

DELAWARE CLEAN WATER ADVISORY COUNCIL NEWS

VOLUME 1, ISSUE 2 FALL 2007

HANS MEDLARZ REPRESENTING ASSOC. OF COUNTIES

Hans Medlarz is the newest member of the Clean Water Advisory Council appointed by the Governor. He was appointed May 17, 2007 and represents the Delaware Association of Counties.

Hans is Director of Public Works for Kent County Levy Court. His experience includes project management and design services for water and wastewater projects including storage, distribution, treatment plants, pumping stations and pipeline networks. He

also has been responsible for performance of facilities plans, grant administration, user charge analysis and project financial management. He also has extensive experience in site engineering, including site planning, subdivision design, storm water management and entrance design.

Prior to joining Kent County, Hans worked with Davis, Bowen and Friedel, Inc. in Milford as a consultant to the following Delaware municipalities: Milford, Dover, Georgetown, Frederica, Smyrna, Harrington, Felton, Bethany

Beach, Bridgeville, Selbyville and Rehoboth Beach.

Hans has two Master's degrees in Civil Engineering and is a registered engineer in Delaware, North Carolina, and Virginia.



APPOQUINIMINK PROJECT RECOGNIZED

The U.S. Environmental Protection Agency recently recognized the Ap-poquinimink River Association (ARA) as a leader in promoting environmentally-friendly projects that control storm water runoff and help protect the environment.

The ARA was recognized for developing an environmentally-friendly rain garden at the Middletown-Odessa-Townsend Senior Center. A rain garden is a shallow depression of native grasses and plants that collect storm water runoff from downspouts, driveways and roads. The rain garden is used as demonstration project on how to control storm water runoff. For educational purpose, the group installed a sign on the site with graphics and information that explain the importance of

rain gardens.

This project was a priority demonstration retrofit identified during a storm-water retrofit inventory conducted by the Center for Watershed Protection. The inventory was part of an initial watershed plan developed for the Division of Water Resources. The information from that study is being used in the watershed model currently being developed for the Division of Soil and Water Conservation to address surface water management needs.

The association was recognized under the Leadership in Low Impact Development Recognition Program that was created by a cooperative agreement between EPA's mid-Atlantic region and the Low Impact Development Center in Beltsville, Md. to highlight exceptional efforts

in storm water management.

Low - impact development is a storm water management strategy concerned with maintaining or restoring the natural hydrologic functions of a site to achieve natural resource protection objectives. Low impact development addresses storm water through small, cost-effective site design and landscape.

Funding for construction of this project was obtained through a National Fish and Wildlife Foundation proposal for the Delaware Estuary submitted jointly by the Center for Watershed Protection, Ap-poquinimink River Association, and the Town of Middletown during the early stages of the watershed planning process.

(Information for this article obtained from EPA Region 3 and the Center for Watershed Protection.)

2007 CLEAN WATER ADVISORY COUNCIL MEETINGS

Delaware Clean Water Advisory Council meetings are held the third Wednesday of each 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.

NEXT MEETING:

- **December 19, 2007**

**2008 Meeting dates will be voted on at December 2007 meeting.*

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ALTERNATIVE FUNDING METHODS FOR SURFACE WATER MANAGEMENT

In March 2005, the Governor's Task Force on Surface Water Management offered a set of recommendations for sustainable Surface Water Management in Delaware. The task force was charged with developing an integrated surface water management strategy to address stormwater quality and quantity, flooding, and drainage issues in light of chronic problems in recent years throughout the state. In addition, the strategy was to evaluate costs and funding sources for a statewide strategy; recommend changes to regulations and policies; coordinate policies with state and federal requirements; and recommend an organizational structure for a coordinated response to public and agency needs.

There are various state level programs that address surface water management issues dispersed through existing state agencies, including DNREC, DelDOT, and the County Conservation Districts. These programs are funded through state general funds, fees, and special appropriations.

Stormwater Utility

The task force explored the option of a stormwater utility as a sustainable funding mechanism for surface water management. Simply stated, a stormwater utility is a user-fee charged to property owners that is typically tied to the amount of impervious

surface on a parcel. This method is becoming more popular nationally as an equitable and sustainable funding mechanism for stormwater management programs.

Fee - Based Options

Following the release of the task force's recommendations, the Delaware Public Policy Institute sponsored a related dialogue to discuss financing wastewater and stormwater infrastructure in the fall of 2005. In addition to recommending that the stormwater utility process be explored for future financial program needs, other fee - based options were explored. These options included development impact fees, combined surface and wastewater fees, and watershed oriented fees based on level of development and local needs. State and local agencies are still considering all options related to funding surface water management infrastructure improvements given the current economic situation in Delaware.

Level of Service

In determining financial estimates for funding needs in the surface water programs, the statewide deficit estimates range from \$13.5 to \$30.5 million annually. This range is expected to be further scrutinized as local jurisdictions examine their specific funding needs in a "level of service analysis."

A level of service analysis is a comprehensive review of the level and extent of public services offered by state, county, and municipal entities in each county related to surface water management. A goal of these studies is to determine if current needs are being adequately met, and if not what would be needed to provide an adequate level of service.

Level of service analyses are currently underway in Kent and Sussex Counties and in New Castle County through a stormwater utility planning project.

Unfunded Needs - Watershed Modeling

The most immediate unfunded need throughout the state in surface water management remains the funding necessary for watershed focused modeling and studies. These investigations are critical and necessary to begin effectively managing stormwater on a watershed or hydrologic basis. In addition to providing valuable information to the state and local jurisdictions related to management strategies for stormwater, the watershed models identify critical elements of key infrastructure that need to be upgraded or replaced. These large capital expenditures will require additional funding to complete, but those projects could be accomplished through public-private partnerships once identified.

Watershed models of the Appoquinimink, Murderkill and Upper Nanticoke have begun and are expected to cost up to \$500,000 each when completed. It is expected to cost more than \$8 to \$10 million over the next five years to complete the remaining 14 priority watersheds in need of modeling.

Small Capital Projects

Currently, many small capital Resource Conservation and Development (RC&D) projects ranging from ditch clean outs to large construction projects are identified for annual state budget appropriations through the 21st Century funded RC&D program each year.

In the past 13 years, over 1,500 projects have been completed utilizing \$72 million of these funds. While a valuable asset to the fiscal stream for stormwater and drainage funding needs, relying on 21st century funding will not enable the state to keep pace with these projects. Nor can the state develop watershed plans and models, complete large capital flood management projects and stormwater infrastructure improvements with limited funding. For these program needs, the Council will continue to evaluate sustainable program funding options during the current fiscal year.

MANAGING SURFACE WATER ON A WATERSHED SCALE

One of the highest priority issues identified by the recent Governor's Task Force on Surface Water Management was the need to do detailed watershed studies to serve as master plans for managing the drainage and stormwater within those watersheds. This is a significant departure from the current "one-size-fits-all" approach to stormwater management. The watershed approach provides a more customized solution to these problems. The goal is a laudable but daunting task considering that DNREC has identified approximately 44 major watersheds within the state. In an effort to "kick-start" the process, the Delaware Clean Water Advisory Council (CWAC) has endorsed funding a major watershed project in each

county. These are the Appoquinimink River in New Castle County, the Murderkill River in Kent County, and the Upper Nanticoke River in Sussex County

All three of these watersheds are undergoing rapid conversion from primarily agricultural land to more urban land uses. Certain tributaries within these watersheds have already exhibited drainage problems as a result. The Appoquinimink Watershed Study began in January 2007 and is expected to be completed in 2009. Negotiations are currently underway with consultants to perform the Murderkill and Upper Nanticoke studies as well. The hoped-for goal of these initial studies is to act as templates for future studies.

The CWAC has made it clear that they do not want these studies to "end up on a shelf."



Rather, they should identify specific problem areas and propose real solutions that can be translated into either improved management measures or capital improvement projects.

Although still in the early steps of developing master plans statewide, it is recognized these watershed studies require considerable resources. As such, the CWAC has committed to finding a steady, reliable funding stream that will be needed to keep this process on track. For more information regarding the watershed studies funded through the CWAC, please contact DNREC's Sediment & Stormwater Program or send email to DNREC_CleanWaterCouncil@state.de.us.

LAUREL WWTP ENHANCED NUTRIENT REMOVAL UPGRADE & EXPANSION

In March 2003, engineering design firm George, Miles & Buhr, LLC began designing a new wastewater treatment process for enhanced nutrient removal (ENR) for the Laurel Wastewater Treatment Plant. The design included a flow increase of 0.2 million gallons per day (MGD), for a total plant flow of 0.7 MGD.

The overall project included new headworks equipment, a new return-activated sludge pumping system, a single train Biolac® system, new denitrification filters, multiple chemical feed pumps with automated control

systems, electrical upgrades throughout the system, a new process control system and a new laboratory/operations building.

The existing three-pond system was reworked into a Parkson Company Biolac® Wave-Oxidation® Biological Nutrient Reduction (BNR)



New Parkson Company Biolac® Wave-Oxidation® Biological Nutrient Reduction (BNR) Process equipment installed in existing Lagoon Number 3.

Process. This system is an extreme extended aeration system that incorporates a moving cyclic aeration grid for low energy consumption biological oxygen demand (BOD) removal and high levels of nitrification/denitrification.

At full flow the new ENR process will allow the plant to remove up to 127,000 pounds of nitrogen each year from its effluent discharge into Broad Creek; a tributary of the Nanticoke River.

Construction began in November 2005 by Bearing Construction and was substantially complete in August 2007. Total cost of

the project was \$10.87 million and was funded through the Clean Water Advisory Council with State of Delaware revolving fund loans, and Delaware's 21st Century Fund grants.

Thanks to Chris Derbyshire, GMB and Robert A. Kershner, Kershner Environmental Technologies, LLC for contributing to this article.

Wastewater Treatment Plant Process Summary

- ◆ Headworks-Screening/Grit Removal
- ◆ Secondary Process-BOD and Nutrient Removal
- ◆ Tertiary Treatment-Enhanced Nutrient Removal (ENR)
- ◆ Disinfection-Ultraviolet system
- ◆ Discharge into Receiving Waters

**DELAWARE CLEAN WATER ADVISORY COUNCIL
ADVISORY COUNCIL TO THE DEPARTMENT OF NATURAL
RESOURCES AND ENVIRONMENTAL CONTROL**

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**CLEAN WATER
ADVISORY COUNCIL
SUBCOMMITTEES**

*The Advisory Council has assigned
four subcommittees. All
subcommittees meet on an as needed
basis 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 16, 2008
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. Burger, (Andy)**
– Conservation Districts
Appointed: August 29, 2000
Expiration: March 16, 2008
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

NEW DRAINAGE AND STORMWATER ASSISTANCE LINE

Each year thousands of Delawareans express concerns about drainage and stormwater. In many cases, citizens do not know who to contact if they have a problem. Several state and local agencies and programs including DNREC, DelDOT, the local Conservation Districts and municipal public works programs are responsible for working to resolve drainage and flooding related problems.

To make it easier for residents to report problems, DNREC has established a new central telephone number and email address to report drainage and stormwater related concerns. Residents can now call the Drainage and Stormwater Assistance Line at 302-855-1955, e-mail DNREC_DRAINAGE@state.de.us, or contact the Delaware Helpline toll-free at 800-464-HELP to be connected to the new line.

The Drainage and Storm-

water Assistance Line is answered between 8 a.m. and 4:30 p.m. on regular business days. Residents may take advantage of the email address and Delaware Helpline, or leave a voicemail anytime. With the aid of this new system, DNREC will be able to provide Delawareans with quality service while they are seeking solutions to



**Drainage and
Stormwater Assistance**

302-855-1955
DELAWARE HELP LINE (Toll Free):
1-800-464-4357

E-MAIL:
DNREC_DRAINAGE@state.de.us

89 Kings Highway Dover, DE 19901 21309 Berlin Road Unit 6 Georgetown, DE

**DNREC Division of
Department of Natural Resources
& Environmental Control**

their drainage and stormwater concerns.

Residents calling the Drainage and Stormwater Assistance Line will be asked to provide their name and contact information, the address or location where the problem is occurring and a brief description of the nature of the problem. This information will assist DNREC staff members in determining which jurisdiction is responsible for following up. Callers can expect to be contacted by the appropriate agency for any technical assistance. Only emergencies should be reported directly to 911.

The Drainage and Stormwater Assistance Line was created as a result of a recommendation of the Governor’s Surface Water Management Task Force.