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Update to Clients

NJDEP, Counties Redefine Sewer Service Areas

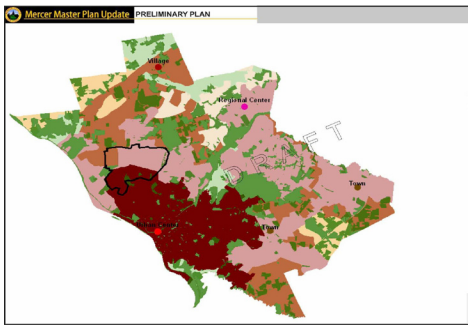
The decision to allow areas to be sewered has a profound land use impact, making Water Quality Management (WQM) Plans vital to development. The ongoing process to review and refine these plans can lead to some surprises for property owners who thought their property would have sewer service available. The NJDEP is responsible for reviewing and approving areawide WQM plans, as well as developing the Statewide WQM Plan. Together, the Statewide Plan and its associated rules (N.J.A.C. 7:15) constitute the ongoing planning process for wastewater management (in coordination with a variety of federal environmental regulations such as the Water Pollution Control Act and the Federal Clean Water Act).

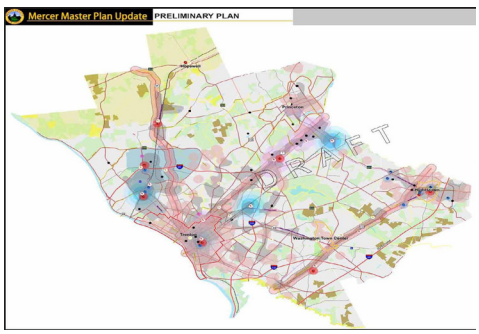
The WQM Planning rules are implemented through the development of Wastewater Management Plans (WMP). A WMP provides long-term planning for wastewater and certain other water quality concerns. Each WMP must address a specific planning area and must be submitted, with periodic updates, to the NJDEP by a designated wastewater management planning agency. Under the WQM rules, the NJDEP cannot authorize or issue a permit for any project or activity that affects water quality and/or that may conflict with the applicable sections of adopted WQM Plans or the Statewide WQM Planning rules.

Under amendments to the Statewide WQM planning rules, which were adopted by the NJDEP in July 2008, New Jersey's 21 counties were designated as wastewater management planning agencies. Each county is expected to update its WMP, with many of them hoping to have that accomplished early in 2010. In the process of updating the WMPs, the counties and the NJDEP are redefining existing sewer service areas. The presence of Category One waterways, wetlands, threatened and endangered species, and/or other environmentally sensitive features on a specific parcel could result in the removal of a property from the sewer service area.

SAI has assisted property owners by interfacing with counties and the NJDEP to define environmental parameters on properties maintaining sewer service area designations. If a property is removed from a sewer service area, wastewater will have to be disposed by individual septic systems or by applying for a WMP amendment in the future. WMP amendments have been notoriously difficult and costly to attain.

Continued on Page 3





Two plans depicting projected changes to the Water Quality Management sewerage areas in Mercer County.

The Energy Debate, Vampires, & Other Stuff

By Marwan M. Sadat, Ph.D., P.E.

Lisa Thompson, our Director of Marketing and editor of this newsletter, coerced me into writing a short piece for our quarterly publication. After much debate, I decided that a brief article on energy would be appropriate. The inspiration for what follows comes from a wonderful book by Dr. David Mackay, Professor of Physics at Cambridge University, Member of the World Economic Forum Global Agenda Council on Climate Change, and graduate of Cambridge and the California Institute of Technology. His book, entitled Sustainable Energy - without the Hot Air, is available in print or as a free download at www.withouthotair.com. Professor Mackay authorizes the use of any material in his publication except for the cartoons and photographs, and I will draw most of my information from his text.

The energy debate should always start with the quest for higher efficiency in our use of electrical power. Unfortunately, most of the facts, which can be considered almost trivial, are unknown to the general public. Presently, there seems to be very little effort being made to disseminate these snippets of information, which could

INSIDE

Vampires

Continued from Page 1

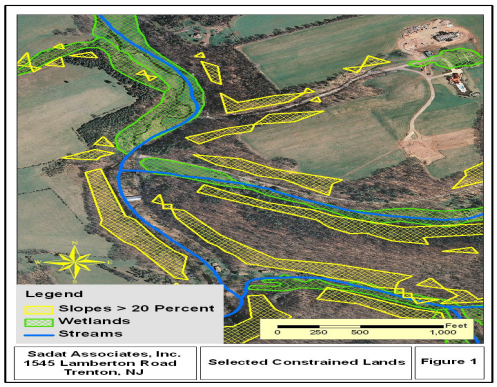
ultimately save millions of kilowatts of energy from being wasted needlessly. "Energy vampires", an expression coined by Dr. Mackay, refers to the unnecessary use of electric power when electronic gadgets are in standby mode. For example, the tendency to leave a cell phone charger in an electrical outlet results in the loss of about 0.01 kWh/d (kilowatt hours per day). Over a period of one year, this is equivalent to the energy expended for a hot bath. An equally thirsty energy vampire is the cordless telephone in its charger, which in standby mode uses approximately 0.07 kWh/d.

Standby power for television sets, DVD players, radios, and computers consume roughly 0.75 kWh/d. It has been estimated that the use of more efficient standby devices could save a total of eight percent of the total electrical consumption in the United Kingdom, and probably the same would apply to the United States. The cost of installing better "vampires" is somewhat minimal, on the order of pennies, and should be addressed in a national energy policy.

It has been proposed that sustainable sources of energy, such as photovoltaic (PV) solar panels and wind power turbines, could satisfy much of the energy needs of the world.

SAI Provides Preliminary Environmental Constraints Analyses

Municipal land use and environmental regulations in New Jersey are constantly changing. Townships continually update their master plans, redefining zoning codes, open space, and defining special areas for preservation such as stream corridors and steep slopes. As the economy starts to rebound, developers and other land investors will be looking for land development opportunities. SAI can assist clients with the completion of a Preliminary Environmental Constraints Analysis (PECA).



A map highlighting environmental constraints at a project site. Steep slopes are in yellow, wetlands are in green, and streams are in blue.

The components of a PECA include a listing and visual presentation of land, water, and biological communities present at the site. This includes features such as slopes, surface water bodies, soil types, and the presence of threatened and endangered species. SAI also evaluates the regulatory constraints placed upon these features, and presents a discussion of the impacts of these regulatory requirements on potential land development options and/or zoning density. For example, the presence of shallow bedrock coupled with Category One waterways may substantially reduce the development potential of a site. Lastly, SAI reviews the local Master Plan and Land Use ordinances to focus on local issues that can and often do vary from one municipality to another.

The result of these analyses is a professional opinion regarding the development potential of a given property. SAI utilizes reasonable available digital data, peer-reviewed technical reports, and local municipal documents to provide a PECA report in a relatively quick timeframe.

If you wish to discuss how this service can help your firm, please feel fee to contact Randy S. Kertes, PG, CPG, Senior Project Manager.

Vampires, *Continued*

Dr. Mackay has estimated that the economically viable PV solar panels that are available today achieve an average yearly energy output of 10 watts per square meter. He has also estimated that, based on that power density and UK consumption, five percent of the UK's land mass would have to be covered with PV solar panels in order to provide enough electricity to meet the UK's needs. To achieve the same results in the US, we would likely have to cover an area the size of Arizona with solar panels. PV electricity should be part of the energy policy of the US, but its limitations should be taken into account. Any sustainability studies performed to address reducing the US' energy consumption rates should consider the economics of this type of electric power generation. Unfortunately, existing PV technology requires significant subsidies to be price competitive with fossil fuel-based electric power.

For the technically inclined, I suggest referring to Dr. Mackay's book for a graph that depicts the average solar power available in selected locations across the globe.

Global warming, which I believe to be based on good science, will require a comprehensive energy policy designed to minimize carbon emissions. PV solar cells must be part of the total energy equation to achieve a significant reduction in carbon emissions. In our next newsletter, I hope to address wind energy as another potential sustainable component of the energy equation.

EDITOR: LISA THOMPSON

For additional information about stories in the newsletter, or to learn more about SAI's services and experience, please contact Joe Wiley at 609-826-9600 or at jwiley@sadat.com.

The LSRP Program -- The First Three Months

SAI is in the fortunate position of having on staff two of the first certified LSRPs. The following article describes some of the successes and challenges presented by the new program so far.

SAI has submitted one of the first three Response Action Outcomes to NJDEP under the new rules!

In this particular case, elevated concentrations of chlorinated solvents were detected in the subject site's potable supply well back in 1986. SAI performed a hydrogeological investigation at the time to evaluate the extent to which the site was affected by or may have contributed to the reported groundwater contamination. The results of the investigation indicated that the groundwater contamination was initiated off-site. However, the regulations regarding environmental investigations have changed in the intervening years. At the request of a potential purchaser of the property, a new site investigation was performed in conformance with the Technical Requirements for Site Remediation. This second investigation also found that the source of the contamination was off-site. Consequently, the RAO was issued.

Reporting of Immediate Environmental Concerns

The whole concept of reporting Immediate Environmental Concerns (IECs) has been one of the hot buttons for the regulated community and for new LSRPs. Simply put, the Site Remediation Reform Act, and the recent changes to the Tech Regs, mandates that an LSRP must immediately report *any* IEC, even if it is on a property not under that LSRP's oversight.

The requirement has caused substantial concern in the regulated community. Several recent instances have required a review of the existing guidance and documentation to understand why a certain IEC was not reported. SAI has reached out to NJDEP for clarification on a few of these cases; these discussions have been documented in the case file for the LSRP of record to rely upon.

At such an early phase of the new LSRP program, if any issue arises during the course of a project that provokes even the slightest doubt as to how it should be handled, it is critically important to get clarification from the NJDEP. Not only does this approach protect the LSRP, it helps build a body of experience for both sides to draw on as the environmental community navigates these new waters.

A beautiful sight we probably won't see again for a while -- ice on the Delaware River. This photo was taken from SAI's offices by Melissa Lindsay, SAI Environmental Scientist.

Construction on Landfills

We recently attended a meeting where it was stated that NJDEP had banned *all* residential development on landfills. This appears to be a common misconception. In the Site Remediation Reform Act, the legislature specifically prohibited the construction of single family housing on a landfill "*...if engineering controls are required for the management of landfill gas or leachate.*" PL 2009 c.60, C58:10B-12 g (12). While the legislative intent is clear, the implementation is not, as both the TRSR and the ARRCS rules are silent on the issueNevertheless, the construction of residential units on a landfill is not completely prohibited.

NJDEP published draft guidance on November 4, 2009 defining the presumptive remedy to this quandary. (This guidance will not be effective until May 2010, as required by the statute.) The draft guidance states that the construction of schools, child care centers, and "single family / fee simple ownership" residential housing is prohibited on landfills where engineering controls for gas and/or leachate is required. The draft guidance allows that apartment buildings are permitted (with the submission of a Remedial Action Workplan (RAW)), but it is silent on multifamily units or condominium developments, to name a few possible options. Sites where engineering controls

Continued on Page 4

Welcome!

Ray Lipski

Ray Lipski joined SAI in January 2009 with split roles in the Engineering and MIS Departments. He has a B.S. in Computer Information Systems from Missouri State University and also has completed extensive network engineering coursework from BCC at Drexel. Mr. Lipski is helping SAI in the engineering department working with AutoCAD and manages SAI's IT infrastructure. Recently, he has designed, developed, and deployed SAI's new company website, which can be accessed at www.sadat.com.

Sewer Service Areas

Continued from Page 1

If you have any questions concerning how these regulations may impact your properties, please feel fee to contact Randy S. Kertes, PG, CPG, Senior Project Manager, at (609) 826-9600, extension 149.

This year's Atlantic Builders Convention will take place April 14-16 at the Atlantic City Convention Center. Sadat Associates, Inc., will be displaying in booth #1015. As you are making the rounds of the convention, please stop by and say hello!

Welcome!

Paul Billyk

Paul joined SAI in January 2010 after working for 9 years with Toll Brothers/ESE consultants as a CAD Technician & Designer. Before that, he spent 18 years as a draftsman and CAD Technician/Designer in the machine design field for various companies. In his spare time, Paul enjoys woodworking, riding his motorcycle & rooting for the Phillies.

Jennifer Cameron

Jennifer joined SAI in January of this year as an administrative assistant. Prior to that, she worked for 17 years for Zeiger Enterprises as the Director of Sales & Marketing, focusing on product creation. Jennifer has also worked in the community as a local Girl Scouts troop leader for many years.

LSRP

Continued from Page 3

are *not* required for landfill gas or leachate may be developed for single family residential, schools or childcare centers, as well as multifamily residential, with the submission of a RAW. The requirements for the engineering controls required under either permitted use are not specifically stated in the draft guidance. SAI hopes that the finalized guidance will clarify the legislature's intent, but we are watching this closely for our clients.

We note this last point with interest because it was SAI that completed the only successful, and award winning, residential development on a landfill in the state to date: The Tides at Seaboard Point, in North Wildwood, Cape May County, for K. Hovnanian Homes, Inc. This development has been extraordinarily successful, but it was not without its significant engineering challenges involving both geotechnical and environmental issues. The Seaboard redevelopment was not single family housing, but consisted of four four-floor multi-unit buildings.

With the current economic crisis facing the state and the nation, and the initiation of the new LSRP rules governing site remediation standards, SAI is waiting with interest to see how the market for new development responds to these challenges and changes. We now have two LSRPs on staff, and two more applications are in front of the NJDEP awaiting approval as this goes to press. Regardless of what the future may hold, SAI will be there to assist you with your environmental needs.

For more information on the LSRP process, or to discuss a project that requires the oversight of an LSRP, please contact Rodger Ferguson at (609) 826-9600 ext. 171, or by email at rferguson@sadat.com.

This edition of the SAI newsletter has content that is slightly different than what you've come to expect from us. The reason for this is two-fold: First, most if not all of our current projects are at the earliest stages, when the story has yet to unfold. We usually reserve newsletter space for our completed jobs. Second, there have been rapid and substantial changes to the regulatory climate here in New Jersey in recent months, and we thought it would be useful for our clients to have a reference to some of the changes that may mean the most to the developer community. We anticipate that we will be back to our standard format for our next issue. Thank you!

Check Out SAI's New Website!

SAI's new website went live in January. This site provides substantially more information about SAI and the work we do. We have photographs of some of our bigger projects on the home page. Our project histories and recent newsletters are now available online for download in pdf format. Our next undertaking will be to post abridged resumes of our staff, as well as photos. Our web address, however, has not changed – you can still find us at www.sadat.com.

At right, a screen shot of SAI's new home page. This website contains substantially more information about the company and our many services.