THE LUMBERTON CAMPUS CHRONICLE

DECEMBER 2022 NOTES FROM MEDFORD LEAS AT LUMBERTON

Longwood Gardens Now and Reimagined

Jim Alexander

A trip to Longwood Gardens is a wonderful holiday tradition. The buildings and grounds take on a majestic, entrancing feel that helps us through the shortened days of winter. The current presentation, *A Longwood Christmas,* is available until January 8, 2023.

But there's something even more special coming: *Longwood Gardens Reimagined,* an ambitious multi-year program to revamp existing facilities and add wondrous new ones. Prominent in the plan is the ongoing construction of a new 32,000-square-foot West Conservatory, which will house Mediterranean-inspired gardens in a visually striking design. With the outdoor fountains already renovated, many renovations already underway, and construction contractors busily at work, the future is unfolding.

Timed reservations for the holiday visits are urged, and may be made online at https://bit.ly/LongwoodG. An inspiring video of what's unfolding as the *Reimagined* effort proceeds can be viewed at https://bit.ly/LongwoodNew. ■

Getting Rid of It All, Part I

Jim Alexander

The Challenge

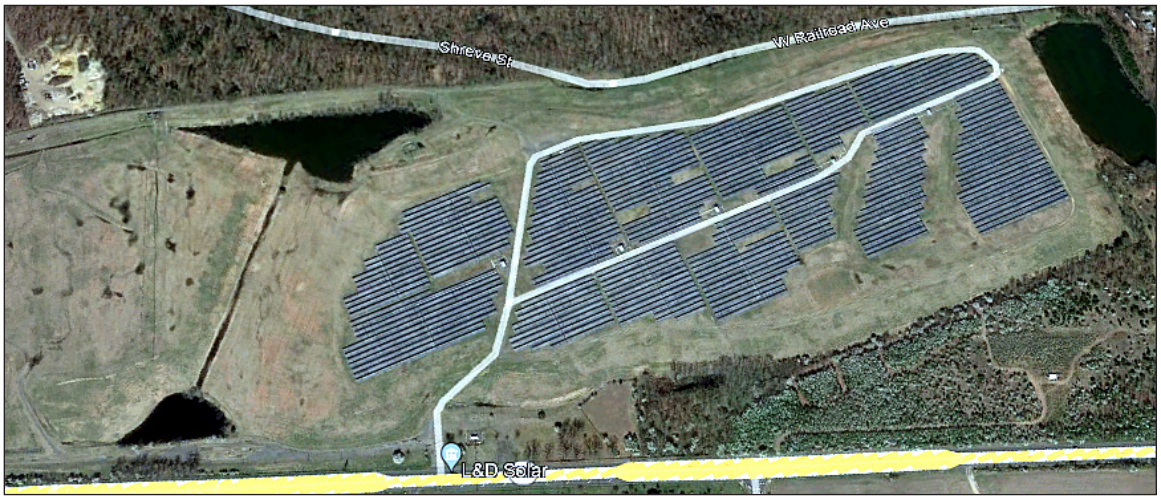
Our society produces lots of solid waste, an estimated 4.9 pounds of household waste per person every day. It is mainly classified as garbage and trash, recycling, or bulk items. Subsets include hazardous and food waste. In New Jersey, 23 million tons of solid waste are produced each year, of which about half is reportedly recycled.

It's such a big problem that states have enacted laws regulating how it all gets handled. In New Jersey, county governments are assigned a lead role in coordinating these services. A number of Federal rules are administered by the Environmental Protection Agency, as the problem and its consequences cross state borders. Even the Supreme Court has weighed in, curbing the ability of states to control where it can be transported.

Some incinerators are in use, such as in Camden County, where the burning can produce electric energy while reducing the residual volume, but the dominant method of disposal is into landfills, with related services for special waste such as paper, cans, plastics, and electronics. Some cities such as Philadelphia and New York, despite heavy reliance on incinerators, ship what they can't burn to increasingly distant landfills, often on dedicated trains, and in some cases the waste has been dumped down abandoned mines. Air pollution from incinerators is a concern regularly cited by environmentalists, and even the odors of waste being transported long distances have been bothersome.

New York City garbage train headed south at West Trenton

Getting rid of it has become an increasingly costly and difficult problem, one which won't go away.



Partial view, Mt. Holly Landfill

The Old Way

Back when Burlington County was mostly agricultural, getting rid of it all was less of a problem. Dig a hole out back and bury the stuff, or burn it in a bonfire. Neighbors weren't that close; nobody was watching. Small towns had the village dump. Lumberton had its own landfill on a 29-acre area by the Rancocas Creek, which was closed by the early 1990s, and eventually turned into a grassy field near the town's Canoe Launch.

With growing pressures from urban areas to find places to dump their garbage, then open areas like Burlington County became attractive disposal targets. Major landfills, often starting off small, received growing mounds of garbage from urban areas, especially as air pollution concerns over incinerators grew. Some materials were dumped in backcountry areas without benefit of official approval.

For an example of how it used to be handled, those traveling eastbound on Rt. 38 toward Rt. 206 today see a long fenced-off hill on the left, the closed site of a 200-acre landfill, constructed on a former gravel and sand pit, which operated for several decades into the mid-eighties. After all the sand and gravel had been mined out, some ten feet of demolition debris were dumped in the pit. Then around 1968 individual and commercial waste, and even sewage sludge, started being brought in. By 1986, with the State-issued license having expired, the Landfill and Development Company closed the filled site, followed by several decades of remediation.

On the surface, one may observe the grassy slope, now housing a large solar power farm operated by PSE&G. A major advance in itself, its 42,000 panels produce enough electric to power 2,000 homes. But less evident are sedimentation ponds, a leachate collection system, and gas management piping, as the massive pile of decaying waste settles.

Depositing waste on available land without the planning that is now recognized as needed creates serious environmental problems for coming generations. The site's surface slopes toward the Rancocas Creek's North Branch. The landfill is polluting several underlying aquifers with a series of chemicals with long names and dangerous consequences if consumed. Remediation efforts are now in place. Leachate (the nasty liquid that drains out from the decaying garbage) and methane collection systems have been installed, as have some clay barriers. Fortunately, the pollution has not reached the important lower Englishtown aquifer, but local

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Garbage *(continued from previous page)*

wells have had to be deepened, and nearby development curtailed. The site is monitored as part of the EPA Superfund program.

Another example was the Big Hill Landfill, located in the Pinelands near the Leisuretowne retirement community off of route 70. In 1981 a retention basin ruptured, resulting in the collapse of the side of the landfill. The resulting five-foot flood and mudslide swept into nearby homes, carrying polluted water and debris. Trees were uprooted, and buildings damaged. Such occurrences happened several times, and residents regularly complained about noise, trash and odors.

The State expended tens of millions of dollars making the site safe, and Southampton suffered property tax losses from it. Currently, efforts are underway build a solar field there.

Our own Lumberton campus resident Stacy Moore, who served 26 years as the municipal attorney for Southampton Township, in which the landfill is located, was recognized by the Township Committee on his retirement for his years of complex legal advocacy and litigation against Big Hill.

Moore recalled: "The landfill was accepting waste from not only New Jersey communities but also the City of Philadelphia. Because of its harmful impact on Leisuretowne residents, the Township energetically worked with the State Department of Environmental Protection and in the courts to assure compliance with regulations and in opposition to any expansion of the landfilling activity, eventually resulting in the bankruptcy and closure of the landfill." Only three of the seven planned sections were ever used.

An example of the widespread pressures to find disposal sites occurred in 1977, when

Parsippany in Morris County needed to expand its sewer plant. To make room, it decided to dig out 550,000 cubic yards of garbage from its adjacent dump and truck it to Burlington County. Targeted recipients were the Big Hill site, and one in Florence Township, the Florence Land Recontouring site, which in places was already 40 feet higher than its authorized size.

When an engineer representing Parsippany was asked why the distant Burlington sites had been selected, he cavalierly replied that the "rural area" had "a different sentiment" toward dumping than Morris County did.

Pressure on Burlington County increased when the county's last commercial landfill, Parklands in Bordentown, ran out of space in 1987, while the county was still building its own new facility. It was a challenging period. Solid waste management is expensive, complex, and fraught with political, legal, and environmental issues. Nobody wants it nearby, but everybody produces it.

Fortunately, the county had planned well, fought the political and technological challenges, and the result today is impressive. That will be the subject of part 2. ■

Getting Rid of It All, Part II

Jim Alexander

Setting the Stage for a County Solid Waste Operation

In the 1970s and 1980s, while Burlington County was working through the political, financial, and legal challenges of devising a county-wide solid waste program, efforts of outside municipalities to dump here continued. In 1975, the county successfully blocked Trenton and two of its Mercer County neighbors from purchasing the 90-acre Florence Land Recontouring Landfill site as a place to dispose of their garbage.

The site straddled the Florence and Columbus Townships border, near the Turnpike and I-295. The area became the choice place for Burlington to create its new 128-acre county-wide landfill, on part of what is now the 520-acre Burlington County Resource Recovery Complex. A major advantage is the several hundred feet of naturally occurring, underlying clay. If a landfill liner were to fail there, it would take a thousand years for any leakage to contaminate the underground water aquifer.

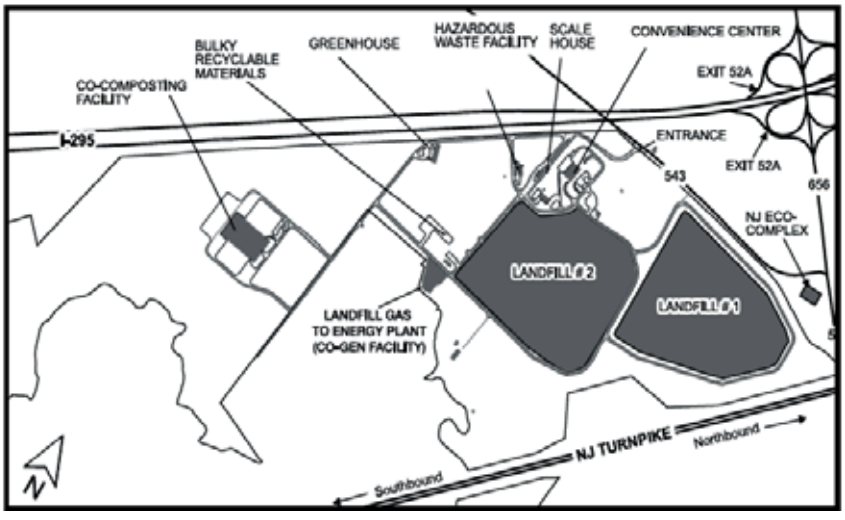
What evolved was a successful, coordinated County solid waste program that uses modern methods to meet its needs.

How Does It Work?

For us, it all starts with curbside pickups. Lumberton Township collects garbage, trash and bulk items. Burlington County is responsible for collecting paper, cardboard, bottles, cans, and certain plastics, and provides biweekly pickups. After that, for us it's out of sight and out of mind, but the Burlington County government handles both waste streams professionally.

Garbage Pickups. The garbage and bulk item pickups by the Township are described in full on their website at https://bit.ly/lumbpickups. More details on what is picked up are at https://bit.ly/lumbpub.

The garbage ends up at the impressive Burlington County Resource Recovery Complex. Here's a simplified overview of its parts as it appeared before its most recent expansion:



It is an efficient and impressive operation. Sampling wells are in place to detect any leakage that might occur, and it has ancillary features.

The most visible component of the center is the landfill operation, where our garbage gets dumped. All incoming garbage is weighed, and towns pay a tipping fee of about $95 per ton. The landfill is operated by Waste Management, Inc. under contract with the county. Its captured methane gas was used to generate electricity, and enabling a 46,000 square foot greenhouse to be heated and lighted. The landfill gas-to-energy program was shuttered in 2021 because of economics. The county is now working on plans to convert the methane gas to pipeline quality that could be used as a substitute for natural gas.

On the site, Landfill No. 1, with a capacity of 6 million cubic yards, started operation in 1989 and was filled within ten years. It was designed with a clay liner and systems for leachate containment, collection and treatment. Construction of an impermeable landfill cap, including a gas extraction and collection system was completed in 2003.

Next on line was the nearby Landfill No. 2, designed as a bioreactor landfill with a composite liner, an advanced leachate capturing and recirculation system and a gas collection system. It opened in 1999 and will reach capacity in 2026. With that in mind, Landfill 3 was planned, to use 50 acres of adjacent land, with about 7.5 million cubic yards of capacity. Now undergoing the State Environmental Protection permit process, it is expected to allow service until around 2040.

The latest techniques are used to extend the life of landfills. For instance, as trucks dump their loads on the area, heavy equipment runs over the thousands of bags, puncturing the plastic and compacting the garbage, to allow decomposition to take place faster. However, while some settling is anticipated, a primary objective of sanitary landfills is to encapsulate and isolate the material.

To meet state regulations, trained falcons have been used to fly over the area to scare off seagulls that would otherwise become a nuisance. The falcons are regularly fed, so they don't generally attack the gulls, but their mere presence scares them off.

Special items such as used electronics, bulk materials and hazardous waste like chemicals are also handled separately at this site. For information, go to https://www.co.burlington.nj.us/DocumentCenter/View/4231.

The site also handles municipal sewage sludge in a process that combines it with wood chips to produce compost mulch which is sold for use on golf courses and other areas, producing revenue.

Recycling. Recycling information and pickup schedules may be found at https://bit.ly/BurlcoRecycle. Residents are encouraged to use the mobile app Recycle Coach, available there, for access to the latest collection days for both garbage and recycling. For some of the official recycling rules, consult the Recycling Guidelines at http://www.co.burlington.nj.us/DocumentCenter/View/6924/Lumberton_2022-23.

The recycling, operated by the Occupational Training Center under contract with the county, is hauled to Westampton Township. From this location on Hancock Lane off of County 541, each day its fleet of 22 recycling trucks collects about 195 tons of recyclables from the county's towns. Additional recycling is also performed there for nearby State and Federal facilities under contract, a major example of successful shared services.

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In the massive Robert C. Shinn Recycling Center there, each truck dumps its collected materials, and heavy equipment scoops it on to a complex series of large machines that sort it into various classifications. Much of the heavy handling is done by this equipment, using the latest technology, while much passes by the watchful eyes of employees who catch and sort what the machinery missed. Several dozen individuals with disabilities perform productive tasks and learn skills and work habits of benefit to them and their community.

The service, including collection and processing, is funded by the county government. For a fascinating video of how the materials are sorted, go here: https://youtu.be/KLi5Y16bpdU. Because of this updated equipment which allows single-stream recycling, residents do not have to sort their paper, cans and plastics.

Rutgers EcoComplex. Adding to the success of Burlington County's efforts is the Rutgers EcoComplex, a clean energy innovation center, located on the main County Resource Recovery Complex site. Here, new ideas for technology are tested and incubated. Space is provided for small startup companies to develop environmental innovations and become successful enterprises, with labs, office space, and meeting facilities. Its activities range from providing advice to the County on its operations to the latest offshore wind-energy efforts.

The County's solid waste operation is actually headquartered in the EcoComplex, facilitating the sharing of information.

Complicated stuff, right? It's a price of living in an urban, consumer economy. Fortunately, Burlington County is handling the responsibility well. ■

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