

Congratulations!

EEl would like to recognize the following employees for their milestone anniversaries with the company:

10 Years: Michele L. Piotrowski, P.E., LEED AP
Project Manager

35 Years: Peter G. Wallers, P.E., CFM
President

Angela D. McCoy
Accounting Assistant

EEl welcomes **Jessica A. Lund, E.I.** to our staff!

20 Years: Mark G. Scheller, P.L.S.
Project Manager



Did You Know?

The U.S. Environmental Protection Agency has issued *A Handbook for Water and Wastewater Utilities*.

For more information visit <http://water.epa.gov/infrastructure/sustain/upload/EPA-s-Planning-for-Sustainability-Handbook.pdf>

EEl is hosting a Toy Drive for the Fox Valley United Way from now until Thurs., December 6th! For more information visit <http://www.uwfoxvalley.org/holiday-assistance-program> or contact Angie Ford at aford@eeiweb.com



Enterprises Trivia Challenge

Q: What are the five key solutions for "raising the grades" for our failing infrastructure?

Send your answer to eei@eeiweb.com or fax to (630) 466-6701 by December 14th to be entered in a drawing for a \$50 American Express gift card!



Engineering Enterprises, Inc. (EEl), founded in 1974, provides consulting engineering services throughout northern Illinois. Our expertise includes water, wastewater, transportation, stormwater, construction management, land surveying and GIS.

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Looking For a Solution for Degrading Wastewater Infrastructure?

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Did You Know?

Enterprises Trivia Challenge



American Society of Civil Engineer's (ASCE) 2009 Report Card for America's Infrastructure grades 15 categories of infrastructure. For the second time, America's infrastructure rates a cumulative grade of D with an estimated 5-year investment need of \$2.2 trillion dollars. Among the 15 categories, wastewater continues to be among the lowest grades on the Report Card, again earning a D- in 2009.

With a grade like that it should be no surprise to learn that the U.S. Environmental Protection Agency estimates that:

- Sanitary sewer overflows, caused by blocked or broken pipes result in the release of as much as 10 billion gallons of raw sewage annually; and
- \$390 billion over the next 20-years (\$19.5 billion per year average) is needed to update the nation's wastewater system

2009 Grades	
Aviation	D
Bridges	C
Dams	D
Drinking Water	D-
Energy	D+
Hazardous Waste	D
Inland Waterways	D-
Levees	D-
Public Parks and Recreation	C-
Rail	C-
Roads	D-
Schools	D
Solid Waste	C+
Transportation	D
Wastewater	D-
America's Infrastructure GPA: D	
Estimated 5 Year Investment Need: \$2.2 Trillion	

ASCE 2009 Report Card

So how can local municipalities help raise America's wastewater infrastructure grade? One solution is to promote sustainable sanitary sewer rehabilitation. Simply put, sustainable sanitary sewer rehabilitation are sewer improvements that provide economic, social and environmental benefits to our communities, now and in the future.

Fall/Winter
2012

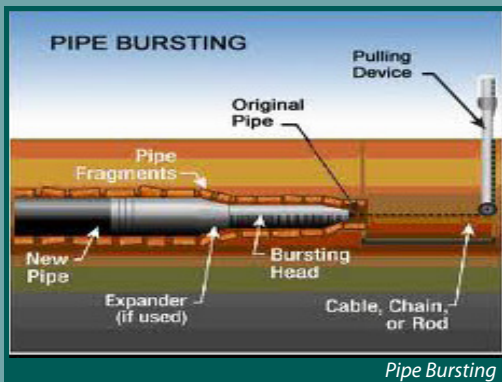
Enterprises

Looking For a Solution for Degrading Wastewater Infrastructure? Cont'd.

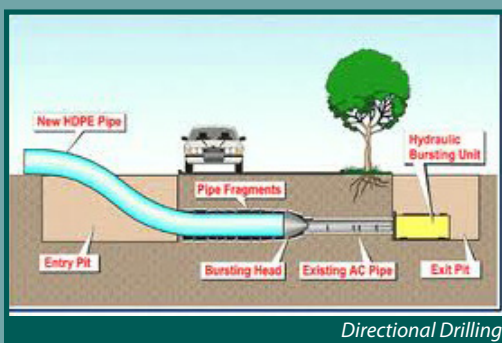
What are some of the environmentally and economically friendly ways in which to rehabilitate sewer?

They can be:

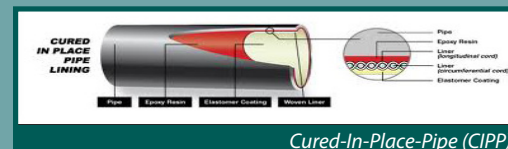
- Pipe Bursting - Trenchless installation of a new sewer by pulling it through a defective sewer. The defective pipe is shattered (or cut in the case of malleable pipe) and pushed into the surrounding soil as the new sewer line moves into place.



- Directional Drilling - Trenchless installation of new sewer line by reaming a hole and pulling the new sewer through.



- Cured-In-Place-Pipe (CIPP) Lining - Installation of a flexible felt woven liner into the existing sewer pipe and cured with hot steam or water to conform to the interior surface of the existing sewer pipe.



- Manhole Lining - Structural rehabilitation through the installation of cementitious, epoxy, or other types of liners to combat against age, poor construction and/or damage from hydrogen sulfide.



In addition to the reduction in environmental impacts (spilled sewage) and a reduction in maintenance costs (eliminating a defective sewer), the above rehabilitation options are sustainable due largely to the non-traditional nature of the installation; specifically:

- Reduction in construction costs by eliminating restoration of existing conditions and shortening the duration of the construction.

- Reduction in environmental impacts through zero or minimal disturbance of environmentally sensitive areas.
- Reduction in environmental impacts by eliminating the need for restorative materials and associated construction activities.
- Reduction in the social impact by reducing the duration of construction, associated construction costs (passed through to users), and perceived inconveniences to the general public that accompany traditional construction methods.

An excellent case study in sustainable sanitary sewer rehabilitation is the Village of Montgomery's decision to use CIPP lining for an 8-inch and 10-inch sanitary sewer located under Montgomery Road (collector road under Kane County jurisdiction). In 2001, the Village had to perform an emergency sanitary sewer repair due to the failure of the concrete sewer service tee. Some of the challenges faced by the Village included the immediate need to coordinate with the County to acquire a permit to close Montgomery Road and with various contractors to perform the work, poor soils encountered during construction, and the installation of the new service under a 12-inch gas main.

After confirming the presence of additional concrete service tees through televising, the Village knew that it wasn't a matter of "if" but a matter of "when" another failure would occur. The Village's desire to provide a proactive and economical solution led them to rehabilitate the sanitary sewer by installing CIPP liners in 2002 and 2012. The latter included lining 1,300 linear feet of 8-inch and 330 linear feet of 10-inch sanitary sewer. The project, which was awarded to Visu-Sewer, Inc. for \$46,000,

was completed in less than a week, of which the installation and curing of the liner was completed in three days.

The benefits of utilizing this sustainable rehabilitation method included:

- Through reduced water use and effluent monitoring/removal through cleanouts and inspection manholes, local residents and commercial users (including laundromats and restaurants) experienced minimal to zero adverse impacts with respect to temporary sewer service loss.
- Traffic detours or lane closures were not required.
- Surface restoration was not required.
- The construction cost to ensure the long term viability of 1,630 linear feet of sanitary sewer was considerably less than the cost to point repair a failed sewer using traditional methods.

In short the Village of Montgomery succeeded in providing an environmentally, socially and economically friendly way in which to rehabilitate their sewer.

To learn more about this topic, please contact Brad Sanderson, Vice President at (630) 466-6700 or bsanderson@eeiweb.com.

President's Message



2012 ~ The Drought Year!

This year, 2012, will go down as one of the worst droughts in the State's history. The first six months were the sixth driest on record.

In that period, we received 12.6-inches of rain statewide, which is seven inches below normal. Every month had above normal temperatures and the period was the warmest on record. All 102 counties have been declared secretarial disaster areas, making them eligible for assistance. This year the State's corn yield was down 37% representing a \$6 billion loss of value. By every measure, this was a significant drought which had far reaching effects on our State.



In response to the drought, the Governor convened the Drought Response Task Force. The Task Force was comprised of members from all the State agencies and was led by the Illinois Department of Natural Resources (IDNR). Mayor Tom Weisner from Aurora and myself were assigned to the Task Force as "Technical Advisors" for the Northeastern Illinois area. What quickly became apparent to us was that our area of the State, while

certainly affected by the drought, was not impacted to the extent that Central and Southern Illinois were. Surface water supplies in the central and southern parts of the State were severely challenged. The City of Decatur was forced to curtail withdraws or risk running out of water. Businesses were forced to shut down production lines and move jobs temporarily out of State. The agricultural community was hit hard. Power plants had to manage power production relative to stream withdrawal permits. I was quickly reminded of the fact that there are a variety of competing interests that must be managed when the water supply is limited.

IDNR did a yeoman's job of organizing and managing all of the State agencies and resources. The lessons learned from the drought should help us more effectively manage the next crisis.

While the Chicago metro area was somewhat sheltered from the direct impact of the drought, we all felt the effects and it should give us pause to evaluate how we use water. What I learned from the drought is that water conservation is not about using less water, it is about using water wisely so that all our interests are protected and we have water when we really need it.

