculated to have a 23.2 percent recycling rate. In 2007 the recycling rate rose to 32.2 percent². This increase is primarily the result of expanded curbside recycling in the City of Wilmington, now available statewide through the DSWA with several private haulers also offering the service at various locations throughout the state, and implementation of the yard waste ban in northern New Castle County.

2. Currently DSWA is also in the process of revising the Statewide Solid Waste Management Plan and they have expressed an intention to include a "Zero Waste" component in the revision. The incorporation of a Zero Waste provision will by its very nature require the entire state, inclusive of the residential, commercial and institutional sectors, to become much more seriously involved in all aspects of waste diversion (reduce, reuse and recycle) and to adopt a conservation ethic. In order for this to succeed there must be a strong outreach and education component. The interested public is encouraged to participate in this process as opportunities become available. For more information on this process the public is encouraged to contact DSWA.
3. Lastly, the stakeholders should also understand that various attempts at the passage of substantive recycling legislation over the last six years, including versions with a mandatory recycling component, have been authored and supported by DNREC, DSWA, the Trash Hauling Industry, the League of Local Governments and the RPAC but none have been passed by the legislature. It is difficult to envision achieving a Zero Waste initiative without the passage of comprehensive recycling and waste diversion legislation in Delaware.

B. Yard Waste

The majority of those commenting supported diverting waste from the landfill. While considering the impact of a yard waste ban at the Central Solid Waste Management Center (CSWMC) there are several factors that need to be taken into consideration. They are:

1. The Benefits,
2. Population Growth,
3. Landfill Gas Production and Energy Recovery vs. Disposal Capacity,
4. Economic Impact,
5. Yard Waste Management Alternatives and,
6. Public Support.

When evaluating these factors it is important to keep in mind that progress in the field of resource management and waste diversion is incremental. That is to say that achieving the state's diversion goal of 51% will not happen as a result of a single action but rather will be the cumulative effect of multiple actions one of which is banning yard waste from disposal. It is the success of these incremental steps over the last several years that have resulted in the state increasing its diversion rate from an estimated 12 percent to over 32 percent as determined using the current methodology. The act of banning yard waste from disposal at both the CSWMC and the SSWMC will result in nearly a two percent increase in the overall statewide diversion rate – a noteworthy and substantial step forward as a result of a single waste diversion action. To help put this quantity of diversion in perspective, the nearly 32,000 tons of yard waste that will be banned from disposal at the CSWMC and the SSWMC is 1.7 times more material than was collected statewide at all approximately 140 plus DSWA recycling drop off sites in 2007. It is likewise the success of future incremental steps that will result in the state achieving whatever resource management objectives and waste diversions goals it establishes.

1. The Benefits - Banning yard waste from disposal in the CSWMC will:
 - a. reduce the waste disposal rate by nearly five percent,
 - b. extend the life of the existing landfill capacity,
 - c. reduce greenhouse gas emissions,
 - d. increase the local production of mulch and compost while creating jobs,
 - e. conserve a valuable natural resource and,
 - f. promote a conservation ethic.
2. Population Growth – Between 2000 and 2007 Kent County experienced a twenty percent growth in population and New Castle County experienced a five percent growth in population. However, in 2006 the Northern Solid Waste Management Center (NSWMC) landfill permit was revised to require the waste from the Pine Tree Corners Transfer Station (PTCTS) to be disposed of in the CSWMC in order to conserve landfill disposal capacity in the more heavily used NSWMC. It is important to note that between 2000 and 2007 the disposal rate at the PTCTS increased 69 percent representing significant growth in southern New Castle County. By imposing the yard waste ban on the CSWMC permit the yard waste ban is de facto imposed on southern New Castle County, as well as Kent County. Both areas have experienced and are projected to continue to experience substantial residential growth. As a result of this growth, the tonnage of yard waste generated will only increase with time. As such, the sooner a yard waste ban takes effect the greater the benefits will be.
3. Landfill Gas Production and Energy Recovery vs. Disposal Capacity - It is the organic fraction of solid waste, inclusive of yard waste, which generates methane. Methane is a potent greenhouse gas and even though a large percentage of the methane produced can be captured by a landfill gas collection system, the un-captured percentage escapes to the atmosphere. The methane that is captured can be used beneficially to produce energy. This activity occurs at all three DSWA landfills. During discussions regarding

imposition of the yard waste ban at the NSWMC a prudent and incisive question was asked "Is the energy created by the methane recovered from the landfill gas of greater value than the landfill capacity saved and if yes wouldn't it make more sense, at least economically speaking, to simply continue landfilling the yard waste?" In order to answer the question a complex and staff resource intensive computer modeling analysis was performed by DSWA and EPA using EPA's Landfill Gas Emission's Model (LandGEM) to estimate what fraction of the methane produced was from yard waste only. According to the model results, only a small percentage of the methane generated actually comes from the yard waste component of the organic waste fraction. The monetary value of the landfill capacity saved at the NSWMC is eight times greater than the energy value of the methane from the yard waste. While a separate CSWMC analysis has not been performed, we believe the results would be similar and therefore support imposition of the yard waste ban at the CSWMC.

4. Economic Impact – According to the 2009 *Recycling Economic Information Study Update*³ prepared by DSM Environmental for the Northeast Recycling Council the direct economic impact of recycling, recycling reliant, reuse and remanufacturing industries contribute over \$346 million annually to Delaware's economy. Of that \$346 million the compost and wood reuse industries contribute over \$30 million annually. Yard waste is a component of this economic impact and clearly its management contributes to the economy. In addition to this economic information it is important to note that the materials needed to make mulch, including yard waste, are in short supply at this time and therefore are in demand. By landfilling this resource it is not available to the businesses that need it to produce mulch and compost. It also important to note that the diversion of yard waste from disposal will require alternative management options thereby creating jobs in the waste hauling, mulching, composting and landscaping industries. This business opportunity clearly ties into the Administration's Climate Prosperity Initiative by creating opportunities for green savings and green jobs.
5. Yard Waste Management Alternatives – Homeowners and businesses that are subject to the yard waste ban at the CSWMC will have the following choices for management of their yard waste:
 - a. Manage the yard waste on their property by mulching and/or composting.
 - b. It is important to note that the Department will not be establishing yard waste drop off sites in Kent County as it did in northern New Castle County; however, there are several DSWA locations in Kent County that will accept yard waste. These locations will be posted on the DNREC and DSWA web sites.
 - c. There are multiple private sector businesses in Kent County that will accept yard waste and they will be identified and posted on the DNREC yard waste web site.
 - d. Contract with a waste hauler or hire a landscaper to remove the yard waste.
6. Public Support – Without question the yard waste ban imposed at the NSWMC was originally met with some skepticism and trepidation. However, after nearly two years of being in effect the public overwhelmingly supports the yard waste ban in northern New Castle County. Having seen the quantities of material that are diverted from disposal

they have a firsthand appreciation for the landfill space savings that is occurring. In addition, they understand that the yard waste has natural resource value as mulch and compost. Specifically, mulch and compost improve the soil, reduce runoff, conserve moisture thereby reducing the frequency at which plants must be watered, improve soil fertility thereby reducing the use of chemical fertilizers, control weeds and improve overall plant health thereby reducing the need to use pesticides and herbicides. These attributes are better for the environment than disposal and they save homeowners money by reducing the need to water, fertilize, weed and use pesticides and herbicides. There is no reason to believe the residents of Kent County will not come to the same conclusions and therefore have the same supportive reaction.

C. Forest and Natural Heritage Program

Brenna Goggin commented that landfill should not be expanded or greatly reduced, in order to reduce the impacts to the forest. Of the 60 areas proposed for Area F, approximately 19 acres divided between two forested plots is forested. Due to the shape and location of these forested plots, it would be difficult to reduce the acreage of the proposed landfill cell and construct an economically feasible landfill cell. Additionally, by the very nature of the Area F location, the DSWA is maximizing its landfill capacity and minimizing the size of the landfill footprint, if a landfill of equal disposal capacity were to be located elsewhere. Simply stated, a landfill in another location would require much more space, with greater impacts to the environment.

For Area F, the DSWA has proposed 200 feet of buffer along the un-named eastern tributary leading north to the Cow Marsh Branch, and along the southern property edge. Only the southern buffer is required by the DRGSW. The majority of this buffer contains an existing healthy deciduous forest. Elsewhere on the site existing forested buffers are located adjacent to the Choptank River and the Cow Marsh Branch. These buffers are remarkable because they are almost entirely forested with mature second growth deciduous forest and the minimum width is 200 feet.

Impacts to the forests on the property are unavoidable if the property is to be used as a landfill (whether it be a landfill expansion, or even the installation of environmental monitoring systems to the existing landfill), however such impacts can be mitigated through management. This issue is similar to issue of rare and endangered species encountered during the public hearing for Cell 5 at the SSWMC. On June 19th during a meeting to discuss surveys for rare and endangered species, the SHWMB recommended the DSWA develop and implement a Delaware Wildlife Management Plan for the long term management of natural resources on their properties at the CSWMC and the SSWMC. The plan would be used as guidance to identify the natural resources, develop criteria for the management of those resources, and control future impacts through management practices and mitigation efforts such as; planting non-invasive plant species. The SHWMB advocates the development and use of such a plan by the DSWA. SHWMB will continue to work with DSWA and the Natural Heritage Program to ensure protection of endangered species

The Natural Heritage Program surveyed the property for rare and endangered plant and animal species on August 18th. No species of conservation concern were found with the Area F footprint, however, there were rare species found outside of the Area F location. It should be noted that these species are not expected to impact the construction or operation of Area F due to their distance from Area F and location on an island in Cow Marsh Branch. The SHWMB is currently awaiting the report from the Natural Heritage Program.

References:

1. Recycling in Delaware: Measurement and Methodology, Subcommittee Report for CY 2006, Delaware Recycling Public Advisory Council, March 2008.
2. The Seventh Annual Report of the Recycling Public Advisory Council, Delaware Recycling Public Advisory Council, February 2009.
3. Recycling Economic Information Study Update: Delaware, Maine, Massachusetts, New York, and Pennsylvania, Final Report; Prepared by DSM Environmental and Mid-Atlantic Solid Waste Consultants for the Northeast Recycling Council, February 2009.

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