

Our Mission

To be the leading consultant solving the engineering or land surveying problems unique to rural-urban communities and their enterprise—government, business, and agribusiness. And in the process, to build trust and lasting relationships with the people among whom we work and live. ◀

CREP, the Iowa Plan, the Gulf of Mexico—and KPL

Behind the plethora of media stories focused on dead zones and hypoxia, on barren waters once rich with shrimp and shell fish, and on a Gulf of Mexico feared sick and dying, is another story. One that some national editors think won't sell; or that won't be seen as properly exciting; or that won't bring in the ratings needed from the evening newscast.

But, those editors would be wrong. Because behind the stories of potential disaster—a disaster blamed largely on America's intensive farming practices, are the stories of those that are racing to the rescue. These are stories whose roots lie in scientific institutions, in regulatory agencies, in industrial and agricultural organizations—and at Kuehl and Payer. They are stories often regarded as less dramatic. Stories usually overlooked as less than breaking news.

True, these stories find some air in industry and technical publications, in local and state media, and in diners and truck stops where farmers gather to talk about "what's new." But, even so, most of these efforts go overlooked.

This is one of those stories. It's called the Iowa Plan, short for the Integrated Drainage and Wetland Landscape Plan. And it promises benefits far beyond the remediation and prevention of hypoxia.

There is a solid list of players. The Iowa Department of Agriculture and Land Stewardship. Iowa State University. The Iowa Farm Bureau Federation. The Iowa Drainage District Association. And also at its heart is KPLs, Don



Restored wetlands provide many water quality benefits and home to a multitude of wildlife. Photo courtesy of USDA NRCS.

Etler, a recognized expert in drainage issues and a leader in Iowa's many drainage activities. For many years Don has worked closely with the Iowa Drainage District Association and often represents this organization on development teams and study programs.

The story of the Iowa Plan is a story about solutions, about cooperation, about disparate interests working together to solve this huge problem that lies stagnant in the Gulf of Mexico. It's a "get-it-done" story taking place at the croproots level. And it is one of those rare initiatives where everyone—farmers, wildlife enthusiasts, recreation seekers, the public—and the Gulf of Mexico could all come out ahead.

For farmers: The Iowa Plan could significantly increase corn and

soybean yields. Predictions range from 8 to 20 percent.

For wildlife enthusiasts, recreation seekers, and the public: The Iowa Plan creates usable wetlands laden with birds and animals. (While at the same time reducing many of the currently "farmed" wetlands by turning them into tillable and productive acreage).

For the Gulf of Mexico: The Iowa Plan promises a dramatic reduction in the phosphate and nitrate that moves from Iowa's fields, to the Mississippi, **Continued, IOWA PLAN, page 4**

CREP receives Gulf Guardian Award

Iowa's Conservation Reserve Enhancement Program (CREP) was honored by the Environmental Protection Agency in this year's Gulf Guardian Awards program with a third place award in the partnership division. CREP is a cooperative effort of the Iowa Department of Agriculture and Land Stewardship, the Iowa Farm Service Agency and the Iowa Farm Bureau Federation, and is intended to reduce the amount of nitrates and phosphorus nutrients going into the Gulf of Mexico.

The Gulf Guardian Award, part of the Gulf of Mexico Program, recognizes those that have taken steps to protect this important fishing ecosystem. Kuehl and Payer has been selected to provide engineering services to several CREP projects. Don Etler was a member of the CREP design standards committee during the program's inception. ◀

PROJECTS

Rockwell swimming pool planning begins this month

KUEHL AND PAYER has been selected to provide the engineering services for **Rockwell** following its passage of a \$1.5 million bond issue for a swimming pool reports Neal Kuehl. The first planning meeting has been scheduled for December 17. Curt Wiseman will be working with Neal on this project as project engineer. M+ is the architect and Brewer Engineering will be providing electrical/mechanical design. The project will go to bid in late winter for an early spring or summer construction start.

Neal has also started work on an **engineering study for Buena Vista County for wastewater service around Storm Lake, in Lake Creek, and for other unsewered areas.** The study follows a preliminary report already provided to the county in response to a new Iowa law requiring inspection of private sewage disposal systems before property sales. (See **InterAction**, Volume 11, Issue 3). This study will include information on pressure sewer systems, septic tanks, and effluent pump/treatment systems. Says Neal, "We will also be providing information to help guide the selection of construction and operation including a separate sewer distribution system, or a system that becomes part of the City of Storm Lake, or part of a regional water agency, or maybe another alternative." The study is due in February.

The city of **Newell** has hired Kuehl and Payer to provide the design and construction services for a proposed **\$2.5 million waste water treatment lagoon system** which had been under study for them by another firm. "Land is currently being acquired. They already have a water treatment assistance grant for \$640,000 and have also applied for a CDBG grant," says Neal. John Devitt will be project engineer.

"We are also working on a lot of **grant applications for waste treatment**

projects. These include a **\$3.2 million project for Alta**, a **\$2.5 million project for Odebolt**, and **\$0.5 mm project for Sioux Rapids.** Work on all of these will take place in 2009.

"In another project, we are working heavily with **Rembrandt Enterprises**, assisting them with the design of a **waste pretreatment facility** at their Spencer egg drying plant. This will pretreat waste going to the City of Spencer treatment facility, will reduce the pretreatment surcharges from the City to Rembrandt Enterprises, and will meet the company's treatment agreement with the city.

"There are also **two water projects for Laurens, Iowa.** The first, a well construction project engineered by John Devitt that is finishing and will go on line in January. We're waiting on the electrical controls to arrive. And in the second project, plans and specs for an upgrade to a reverse osmosis water treatment plant will be finished in December. This project will go to bid in January."

Bob Payer reports that preliminary **design of a bridge over the Ocheyedan River in Cherokee County** has begun. "This will ultimately be part of the west by-pass around the City of Spencer," says Bob. "The survey work has been completed on this project and the plans are developed.

"The City of **Spirit Lake** has authorized the restart of design on a **reconstruction of 19th Street.** This project began in 2004 with the relocation of sewer and water in advance of the reconstruction of the Dickinson County Courthouse. Now that reconstruction is complete, 19th street which runs along the south side of the building will have to be reconstructed. This is planned for 2009.

"In potential new work, **Storm Lake** has requested a proposal to do two **street improvements** in 2009. One involves an asphalt hot mix overlay of approximately 11 blocks in downtown Storm Lake. The second is a smaller project and is for the reconstruction of approximately 500 feet of Expansion Boulevard at its intersection with Radio Road."

Bob also reports that the closure of the **Buena Vista County landfill** is



Holiday glow. This large pumpkin was carved by Nick Frederiksen of the Algona office. Photo is by Gary Atherton.



nearly complete with cover materials placed in the summer and fall of 2008, topsoil being laid, and fertilizer and seeding to take place in the spring of 2009. Documentation work is proceeding.

In a related project, Curt Wiseman reports that the **building addition to the recycle center, also a part of the Buena Vista County landfill**, is in construction. Earl Zimmerman is KPL's resident observer. "This job is nearing completion. The addition will be used to take construction debris—wood, sheet rock, and cardboard—before transfer to the Cherokee Landfill where it will be processed into fuel pellets."

KPL is also working on the design of the **pelletizing facility under construction at the Cherokee Landfill.** "The pelletizing equipment is installed and they should be producing pellets within a month."

KPL has teamed with Fox Engineering to develop **final construction plans for the development of Cells 83 and 84 of the Cherokee County Landfill** says Ivan Droessler. "These plans are to be submitted in January with bid letting projected for April. Under new DNR requirements, the project will require a 60 mil high density polyethylene liner over two foot of compacted clay. We feel the additional cost of this membrane liner is unwarranted with the good glacial clay available. However, DNR, under the new rules, refuses to accept alternative four foot clay liners which had been accepted for the last 11 years." Ivan also reports that the **closure of the vertical**

expansion of the original Cherokee Landfill was completed in September and the final certification report will be submitted in December.

Tom Grafft reports that work on the sixth update to the **Sac County Comprehensive Solid Waste Management Plan**, required by the Ground Water Protection Act is in preparation. These plans are reviewed every three years.

Baseline sampling at the Cherokee and Sac Landfills is complete. Says Tom, "We did five rounds of sampling. These baselines give us something to compare to as a standard during semiannual samplings. We have also hired Otter Creek Environmental, a statistical consultant, to work with us to put together a statistical plan which will be used to help us identify potential problems or trends that show up in sampling."

The **annual inspection and water quality reports for Buena Vista, Sac and Cherokee County Landfills** have also been completed.

Curt Wiseman reports work with **Woodlyn Hills, a rural subdivision outside Algona.** "They have a high radium level in their water well and we are working with them to come up with the best way to **remove the radium or otherwise become compliant.** We are examining several options ranging from a new well to point-of-use treatment.

"We're also working with the **Algona Municipal Utilities.** We completed a

100 year flood elevation study looking at the results if backwash were to be sent to a retention lagoon. We would then need to know the height the banks would have to be. Also we are working on **plans and specs for a site planning for an electrical warehouse** which will be built for the city utility next year."

In other projects: **Construction of a lift station and force main for Leland** is ongoing. Nick Frederiksen is project observer. The plans and specs for a small **storm water project in Algona** are final. Work on obtaining easements has begun and a spring construction start is expected. Plans for the spring construction of a **lift station and force main for Goldfield** are in process and a **report to Sway City on how to address inflow problems** is in process.

Kent Rode presented a report to the City of **Wesley covering storm water drainage relief improvements**. Says Kent, "They first had problems with flooding of residences and basements during large rain events. We are proposing a retention area on the east side of the city to collect water. Part of the report also involved applying for CDBG funds which the city approved.

"We are also updating plans for changes made to the **site plan** during construction of the **Hy Vee warehouse** expansion currently underway. Construction involved the build up of an **earth pad utilizing 80,000 cubic yards of dirt**.

"And on the **Algona Recreational Trail Project**, we are in the process of removing scrub trees and shrubs before we complete the survey. The

preliminary and final design for the trail are due next year."

Ivan Droessler reports that a busy season of **site development and layout for Sara Lee projects** has come to the end for the winter. "We are expecting four additional sites for development in the upcoming year. Additionally site development with **layout for eight pullet sites for Sioux Center Pullet** have been completed. Construction on these will continue through next spring.

"We designed a total of **12 EQIP funded animal waste projects over the last year** and most have already been constructed. It has been a busy year and we are hoping for a strong animal waste workload for next year. In survey work, Scott Shevel reports that the **I-19 staking** is complete.

Underway is **staking for the new Arby's and the new United Community Health Center, both in Storm Lake**. "Friesen's addition is under construction with sanitary sewer and water work underway this fall and winter; the **East Ridge subdivision in Holstein** is largely complete; as is the infrastructure in **Alta's 8th addition**."

Drainage news

Ivan Droessler reports that several drainage construction projects are in progress: **FEMA storm repair work in Soldier Valley** and **bank stabilization on New Farmers Drainage District**, both in **Monona County**, are occurring; and tree clearing, **Drainage District 122, Calhoun County** is underway. Bids for **five miles of ditch clean out, Losey Drainage District, Monona** **Continued, PROJECTS, page 4**

News about KPLers

Jake Droessler named to ESPN all-district team

JAKE DROESSLER, son of Ivan Droessler, a senior and football offensive lineman at Minnesota State, was named to the *ESPN The Magazine* Academic All-District Five Second-Team. It is an honor voted on by the College Sports Information Directors of America.

To be eligible for the ballot, a student must maintain a 3.30 grade point average or higher. Jake has a 3.36 grade point average in Construction Management. Jake was also named to the Northern Sun Intercollegiate Conference All-Academic team.

The Minnesota State Mavericks have just completed their second best season ever with a 9-2 regular season record and a 9-3 record for the year. They lost in the first round Division 2 Playoffs to Ashland of Ohio University.

In other sports news, three members of KPL's Algona family took home junior varsity football awards at Algona High's annual



Jake Droessler

football banquet. Most Improved Player Award went to **John Etler**. The Rudy Award for the Best Practice Player was given to **Connor McGuire**, and **Alex Wiseman** received the Defensive Coach's Award.

Music

Katy Shevel, daughter of Scott Shevel, was selected to perform with the Iowa All-State Orchestra as a flutist in the annual concert held in late November. Katy also plays the piano.

Congratulations

Madeline Grace Etler, number three for grandpa **Don Etler**, was born September 17 in Shawnee, Kansas, to happy and proud parents, **Dan and Theresa Etler**. Madeline weighed 7 pounds and 14 ounces.



Madeline Grace Etler

Professional activities

Don Etler was a featured speaker at the Iowa-Minnesota Drainage Research Forum where he discussed the topic of Obstacles to the Construction of Ag Drainage. The conference was held in Owatonna, Minnesota on December 2.



Tanguy Wiseman with a deer taken on the Wiseman annual Thanksgiving hunting trip to Wyoming.

Happy birthday

To **Neal Kuehl** whose birthday is January 4, to **Tom Edgerton** whose birthday is January 9, to **Curt Wiseman** whose birthday is January 16, to **Earl Zimmerman** whose birthday is January 25, to **Ted Zimmerman** whose birthday is January 26, to **Justin Anderson** whose birthday is February 2, to **Ivan Droessler** whose birthday is March 12, to **Steve White** whose birthday is March 19, and to **Peg Johnson** whose birthday is March 24. ◀

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IOWA PLAN, continued...

and into the Gulf of Mexico where it settles creating the much publicized dead zones.

Iowa's existing tile and drainage systems (many of which are in dire need of repair) date from the early part of the twentieth century. They were designed to remove about 1/8 inch of excess rainfall in 24 hours. But crops and practices were different then. Today this system is outdated. It leaves many Iowa fields wet and untillable until late in the spring. Large amounts of surface water, including dissolved contaminants, flow as runoff into Iowa's streams.

The Iowa Plan proposes a drainage coefficient of 0.5 inches in a day. This kind of engineering would not only remove heavy rains from growing crops at a rate four times that of the old system; but would let fields warm and dry out earlier in the spring and to make the soil a better sponge in which to temporarily soak up and store excess rain water. This soil storage characteristic of well-drained soils substantially reduces flooding far more effectively than do saturated wetlands.

In addition to improved tiling systems, the plan calls for strategically placed treatment wetlands. These wetlands would typically be located at the bottom of the watershed. They would be fewer in number and would replace many of the current farmed wetlands. Existing wet spots, now better drained, would be turned into more productive acreage. Instead of numerous wet spots, there would be a strategically located and active wetland attracting birds, wildlife, and recreation seekers.

By increasing the drainage coefficient and restoring and locating a wetland to the base of the watershed, a system is naturally more efficient. Subsurface flow is increased. Field to stream runoff of contaminants like phosphorus, pesticides, sediment, and microorganisms is decreased. The more efficient base wetlands are better able to treat the subsurface flow coming to them. In the Iowa Plan, nitrate removals are estimated to range between 40 and 70 percent.

The Iowa Plan will require clearing some regulatory hurdles. Says, Don

Etler, "Current regulations are designed to control existing practices and under current federal regs, farmers can't improve drainage affecting their own farmed wetlands without creating a replacement wetland function usually on their own property. Since the Iowa Plan calls for fewer but more active wetland areas, areas that are strategically placed at the base of the watershed and involve the whole drainage district (multiple owners and farmers), approval becomes a bit more complicated. It is difficult for a bureaucracy to become more flexible."

Ironically, funding for the Iowa Plan may be easier. The Iowa Department of Agriculture and Land Stewardship proposes to share the cost of building these strategic wetlands by using Conservation Reserve Enhancement Program (CREP) funds. The Iowa Plan group hopes to secure authority to cost share construction of 25 pilot projects in cooperation with drainage districts by the year 2012.

"The CREP is a popular program with farmers where they receive financial incentives to create and restore wetlands." Don has been involved with this program since its inception and was a member of the CREP design standards committee. In fact, the Iowa Plan grew out of the advances made in the CREP program. KPL has been selected to provide the engineering services on several of the CREP sites currently under development.

Of course, the Iowa Plan will face challenges. Change is not always comfortable. Still the Iowa Plan offers solid, dramatic, and scientifically-based solutions to the problems facing the hills of the Gulf of Mexico. At the same time, it provides new options for Iowa's farmers and drainage districts as they work to improve an aging and often inefficient tile and watershed system.

If you'd like to know more about the Iowa Plan, about KPL's drainage services, or CREP engineering services, talk to Don Etler, PE., or Nick Roethler in the Algona office or Ivan Droessler, PE., in the Storm Lake office. «

WELCOME ABOARD

A BIG WELCOME to Lisa Hefty who joins the KPL family working in the Algona office.

Lisa is a native of the Lu Verne-Corwith area. She and her husband, Jay, live on the farm they work located near Lu Verne.

Hobbies? Lisa laughs: "With two children in school, and between farming and working, I have little time left for hobbies."

Her two children, son, Jordan, and daughter, Katelyn, are students at Iowa State University in Ames. She will most likely be the first person you talk to when you call the Algona office, so say "hello" the next time you phone in. «

PROJECTS, continued ...

County were taken on December 9. "There was lots of interest in doing this project," says Ivan.

"Survey work on the **McCandless Lateral Number 8 Ditch** is 50 percent complete. The preliminary report is due in January. **Plans to survey the main open ditch, Drainage District 122, Calhoun County**, should be completed this fall and winter. We are waiting on tree clearing so survey access is available. The engineers report is expected by spring 2009."

Other drainage work underway includes the **annexation and right-of-way of the lands on Drainage District 6, Calhoun County**; and annexation and right-of-way on **Losey Drainage District, Monona County**. Reclassification of these districts will also have to be completed.

If you'd like to know more about these or similar projects talk to any of the people mentioned. «