

DELAWARE CLEAN WATER ADVISORY COUNCIL NEWS

VOLUME 2, ISSUE 1 SPRING 2008

LEE BEETSCHEN, PE, DEE

Lee J. Beetschen, PE, DEE, represents Kent County on the Clean Water Advisory Council. He was appointed by the Governor in 1995 to serve on the Wastewater Facilities Advisory Council. He currently serves as Chair of the Clean Water Council's Wastewater Subcommittee.

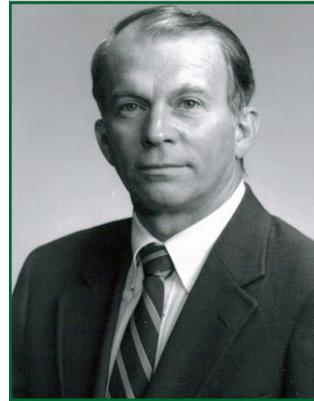
Lee is a founding principal of CABE Associates Inc. He has authored several books under the pen name Morgan C Lee. He is regarded as one of the region's most forward-thinking environmentalists and engineers, with an unusual capability to spot the emergence and evolution of

issues and to address them with creative solutions.

Lee graduated in 1964 from the University of Delaware, with a BCE degree in Civil Engineering. In 1971, he earned a Master's degree in Sanitary Engineering from the Newark College of Engineering, Newark, NJ.

Although most of Lee's career has been in consulting, he worked as an environmental engineer for the State of Delaware's Department of Natural Resources and Environmental Control (DNREC) from 1971-74 as the manager of Water Resources and, before that,

as Supervisor of Water Pollution. He also had worked for Exxon in Florham Park, NJ, and Black & Veatch in Kansas City, MO, as a Project Engineer between his graduation from UID and joining the State of Delaware's environmental professionals.



GARY BURCHAM

Gary L. Burcham represents the Delaware Institute for Planning and Design on the Delaware Clean Water Advisory Council and is a member of the Surface Water Management Subcommittee. He was appointed by the Governor in November 2005. Gary is a Registered Landscape Architect in Delaware, Maryland and Pennsylvania, and since 1989 has been in private practice providing landscape architectural and planning services to a wide range of clients.

In addition to serving on the Council, Gary is also serving in appointments to the New Castle County Stormwater Utility

Program Advisory Committee, the Red Clay Valley Scenic Byway Steering Committee, and the Mobility Friendly Design Committee. He is on the Board of Directors for the Delaware Institute for Planning and Design, a



member of the American Society of Landscape Architects, and a member of the Delaware Nature Society.

Gary graduated from the University Of Delaware's College Of Agriculture with a concentration in Plant Science and Landscape Design before attending the University of Virginia and earning a Master's Degree in Landscape Architecture. While at the University of Virginia, he was selected to participate in the School of Architecture's Venice Program, where he studied the art, architecture, landscape architecture, and urban design of northern Italy.

2008 CLEAN WATER ADVISORY COUNCIL MEETINGS

Delaware Clean Water Advisory Council meetings are held the third Wednesday every other month or as necessary at Delaware Technical and Community College-Terry Campus, on South DuPont Highway in Dover at 9a.m. Meetings are open to the public.

- June 18, 2008
- August 20, 2008
- October 15, 2008
- December 17, 2008

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LEWES WASTEWATER TREATMENT PLANT UPGRADES

The Lewes Board of Public Works upgraded and expanded its existing wastewater treatment facility, doubling its available output to 1.5 million gallons per day (mgpd). The facility can further be expanded to process up to 2.25 mgpd which will allow the Board to process future flows from its approved wastewater service area.

The new facility utilizes an advanced wastewater treatment system that drastically improves its nutrient removal efficiencies. The high-tech General Electric Zenon Membrane Filtration process has allowed the Board to reduce its pollutant load to the Lewes-Rehoboth Canal by approximately 2,500 pounds per month and achieve effluent concentrations for total suspended solids (TSS), biological oxygen demand (BOD),

and nutrients—total nitrogen (TN) and total phosphorus (TP) at the limit of technology. Additionally, the new process incorporates

<i>Pollutant</i>	<i>Effluent Concentration</i>
BOD	<3mg/l
TSS	<0.5 mg/l
TN	<3 mg/l
TP	<0.5 mg/l

nutrient removal equipment that allows the Board to realize a total nutrient load reduction in the Canal of approximately 3,200 pounds per month. In addition to the membrane filtration and nutrient removal processes, the \$11.7 million project includes a total upgrade to the headworks facility (new screening and grit removal capabilities), provides adequate flow equalization volume to allow for a

constant flow through downstream processes, includes a new ultra-violet disinfection system, an upgraded solids digestion facility, upgraded emergency generation capabilities and a new Supervisory Control and Data Acquisition (SCADA) system.

The Board's creative design approach has resulted in a Water Reclamation Facility capable of removing significant pollutant and nutrient loads to the Lewes-Rehoboth Canal emphasizing its commitment to environmental stewardship that is part their mission; and has created a facility that will serve the demands of the Lewes community for many years to come.

This project was funded by a Water Pollution Control Revolving Fund loan which was approved by the Clean Water Advisory Council and DNREC. The project was also funded by an EPA Special Appropriations Grant which was monitored by DNREC.



STORM POND MAINTENANCE WORKSHOPS

Maintenance of stormwater ponds and other stormwater management areas is a growing topic of interest across Delaware, not because people want to know more, but because they *have* to know more. According to State regulations property owners are responsible for maintaining all stormwater facilities on their property. This includes jointly owned property, such as a shared parcel in a community containing a stormwater pond. Unfortunately, many homeowners' associations or maintenance corporations know little about maintaining these facilities.

Earlier this spring, DNREC worked with the Sussex Conservation District and the Center for Inland Bays to hold workshops at the Millville Town Hall and the Carvel Research and

Education Center in Georgetown. More than 100



residents participated in the workshops. DNREC has worked with local agencies and organizations to hold 14 workshops throughout Delaware since 1994 to educate homeowners on properly maintaining stormwater

management areas. The goal is to provide homeowners with a basic

understanding of stormwater area maintenance and help them to know when to hire a professional.

DNREC and other local agencies are available to provide technical assistance to homeowners on stormwater pond maintenance. DNREC

responded to more than 50 calls during the summer of 2007 from homeowners seeking assistance. Unfortunately many homeowners are looking for funding to pay for "non-routine maintenance," like replacing broken pipes rather than technical assistance. Non-routine maintenance, such as dredging, can be a very expensive endeavor. The Northern Virginia Planning District Commission estimates that dredging a 1-acre pond costs nearly \$20,000 (2000). Most homeowners' associations are not collecting enough funds for such future repairs. Since many stormwater practices have been around since the late 1980s, some facilities are now reaching the end of their lifespan and are in need of corrective maintenance.

SOUTH WILMINGTON SAMP DRAINAGE IMPROVEMENTS

South Wilmington, an area bounded by the Christina River and I-495 and including the community of Southbridge, has historically been subject to repeated flooding and chronic drainage issues. A vast majority of the region lies within a floodplain, but flooding and drainage issues are exacerbated by undersized combined sewer systems, drainage ditches that have not been maintained and broken tide gates.

To address these drainage issues, the South Wilmington Drainage Study was conducted as part of the South Wilmington Special Area Management Plan (SAMP), a comprehensive plan that seeks to redevelop South Wilmington in a manner that is socially, economically and environmentally sustainable.



Through community input and field research, The South Wilmington Drainage Plan identified eight priority sites within South Wilmington that chronically flood. For each of these sites, recommendations for solutions to the issue were discussed and cost estimates presented. Several recommendations involve replacing undersized combined sewer pipes and require millions of dollars in public expenditures. Other recommendations were

implemented more expediently. The City of Wilmington inspected and cleaned out all sewer lines in South Wilmington, removing over 100 tons of accumulated debris. The New Castle Conservation District will remove accumulated sediment from the ditch that runs from New Castle Ave. to the tide gate near Christina Ave (just north of I-495). The malfunctioning tide gate will also be replaced. This work will help alleviate some flooding problems that occur near New Castle Ave and D Sts.

These projects are funded through a combination of funds from the 21st Century Fund, the Clean Water Advisory Council, Community Transportation Funds and the City of Wilmington.

STUDENTS CLEAN AND MARK STORMDRAINS IN SOUTH WILMINGTON

Last fall, a team of 10 teens from the Southbridge HOPE Commission Youth Employment Program spent two weeks marking storm drains in Wilmington's Southbridge neighborhood. The storm drains were marked with medallions that stated, "No Dumping – Drains to River" to deter residents and local businesses from dumping anything down the storm drains. While marking the drains, the students also cleaned leaves and trash from the drains to help prevent street flooding.

The South Wilmington Storm Drain Marking project was initiated through the South Wilmington Special

Area Management Plan (SAMP), a cooperative effort that seeks to revitalize South Wilmington in an environmentally, socially and economically sustainable manner. The Youth Employment Program, funded by the Wilmington City Council and the Wilmington HOPE Commission, is an initiative aimed at encouraging inner-city high school students to become more involved with their communities.

The storm drain marking project follows on the heels of a City of Wilmington initiative to clean debris and sediment from clogged sewer pipes in Southbridge. This work was recommended by

the SAMP Drainage Study. The storm drain marking project is a great example of how community action and education can help support on-the-ground infrastructure improvements. The Department of Public Works provided the medallions and other supplies for the storm drain marking project.



Drainage Ditch Improvement – Walnut Street

In conjunction with the construction of the shopping center on Howard St. between Walnut and Market Streets, the Walnut Street ditch which drains into the South Wilmington Wetland will be improved as part of required stormwater management for the site.

Assessment of the Ecology and Hydrology of the South Wilmington Wetland

The wetland assessment was completed. It describes the existing ecological functions of the wetland and discusses opportunities to improve habitat. It describes the hydrological conditions in the wetland, including information about tidal influence and direction of flow. It also includes an inspection report of three tide gates and recommendations for fixing the gates.

Delineation of the South Wilmington Wetland

The exact boundaries of the South Wilmington Wetland were mapped as recommended by several studies. It is important to know and understand the exact boundary of the wetland area to determine what permits will be necessary for work in the wetland and to know where surrounding construction activities can and cannot take place.

Review of Site Investigation Reports for the South Wilmington Marsh

DNREC Site Investigation Branch and Delaware Coastal Programs staff have located and compiled all site investigation reports that currently exist for parcels of land within the South Wilmington wetland. The Site Investigation reports contain information regarding contaminant levels and in some cases, recommendations for fixing the contamination problem.

For more information about SAMP, please contact Susan Love at 302.739.9921 or online at <http://www.dnrec.state.de.us/dnrec2000/Divisions/Soil/dcmp/wilmsamp/samp.htm>

DELAWARE CLEAN WATER ADVISORY
COUNCIL
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NATURAL RESOURCES AND ENVIRONMENTAL
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**CLEAN WATER
ADVISORY COUNCIL
SUBCOMMITTEES**

The Advisory Council has four subcommittees. Subcommittees meet as needed and report back to the full Advisory Council. Subcommittee meetings are open to the public.

- ◆ **Wastewater**
Chair: **Lee Beetschen**
- ◆ **Surface Water**
Chair: **Jeff Bross**
- ◆ **Public Outreach**
Chair: **Andrew Manus**
- ◆ **Finance**
Chair: **Andy Burger**

**CLEAN WATER
ADVISORY COUNCIL
MEMBERS**

1. **Roger P. Roy**
Chairperson
Appointed: March 27, 2007
2. **Jeffrey M. Bross, P.E.**
Vice-Chairperson.
New Castle County
Appointed: March 14, 2002
Expiration: March 19, 2011
3. **Lee Beetschen, P.E.**
Kent County
Appointed: June 25, 1995
Expiration: June 28, 2008
4. **Gary L. Burcham**
Delaware Institute of
Planning and Design
Appointed: November 8, 2005
Expiration: November 8, 2008
5. **Josef A. (Andy) Burger**
Conservation Districts
Appointed: August 29, 2000
Expiration: March 19, 2011
6. **Manubhai (Mike) Karia**
No Affiliation
Appointed: June 25, 1997
Expiration: June 28, 2008
7. **Andrew T. Manus**
The Nature Conservancy
Appointed: November 8, 2005
Expiration: November 8, 2008
8. **Brian M. McGlinchey**
City of Wilmington
Appointed: November 8, 2005
Expiration: November 8, 2008
9. **Christopher M. O'Keefe**
ACEC
Appointed: November 8, 2005
Expiration: November 8, 2008
10. **Hans Medlarz**
Delaware Association of
Counties
Appointed: May 17, 2007
Expiration: November 8, 2008
11. **Robert L. Stickels**
Sussex County
Appointed: March 27, 2007
Expiration: June 28, 2010
12. **Michael R. Wyatt**
Mayor of Georgetown
Appointed: March 27, 2007
Expiration: November 8, 2008

COUNCIL RECOGNIZES SEC. HUGHES' LEADERSHIP

The Clean Water Advisory Council congratulates DNREC Secretary John A. Hughes for receiving the Water Resources Association's Lifetime Achievement Award. The Water Resources Association of the Delaware River Basin (WRA) bestowed its Lifetime Achievement Award on Secretary Hughes for his longstanding leadership in planning, developing and implementing water resource management and regulatory programs within Delaware's Department of Natural Resources and Environmental Control.



industry, public and private utilities and other organizations with wide-ranging interests in water resources. The organization seeks to ensure public participation in the management of the Delaware River and its tributaries with a mission of promoting sound water resources management within the Delaware River Basin.

The WRA is a non-profit, non-partisan advocacy and public information organization established in 1959 by representatives from

For more information regarding the award or Secretary John A. Hughes,

please visit the DNREC website www.dnrec.delaware.gov or the WRA website www.wradrb.org.

Drainage and Stormwater Assistance

302-855-1955
DELAWARE HELP LINE (Toll Free):
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E-MAIL:
DNREC_DRAINAGE@state.de.us

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