

# **Community Yard Waste Drop-Off Demonstration Site Report**

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**State of Delaware  
Department of Natural Resources and Environmental Control  
Division of Air and Waste Management  
Solid and Hazardous Waste Management Branch**

Submitted in Partial Compliance with Senate Bill 190



***Community Yard Waste Drop-Off  
Demonstration Site  
Report***

**Presented to:  
The 145<sup>th</sup> General Assembly Pursuant to S.B. 190**

**State of Delaware**

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**DNREC wishes to express sincere appreciation to the many dedicated and hard-working employees of DelDOT/DART, DSWA, and the Divisions of Parks and Recreation, Soil and Water as well as Air and Waste Management who have made these initial steps toward greater recycling possible.**

Cover: Residents dropping off yard waste at the Polly Drummond Site

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## Executive Summary

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The Department of Natural Resources and Environmental Control (DNREC) established three Community Yard Waste Drop-Off/Mulch Pick-up Demonstration Sites in northern New Castle County between July 2007 and February 2008. In compliance with the ban on yard waste in the northern New Castle County (aka Cherry Island) Landfill, DNREC established these sites to provide an additional option for residents to dispose of yard waste. As expected, based on decades of experience with similar sites in other states, these yard waste sites continue to provide a popular option for residents. However, the tonnage of yard waste at these three sites accounted for only about twenty percent of the yard waste generated in northern New Castle County.

The benefits of diverting yard waste from disposal include:

- conserving capacity in Delaware’s largest landfill which is located in the most densely populated county, and
- maintaining relatively low solid waste disposal costs for as long as possible, and
- conserving natural resources, and
- reducing green house gas emissions, and
- promoting a conservation ethic and creating opportunities for resource management jobs that formerly did not exist.

The value of each foot of disposal, i.e. “air space”, created by the \$90 million expansion of the Cherry Island Landfill is approximately \$4 million per foot. Given that yard waste comprises approximately 23 percent of residential solid waste, recycling yard waste instead of landfilling has clear economic value as well as environmental benefits. Another benefit of diverting yard waste is that it is generally considered the easiest first step in a more comprehensive recycling program due to the relative ease with which yard waste can be recycled with widely available expertise and equipment.

The cost of recycling yard waste must also be considered. Obtaining real-world operational costs information was one of the purposes of establishing these community yard waste demonstration sites. We have found that the costs for mulching the yard waste and regular maintenance (e.g., “push backs” to clear the pad of low density yard waste delivered by residents into a larger consolidated storage pile prior to grinding) is at least \$150,000 per year, not including DNREC staff time costs or occasional disposal of non-yard waste solid waste items. Options for mitigating these costs are included in this report.

The funding to establish and operate these sites has been paid by DNREC using “Penalty Funds,” which are limited in that they are derived from enforcement penalties paid by violators of

environmental laws. The expectation was that Penalty Funds would only be used to open the yard waste sites because sustained long-term operational funding would otherwise be provided. However, funding dedicated to the yard waste has not been provided and at this point in time none is anticipated.

The Department's Penalty Fund policy clearly states the intent is to support short term projects with clearly defined objectives and end dates and that the Penalty Fund should not be used for routine operating costs. For this reason, legislators expressed concern that DNREC would shut down the three demonstration community yard waste sites, given the lack of funding. Accordingly in 2009, the General Assembly passed Section 79 of S.B. 190, which stipulated:

Section 79. Yard Waste Drop Sites. It is the intent of the General Assembly that all yard waste drop sites in New Castle County remain operational unless otherwise directed by the General Assembly. The Department of Natural Resources shall conduct public hearings on and submit a plan for maintaining operations of the yard waste drop sites to the General Assembly by May 2010. The Department shall relocate the yard waste disposal site currently located at the Cauffiel Estate to a new location suitable for residents within the surrounding area.

As directed, the Department has kept the Polly Drummond and DART yard waste sites open, has made arrangements for closure of Brandywine Hundred on June 27, 2010, and is actively pursuing a suitable alternate location. Also, as required by SB 190 DNREC conducted a public meeting on the closure of this yard waste site on April 27, 2010. A summary of the comments can be found in Section 2 of this report.

In summary, while the Department has been fortunate to further reduce operational costs as a result of the current high demand for mulch, the Department's first recommendation is still to privatize operation of the yard waste sites to the extent possible. As originally required the Department will keep the yard waste sites operational "for as long as feasible." However, there may come a point in time where the Penalty Fund simply can no longer sustain the yard waste sites and closure will be the only remaining option.

# Community Yard Waste Drop-Off Demonstration Site Report

## 1.0 Background

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On January 6, 2006 DNREC issued DSWA permit SW-06/01 for the Northern Solid Waste Management Center (aka Cherry Island Landfill (CIL)) that, for the first time, included a ban on the disposal of yard waste in the landfill. DNREC imposed this condition for several important reasons:

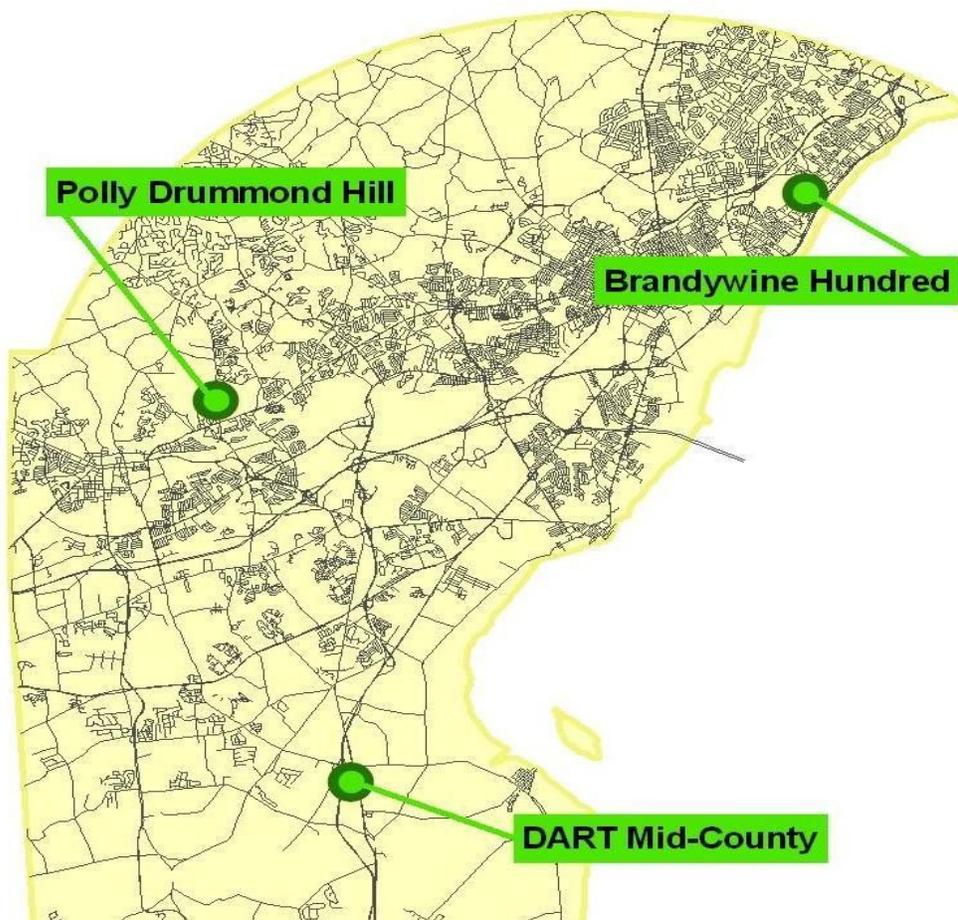
- The CIL is the state's largest landfill in the most densely populated county and the landfill with the least amount of remaining available capacity.
- The permit for expansion of the CIL was explicitly issued as a "terminal" permit – i.e., it would be the last permit issued for this landfill site and that when the additional 23 feet of "air space" capacity is used up, the landfill would need to close and no additional permit applications would be submitted for consideration at this landfill. Therefore conservation of the remaining landfill capacity through greater recycling is critical.
- To replace the CIL with another landfill at an alternate location in northern New Castle County will cost at least \$100 million in today's dollars and may not even be possible based on landfill siting criteria.
- Yard waste constitutes approximately ten percent of the waste disposed in CIL (23 percent of residential solid waste). By imposing the yard waste ban, the CIL disposal rate is effectively reduced by ten percent. Additional recycling measures, such as expanded residential curbside and commercial recycling, have the potential to reduce the CIL disposal rate by an even greater percentage.
- For these reasons conserving CIL disposal capacity is paramount to maintaining the lowest possible waste disposal costs for the residents of northern New Castle County.
- By diverting the yard waste from disposal, we are not only conserving valuable landfill space, we are conserving a valuable natural resource, saving energy, reducing greenhouse gas emissions and promoting the economy by creating the opportunity for resource management jobs that formerly did not exist in Delaware.

The 2006 CIL permit condition indicated that the yard waste ban was to take effect January 1, 2007. Given the concerns expressed by some members of the General Assembly about the number of options available and costs to the public to manage their yard waste, and at least one effort via HB 1 in 2007 to void the permit condition, DNREC indicated it would delay enforcement of the yard waste ban until January 1, 2008. In response to these concerns the 144<sup>th</sup> General Assembly issued Senate Joint Resolution 2 which, among other things, required delaying enforcement of the yard waste ban until January 24, 2008, and that DNREC and DSWA

shall work with all necessary partners to open and operate, as long as feasible, at least three demonstration community yard waste sites which shall be available to the public for disposal and recovery of residential yard waste.

In concert with these requirements, enforcement of the ban was delayed and between July 2007 and February 2008 by using money from the DNREC Penalty Fund, DNREC's Division of Air and Waste Management opened three Community Yard Waste Demonstration sites; one at the DART facility near Bear, one at the Polly Drummond Hill site near Newark and one at the Brandywine Hundred site north of Wilmington, respectively, as shown below.

### **LOCATIONS OF DNREC COMMUNITY YARD WASTE DEMONSTRATION SITES**



These successful yard waste recycling demonstration sites would not have been possible without the ongoing support and joint cooperation of:

- DELDOT DTC which allowed the DART site on their property, and

- DNREC's Division of Parks and Recreation which allowed both the Polly Drummond and Brandywine Hundred yard waste demonstration sites on their property<sup>1</sup>, and
- DELDOT Canal and North Districts for site construction and on-going maintenance at all three sites, and
- DNREC's Division of Soil and Water for fence construction at the DART and Polly Drummond sites, and
- DSWA for on-going trash removal at all three sites, and
- DNREC's Environmental Crimes Unit for periodic video and enforcement surveillance.

It is also important to note that DNREC's operational costs, which will be discussed subsequently in greater detail, would be much higher without the assistance of these agencies.

## 2.0 Findings

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Percentage of Yard Waste Managed at Sites: Overall the sites have been very successful and popular with the citizens that take advantage of them. It is estimated that nearly 30,000 northern New Castle County households take advantage of these yard waste drop-off sites. Collectively all three sites generate about 25,000 to 30,000 cubic yards of mulch per year. This amount of yard waste equals about 10,000 tons of material or several hundred semi-truck loads. According to DSWA's most recent Waste Characterization study, almost ten percent of the waste going into the Cherry Island Landfill prior to the ban was yard waste. That equates to about 50,000 tons of yard waste per year. Therefore, approximately fifteen to twenty percent of all yard waste is being managed at the yard waste sites. The remaining eighty percent of the yard waste is either being managed by the homeowners on their own property via mulching and/or composting or it is being managed at alternate locations by landscapers and/or waste haulers.

Oversight Required for Non-Yard Waste Items: While the majority of the public is compliant with yard waste site usage requirements there are on-going problems with residents and contractors that are leaving entire bags of yard waste as opposed to emptying their bags as required. Of even greater concern, some are using the sites for disposal of trash and construction and demolition wastes. This not only comes at a cost to DSWA to remove the trash, but it has a negative aesthetic impact, attracts more waste, and decreases the quality of the mulch. (It is important to note that there is no evidence of any disposal of any hazardous substances at any of the sites.) Oversight, by some means, is paramount to addressing and preventing these problems. Recently a Request for Proposal (RFP) has been issued in an attempt to reduce costs and to provide greater oversight thereby reducing the occurrence of these types of problems. The initial responses look favorable and the Department expects to select a contractor in July 2010.

Contractual Costs for Operations: Grinding yard waste into mulch, pad clearing and site maintenance at all three sites was approximately \$150,000 per year and would have been even higher had it been necessary to continue under the most recent grinding cost structure. However,

due to increased demand for mulch in the private sector we have been successful in eliminating our greatest operational expense by exchanging the cost of grinding for the mulch and thereby saving at least \$100,000 per year. Via the previously mentioned RFP it appears the Department will be successful in reducing these costs even further by using the value of the mulch to likewise eliminate pad clearing and minor maintenance costs. On the negative side, this option leaves no free mulch for the public. However, this is only a one year agreement and how long these market conditions will exist is an unknown. If it becomes necessary to once again pay for grinding, pad clearing and maintenance, operational costs will increase substantially. Under these circumstances it will be impossible for DNREC to keep these sites open without a dedicated source of funding.

Staff Costs: Additionally, what must also be acknowledged is that the operations costs are exclusive of DNREC's staff costs to manage these sites and these costs are formidable. We strongly agree yard waste diversion is an important aspect of the state's waste diversion goals and these sites are an important aspect of establishing yard waste diversion. However, it is important to note that at least an additional \$100,000 per year are incurred by the DNREC in the form of administrative, technical and managerial staff time to keep these sites operational under the current conditions. While we believe this staff demand will be reduced with the recent agreements proposed via the RFP, we would be remiss if we did not point out that these staff resources could and should be addressing other waste diversion issues in addition to yard waste.

Penalty Fund: DNREC, at the request of New Castle County legislators, opened these sites using Penalty Fund money on the supposition that recycling legislation (HB 159), inclusive of a dedicated source of funding, would pass and provide not only a dedicated source of recycling funding, but also long term financial support for proper operation of the yard waste sites. That did not happen. As such, the Department has had to continue to support these sites out of the Penalty Fund. This is neither sustainable nor advisable. The Department's Penalty Fund policy clearly states the intent is to support short term projects with clearly defined objectives and end dates and that the Penalty Fund is not to be used for routine operating costs. The Penalty Fund cannot serve as an endless or dedicated funding source for the yard waste sites and an appropriate source of secured funding must be attained for this activity to continue on a long term basis.

In the interest of keeping the yard waste sites open Section 79 of SB 190 stipulated:

Section 79. Yard Waste Drop Sites. It is the intent of the General Assembly that all yard waste drop sites in New Castle County remain operational unless otherwise directed by the General Assembly. The Department of Natural Resources shall conduct public hearings on and submit a plan for maintaining operations of the yard waste drop sites to the General Assembly by May 2010. The Department shall relocate the yard waste disposal site currently located at the Cauffiel Estate to a new location suitable for residents within the surrounding area.

As directed, the Department has kept the yard waste sites open and as required by SB 190, a public yard waste meeting regarding the Brandywine Hundred site was held on April 27, 2010 to discuss closure and relocation of that site.

Public Comments: Over 125 people in the Brandywine Hundred area took the time to express their thoughts and concerns on this issue. There were approximately 100 participants at the April 27, 2010, Brandywine Hundred meeting. In addition to the comments received at the public meeting, the Department also received nearly twenty-five (25) letters, emails and phone calls (copies are available upon request).

There were objections related to noise and dust from some residents of Delaire, which is a development adjacent to the Brandywine Hundred site. Some of the Delaire residents have expressed a desire that the site be relocated and as directed by SB 190 those efforts are under way and the existing site will close by June 27, 2010. The Department is well aware of these concerns and is actively pursuing an alternate yard waste drop-off location for the residence of the Brandywine Hundred Area.

In summary, the comments received were overwhelmingly supportive of keeping the yard waste sites open. The yard waste program has been characterized by the vast majority as a worthwhile public service, convenient, and an aspect of recycling in Delaware that is long overdue. One participant at the Brandywine Hundred meeting was quoted as saying “This time the state got it right, keep doing what you’re doing” with supporting applause from the audience. This being said, the audience was also aware of the concerns expressed by nearby residents of the Brandywine Hundred Site as mentioned above and was supportive of its closure provided an alternate location is established in a timely fashion.

### **3.0 Recent Market Developments and Implications for Yard Waste Management.**

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Due to an increase in demand for woody and green waste to make mulch and compost, there is growing private sector interest in the yard waste from these sites. As such, the opportunity to privatize and/or develop private/public partnerships is worthy of evaluation for the following reasons:

1. The sites could be staffed and as such the problems with dumping of inappropriate materials would be virtually eliminated.
2. Several mulch businesses have expressed an interest in managing the yard waste sites and/or acquiring the yard waste from homeowners free of charge. If these types of arrangement can be sufficiently duplicated throughout the county, the DNREC yard waste sites could close. This would remove a substantial financial and staff resource burden from the Department and address the concerns expressed by some neighboring the sites while still providing the public a place to deposit yard waste potentially free of charge.

3. Recent development allowing the private sector to operate the yard waste sites creates green jobs for Delaware residents and business opportunities that currently do not exist.

However, the downside of this current “buyers market for carbon” (yard waste) situation is that interest by contractors in privatizing operations may be ephemeral, fading as soon as traditional markets are reestablished. Hence, if the Department shuts down one or more of the demonstration yard waste sites with the expectation that, for example, a private mulch site will remain open to accepting residential yard waste for free, it could result in a problem if the commercial operation decide to close to residential drop offs when the traditional business in land clearing material increases again. Also, the current willingness of a contractor to performing mulching of the yard waste in exchange for the mulch could disappear if the contractor finds that lower cost mulch is available elsewhere when the economy picks up again and traditional sources become available.

The good news for the moment is the Department is in the process of securing a one year agreement with the private sector wherein the yard waste sites will be managed at no cost to the Department or site users exclusive of DNREC staff time. However, our ability to maintain such favorable circumstances for any length of time is unknown.

#### **4.0 Recommendations**

For reasons of program effectiveness, costs, the absence of dedicated funding, lack of staff resources, the opportunity for job creation and the ability to service the public need, the Department will be pursuing the above-mentioned agreements for the Polly Drummond and DART sites and will relocate the Brandywine Hundred site as soon as possible. That being said, it is ultimately the Department’s goal to completely privatize the yard waste sites.

If we are unsuccessful in our efforts to privatize the yard waste sites and a dedicated source of funding again becomes necessary to operate these sites in the absence of dedicated funds, then the Department will have no choice but to close the yard waste sites. Assuming a zero cost scenario continues to be successful it is difficult to project when closure will be an economical necessity, however, this does not change the fact that both the Division of Parks and Recreation and DART agreed to the use of their land on a temporary basis for this purpose and this is yet another reason to privatize. If it becomes necessary to close the sites, the public will have to choose from the private sector options that are available at that time. Based on their popularity and without a similar alternative, we fully expect closure of the sites, should it be necessary, will be strongly opposed by the public.

#### **5.0 Fiscal Implications**

Depending on the scenario required for the management of the yard waste sites cost and the market demand for mulch costs could range anywhere from \$25,000 to \$250,000 per year.