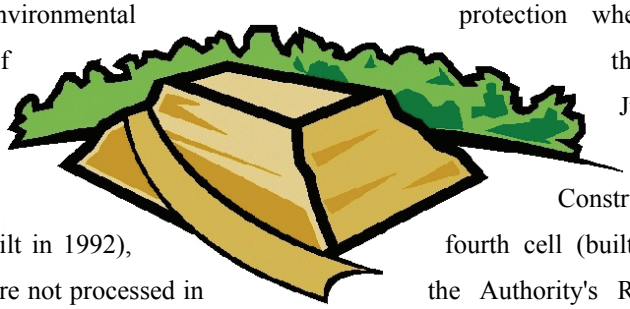
LANCASTER COUNTY SOLID WASTE MANAGEMENT AUTHORITY

FREY FARM LANDFILL

Every year, Lancaster County generates in excess of 530,000 tons of waste. But thanks to the integrated waste disposal system of the Lancaster County Solid Waste Management Authority (LCSWMA), only 20 percent of that volume enters the Frey Farm Landfill. The integrated system is comprised of the Resource Recovery Facility (which generates electricity by burning waste), a countywide comprehensive recycling program and the Frey Farm Landfill. A Household Hazardous Waste Facility provides additional management for wastes that are not preferable in either the Resource Recovery Facility or the Frey Farm Landfill. Because of the Authority's integrated waste disposal system, the life of the Frey Farm Landfill has been extended by almost twenty years and is expected to last well into the 21st century.

CONSTRUCTION

With the closure of the Creswell Landfill in the late 1980's and the subsequent need for a new facility, the Authority utilized the best available technology in environmental protection when constructing the Frey Farm Landfill. Construction of the first cell of the landfill, and its accompanying leachate treatment plant, began in June 1988 and was completed just over a year later. The Authority filled the first 18-acre cell to capacity within 16 months. Construction on the 12-acre second cell took place in 1990. The third cell (built in 1992), fourth cell (built in 1999) and fifth cell (built in 2003) have been used for wastes that are not processed in the Authority's Resource Recovery Facility. With approximately 96 total acres available for waste disposal, the Frey Farm Landfill is expected to last until 2020.



ENVIRONMENTAL PROTECTION

The Authority's primary concern is protecting the environment. Subsequently, the Frey Farm Landfill is a double-composite lined facility with two sets of composite liners designed to collect leachate before it reaches either groundwater or the water table. Leachate is water that filters through the landfill, picking up impurities as it travels. The top, or primary, liner is a composite section with 60-mil high-density polyethylene (HDPE) and a bentonite subliner. The bottom, or secondary, liner is made of a layer of clay and an additional 60-mil HDPE liner. Above the primary liner and between the primary and secondary liners are highly permeable leachate collection zones designed to transport all leachate to a series of collection pipes.

In 1999, the Authority began placement of a portion of the final cap and cover system that will eventually cover the entire Frey Farm Landfill when it becomes full. Capping activities include final grading to "shape" the landfill to promote storm water management and facilitate placement of gas collection wells. The cap itself includes various layers (from 'top down': approximately 6" of vegetated soil cover, 18" of soil, fabric/net/fabric composite; liner; fabric/net/fabric composite and additional soils.) The intention is to "seal" the landfill and reduce leachate generation. The capping system is designed to be practically as impermeable to rainfall as the liner system is to leachate. In 2004, an eight-acre capping project was completed, bringing the number of capped acres to 39**.** Eventually, all 96 acres of the Landfill will be capped.

LEACHATE COLLECTION & TREATMENT

The network of pipes in both the secondary and primary systems provides gravity flow to a perimeter pipe which transmits all flow to the lowest portion of the Landfill. The primary system empties into a pump station for subsequent leachate treatment, while the secondary system empties into a manhole used to detect and monitor any flows within the system. Under an inter-municipal agreement, the Authority pumps leachate via a pipeline to a local publicly owned wastewater treatment plant. The pipeline consists of two pipes; one is 'nested' inside the other and both are constructed of high-density polyethylene. This type of pipeline provides the highest degree of environmental protection.

MONITORING

Surface water drainage facilities and sedimentation ponds serve the entire site. The National Pollutant Discharge Elimination System permit issued for these controls require annual monitoring. Additionally, the Authority monitors groundwater each quarter in 33 strategically placed locations (either wells or surface monitoring points.) There are 20 locations at the Frey Farm Landfill and 13 at the inactive Creswell Landfill. Landfill gases are also monitored quarterly at points around the site. A gas collection system is installed that will enable the gas to be collected and converted into energy beginning in 2005.

In 2002, the Authority initiated another environmental monitoring system at the Frey Farm Landfill. That is, all incoming wastes are screened as they approach the inbound scales for radioactivity (from either natural or man-made sources). If the monitors detect unacceptable levels of these materials, staff responds in accordance with a Radioactivity Monitoring Action Plan approved by the Department of Environmental Protection. The responses include various contingencies such as rejection of the entire load, disposal of the wastes and isolation and determination of the specific material causing the alarm.

LANDFILL OPERATION

The Frey Farm Landfill typifies the most up-to-date design in standards of environmental protection. And the Authority's commitment to state-of-the-art facilities includes both their design and operation. Testament to this commitment is the fact that the Pennsylvania Department of Environmental Protection inspects the Landfill once a month, and in twelve years the Landfill has not received one notice of violation. The Frey Farm Landfill operates five and a half days each week. In addition, the Authority follows an in-depth Preparedness, Prevention and Contingency Plan for operational safety.

A MEMBER OF THE COMMUNITY

The Authority is required to monitor and maintain the landfill for a minimum of 30 years after it is closed. The final-use plan for the Frey Farm Landfill calls for the development of a natural and wildlife reserve area that will restore the area's appearance to be compatible with the surrounding farmland and woodland. To this end, special grasses conducive to wildlife habitat were planted on the inactive Creswell site; it is now home to hawks, deer, coyotes, ducks and other wildlife. The property also hosts the Reiber House, one of the oldest structures in the county. The Authority provided $75,000 for the structure's relocation so it could be renovated and restored. The project was accomplished in cooperation with Manor Township, the Lancaster Environmental Foundation, the Lancaster County Historical Preservation Trust and descendants of the Reiber Family. Another joint effort with Manor Township was creation of the Creswell Community Park. The Authority donated 26 acres to the Township for the park area, and in 1999 provided $286,000 towards its grading. The Authority has also established, with the Lancaster County Conservancy, a hiking trail around both the active Frey Farm and inactive Creswell landfills. Also on the Authority's property is the old Creswell School. The Authority has leased the building and property to the Highville Fire Company through December 31, 2020 for a fee of $1.00.

For more information about the Authority please contact our office at (717) 397-9968 or visit www.lcswma.org.