



Environmental Protection Matters

DNREC Office of Environmental Protection

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Neighborhood Convenience on a Brownfield Site

Previously a gasoline station, and more recently, a plumbing supply company, the former Commons Blvd. Sunoco Site in New Castle, Delaware has just about seen it all. But perhaps not the warm, welcoming, opening celebration for the most recent occupant of the site, a brand new Wawa convenience store and service station.

The site was cleaned up and redeveloped for the new Wawa under the careful guidance of DNREC's Division of Waste and Hazardous Substances' Site Investigation and Restoration Section

and Tank Management Section. Both sections help bring new life to old, contaminated sites, creating redevelopment opportunities that are essential to growing local economies and making communities happier and healthier in Delaware.

Three gasoline underground storage tanks (USTs) formerly used at the site were removed/closed by the owner of the Sunoco station in 1980. Additional assessments and subsurface investigations were completed in the 1990s.

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C. Whallon, DNREC Contractor

Legislators, state regulators and Wawa employees celebrate the opening of the new Wawa convenience store and gas station on 7 E. Commons Blvd. in New Castle.

Neighborhood Convenience *Continued...*

Based on the results, petroleum contaminated soil was identified and removed from the former UST area and the fuel dispenser island with oversight from the Tank Management Section. In 1997, a “no further action” letter was issued.

In 2012, a brownfields investigation was conducted with oversight from the Site Investigation and Restoration Section. The investigation indicated that shallow groundwater was impacted by iron, manganese and benzene from the site's former use as a service station. No significant soil contamination was observed and the contaminant of concern, benzene, appeared to be confined to the groundwater under the site.

An interim action was conducted in fall 2013 and the groundwater was treated with a carbon filtration system during dewatering activities. During redevelopment activities in Jan. 2014, minimally-impacted, petroleum contaminated soil was removed in the vicinity of the former gasoline USTs in accordance with a Contaminated Materials Management Plan for the site.

The final plan of remedial action for the Former Commons Blvd. Sunoco Site was signed in the spring of 2014. The remedial action included the development and implementation of a DNREC-approved Long Term Stewardship Plan requiring groundwater monitoring. In addition, an environmental covenant was put in place to restrict the property to nonresidential use and limit any groundwater withdrawal.

DNREC actively supports the redevelopment of Brownfield sites with

technical assistance and Brownfields grant funding for investigation and cleanup costs. Delaware is very fortunate to have the grant funding to support this type of transformation in our communities, as Brownfields redevelopment has proven to be good for business. A 2010 University of Delaware study showed that the state has an average return of \$17.50 on each \$1 invested in cleaning up and redeveloping impacted properties through the Brownfields Development Program.

By investing state funds in Brownfields projects, Delaware has created jobs, increased the tax base and most importantly, improved the quality of life for citizens in New Castle and throughout the state. For more information on the Site Investigation and Restoration Section and the Brownfields Development Program, please visit:

<http://www.dnrec.delaware.gov/dwhs/sirb/Pages/Brownfields.aspx>

For more information on the Tank Management Section, please visit:

<http://www.dnrec.delaware.gov/tanks/Pages/default.aspx>

Article by S. Gordon, SIRS; and C. Wirtz, WHS



Following demolition of the Deacon Industrial Supply building, the site is cleared for construction of the new Wawa at 7 East Commons Blvd.

S. Gordon, SIRS

Compliance Corner—Buying a Brownfield Site

We have all seen them, gas stations that have gone out of business. Vacant and abandoned, they are generally an eyesore in our communities. They are also a place where harmful chemicals may have leaked into the environment. You guessed it, abandoned gas stations are Brownfield sites.

Brownfields are real property that may be vacant, abandoned or underutilized with one or more sources of known or perceived contamination. For prospective purchasers of Brownfields, DNREC's Brownfields Development Program has grant money available to support investigation and cleanup activities for sites contaminated with petroleum and hazardous substances. Eligible non-profits and private parties may apply to DNREC's Site Investigation and Restoration Section for grants and low interest loans to perform investigations and cleanups.

Liability protection from past environmental releases is also available to prospective purchasers by negotiating a Brownfields Development Agreement (BDA) **prior to** purchasing the Brownfield site. A BDA is only available to parties that are not current site owners. The Voluntary Cleanup Program is available for current owners of brownfield sites. For more information on DNREC's Brownfields Development Program, please visit:

<http://www.dnrec.delaware.gov/dwhs/sirb/Pages/Brownfields.aspx>

Note that Brownfields developers and prospective purchasers also have notification requirements if they are aware of contamination that is at or above the state's reporting levels, or evidence of a release that becomes apparent during land-disturbing activities. Guidance is available to help developers and prospective purchasers understand how and when to notify the state of hazardous or potentially hazardous conditions that exist on property that is planned for development at:

<http://www.dnrec.delaware.gov/dwhs/sirb/Documents/Notification%20Guidance.pdf>

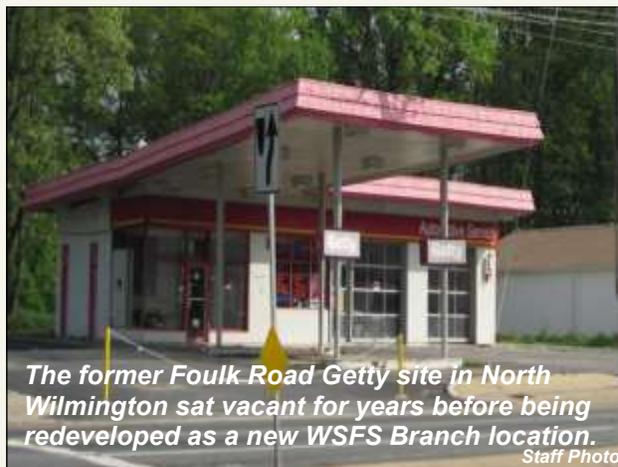
If leaks and spills from an underground storage tank are identified, these properties typically go through our Division's Leaking Underground Storage Tank (LUST) Cleanup Program first, or sometimes even concurrently with the Brownfields Development Program. Since 1985, DNREC has worked with responsible parties to clean up thousands of LUST projects. The scope of these projects have ranged from removing contaminated soils around small leaks or spills to large-scale remediation projects involving extensive cleanup of soils and contaminated groundwater.

The Tank Management Section (TMS) regulates the installation, operation, maintenance, and closure of Underground Storage Tank and Aboveground Storage Tank (UST and AST) systems in order to prevent contamination of soils and groundwater, as well as oversees the cleanup of releases from both UST and AST systems. The TMS is also initiating a new grant program for home heating fuel USTs for removal, closure-in-place and limited over-excavation services to help prevent leaks to the environment. For more information on the TMS, please visit:

<http://www.dnrec.delaware.gov/tanks/Pages/default.aspx>

With 70% of all Delawareans relying on groundwater for their drinking water, cleaning up and reinvesting in Brownfield properties is key to protecting the environment, reducing blight, and helping to create new jobs for Delaware citizens, while preserving Delaware's precious green space and natural resources.

Article by A. Rittberg, TMS; and C. Wirtz, WHS



The former Foulk Road Getty site in North Wilmington sat vacant for years before being redeveloped as a new WSFS Branch location.

Staff Photo

Restoring Mirror Lake

Last spring, Sen. Chris Coons, current DNREC Sec. Dave Small and former DNREC Sec. Collin O'Mara joined a small army of DNREC scientists and volunteers to plant native shrubs and flowering plants on the intertidal wetland and western bank of Mirror Lake.

The wetland was created as part of the Mirror Lake Remediation and Restoration Project. The new plantings will not only help beautify the wetland and lake shoreline, but will also help restore the ecology of the lake and create habitat for small fish.

The project supports Governor Markell's Clean Water for Delaware's Future – the comprehensive plan for protecting public health and cleaning up Delaware's bays, rivers and streams within a generation, while creating jobs and strengthening Delaware's economy.

Volunteers planted nearly 430 shrubs and more than 2,000 plants that would adapt well to wet and dry conditions, the fluctuating tide and the salinity of Mirror Lake. Native plants, including swamp rose-mallow, blueflag iris, three-square bulrush and seaside goldenrod were among the species planted.



DNREC Sec. Dave Small (center) and former Sec. Collin O'Mara (right) assist Mirror Lake restoration project leader John Cargill of the Site Investigation and Restoration Section (left).

Staff Photo

Mirror Lake has been in decline for several decades due to chemical contaminants in bottom sediments that accumulate in fish, invasive plants, pollution and sedimentation. Fish in the lake are unsafe to eat, and a consumption advisory has been in place since 1988.

Last fall DNREC, with help from numerous partners, completed an innovative project that used

(Continued on page 5)



Part of the lake's ongoing environmental restoration, the newly-planted, native plants flourish in the wetland area by Delaware's Fireman's Monument along the shore of Dover's Mirror Lake.

J. Cargill, SIRS

Restoring Mirror Lake *Continued...*

activated carbon – the same technology used in many water filters – to bind contaminants in lake sediments. Almost 79 tons of the activated carbon product, SediMite™, were incorporated into 5 acres of lake bottom and downstream channel sediments. DNREC personnel from every division provided labor to broadcast the SediMite™ into the lake.

The application is expected to result in the reduction or removal of the fish consumption advisory in the lake and the St. Jones River downstream to Court St. in Dover within three to five years. The project marks the largest application of SediMite™ anywhere in the U.S. to date, and is the first state-funded sediment remediation project of its kind in the country.

In addition to the SediMite™ application, the intertidal wetland was created by converting an existing sandbar in the lake. Coir logs – artificial logs made of coconut husks – and stone rip-rap flow diversion structures were installed to protect the new wetland and prevent further bank erosion.

DNREC kept project costs down by using volunteer labor whenever possible. Invasive plants were removed by the Delaware Department of Corrections, as well as by AmeriCorps volunteers. More than 50 volunteers, primarily from DNREC, donated their time to help with the restoration planting on both sides of Mirror Lake.

The Mirror Lake Remediation and Restoration Project was funded primarily by state sources through the Delaware Hazardous Substance Cleanup Act program and from federal grant funding through the Clean Water Act Section 319 Nonpoint Source for the wetland restoration and coir log installation. The project also included Community Transportation Funds from Sen. Brian Bushweller and Rep. Darryl Scott.

Project partners included all DNREC divisions; University of Maryland-Baltimore County; City of Dover, Silver Lake Commission, BrightFields, Inc.,



Staff Photo

New plantings are also thriving along the recently installed coir log embankment.

Biohabitats, Inc., local political leaders and many others.

DNREC and University of Maryland-Baltimore County scientists will monitor the effectiveness of the innovative treatment technology and the restoration effort by collecting and analyzing sediment, water and fish tissue samples over the next three years. To learn more about the Mirror Lake project, please view the following videos:

- Restoring Mirror Lake:
<http://www.youtube.com/watch?v=gplVE07eUq4>
- Mirror Lake Results:
<http://www.youtube.com/watch?v=l88oE6aTHK8>

From J. Cargill, SIRS and DNREC Press Release 4/22/14

Good for Business/Good for Banking!

On Oct. 6, Governor Jack Markell signed three bills into law that made changes in the lending and liability language to Delaware's Hazardous Substance Cleanup Act (HSCA); the Underground Storage Tank (UST) Act; and the Jeffery Davis Above-ground Storage Tank (AST) Act.

The three bills, Senate Bill 198 and House Bills 367 and 368, were sponsored by state legislators Senator David McBride and Representative Debra Heffernan.

The bills were appropriately signed at the WSFS Bank Branmar Branch location in North Wilmington. The site is a former service station that was safely redeveloped into a new WSFS Bank location in 2011, with technical support and oversight from DNREC's Brownfields Development and Leaking UST Programs. The bills not only codified lender liability provisions, but also clarified what lenders need to do to maintain their liability protection. The bills also made a number of technical revisions to Delaware's HSCA, UST and AST cleanup programs.

The new laws ensure that banks and lending institutions are not held responsible for contamination on the site solely by foreclosing or providing the financing on properties that may have been contaminated with hazardous substances and petroleum products.

Gov. Markell said, "The new laws underscore that it's the individuals and entities contaminating our environment who will be held



C. Riggs, DNREC Public Affairs

Gov. Jack Markell signs the three bills with (bottom left) Fred Wittig, partner, DSM Companies; and sisters, Jacqueline (center) and Angelina (right) Spagnolo attending. Also in attendance (from left to right on back row): John Papili, partner, DSM; David Small, DNREC Secretary; Robert Weiner, New Castle County Councilman; Sen. David McBride; Mark Turner, WSFS President and CEO; Rep. Debra Heffernan; Robert Wittig, partner, DSM; Paul Morrill, Executive Director, The Committee of 100; and Director Marjorie Crofts, DNREC Division of Waste and Hazardous Substances.

responsible for cleanup. We want to encourage lending institutions to support redevelopment of these formerly contaminated sites."

The three bills were a collaborative effort between the business community, industry representatives, legislators, and environmental regulators to help turn environmentally-impaired properties into thriving business sites in our communities, while being protective of public health and the environment.

For more information on the Governor's bill signing event, please visit:

<http://www.dnrec.delaware.gov/News/Pages/Gov-Markell-signs-three-bills-to-help-spur-brownfields-development-while-safeguarding-Delawares-groundwater-and-protectin.aspx>

From DNREC Press Release 10/6/14 and C. Wirtz, WHS

Site Investigation and Restoration Section by the Numbers

The Division of Waste and Hazardous Substances' Site Investigation and Restoration Section (SIRS) is responsible for the identification, evaluation and remediation of sites within the state of Delaware that had past releases of hazardous substances. The section manages the hazardous substance release sites in Delaware in accordance with the Hazardous Substance Cleanup Act (HSCA).

Delaware enacted HSCA in 1990 to address sites potentially contaminated with hazardous substance releases in the state that would not be addressed under the federal superfund program. Three major programs are administered under HSCA: the Voluntary Cleanup Program (VCP), the Brownfields Development Program, and the HSCA Enforcement Program. Did you know that the Site Investigation and Restoration Section:

- Currently has 570 active sites and 181 sites in Long Term Stewardship, for a total of 751 sites? A majority of the sites are in New Castle County, followed by Sussex County, then Kent. Over 31 new active sites entered into the program in the last 12 months.
- Has 18 Project Officers that each oversee investigation and cleanup activities at a minimum of 39 sites per officer?
- Oversees the expenditure of the HSCA Fund, which accrues approximately \$13 million per year? HSCA response and cleanup expenditures range between \$11 and \$15 million per year. In addition, \$3 million was transferred to other, non-HSCA related programs in FY 15. SIRS will exhaust its HSCA Fund reserve in FY 19 with the HSCA tax expiring in 2022.

For more information about SIRS, please visit: <http://www.dnrec.delaware.gov/dwhs/SIRB/Pages/default.aspx>

M. Crofts, WHS

Employee of the Year

Kudos to the Division of Waste and Hazardous Substances new Employee of the Year: Morgan Price. Price is an Environmental Scientist III in the Site Investigation and Restoration Section, and also won the "Outstanding Achiever" category.

Price joined DNREC about 9 years ago after 2 years with the Department of Human Health and Social Services—Division of Public Health. Along with being highly-productive and self-motivated at work, she is also a dedicated runner. She completed her first half-marathon this year and is eager for another one coming up in December.

Other interests include: gardening, yoga, cooking, hiking, kayaking, cross country skiing, traveling, and spending time with her husband and their friends and families. She also has been spending a lot of time working on the "Money Pit" house she shares with her hubby and three dogs. She jokes that she now knows where everything is located at the Lowe's Home Improvement Store!

C. Wirtz, WHS



Price completes her 1st half-marathon.

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Division of Air Quality handles the majority of air issues in Delaware including: monitors and regulates all emissions to the air; issues "permits to construct" and "permits to operate" to air contaminant sources; maintains emission inventories from business and industry; develops the State Implementation Plan as required by the Clean Air Act; adopts new regulations and enforces existing regulations and permits; and inspects asbestos removal sites.

Division of Energy and Climate's mission is to serve the people of Delaware by reducing the adverse impacts of energy use on our environment, health, and economy. We educate, lead by example, and build partnerships to increase energy efficiency and renewable energy, promote sustainable growth, and prepare for a changing climate.

Division of Waste and Hazardous Substances plans for and responds to, environmental incidents; regulates the handling, transfer, storage and disposal of solid, infectious and hazardous waste; manages the recycling program in Delaware; regulates above and underground storage tanks and boilers; oversees the remediation of sites that have been contaminated by hazardous substances and chemicals; and implements Delaware's Brownfields Development Program.

Division of Water manages and protects water resources through various programs by providing technical assistance, laboratory services, regulatory guidance and implementation, and educational services; and performing applied research.

EASY REFERENCE PHONE NUMBERS

24-Hour Report and Spill Notification Line - 1-800-662-8802

Aboveground Storage Tanks - 302-395-2500
Air Quality - New Castle Office - 302-323-4542
Air Quality - Kent & Sussex - 302-739-9402
Asbestos New Castle - 302-323-4542
Asbestos Kent & Sussex - 302-739-9402
Biosolids Permits - 302-739-9946
Boiler Safety - 302-744-2735
Brownfields - 302-395-2600
Delaware Estuary Program - 302-739-9283 (Delaware Coastal Management Program)
Division of Air Quality Director's Office - 302-739-9402
Division of Energy and Climate Office - 302-735-3480
Division of Waste and Hazardous Substances Director's Office - 302-739-9400
Division of Water Information - 302-739-9950
Dock/Dredging/Bulkheads/Rip-Rap/Wetlands & Subaqueous Lands - 302-739-9943
Emergency Prevention and Response - 302-739-9404
Environmental Crimes Unit - 302-739-9401 or 1-800-662-8802
Environmental Laboratory - 302-739-9942
Hazardous Waste - 302-739-9403
Industrial Stormwater Permits - 302-739-9946
Loans & Grants for Wastewater and Septics (Financial Assistance Branch) - 302-739-9941
Medical Waste - 302-739-9403
Non-Hazardous Liquid Waste Transporters - 302-739-9948
On-site Wastewater Licensing Program - 302-739-9948
Open Burning - 302-739-9402
Outreach Ombudsman - 302-395-2600
Recycling - 302-739-9403
Septic System Permits - Large Systems (Community & I/A) State-wide - 302-739-9948
Septic System Permits - Small Systems for Kent & New Castle Counties - 302-739-9947
Septic System Permits - Small Systems for Sussex County & Holding Tank Compliance Program - 302-856-4561
Site Investigation & Restoration Section (Superfund/Brownfields) - 302-395-2600
Solid Waste - 302-739-9403
Source Water Protection - 302-739-9945
Surface Water Discharge Permits (NPDES) - 302-739-9946
Underground Injection Control & Spray Irrigation - 302-739-9948
Underground Storage Tanks - 302-395-2500
Wastewater Collection, Conveyance and/or Treatment Facility Construction Permits - 302-739-9946
Wastewater Treatment Facility Operators - 302-739-9946
Water Allocation Permits - 302-739-9945
Water Testing - Drinking Water (Division of Public Health) - 302-741-8630
Water Supply - 302-739-9945
Well Driller's License - 302-739-9944
Well Permits & Licensing - 302-739-9944
Wells - 302-739-9945
Wetlands and Subaqueous Lands Section - 302-739-9943