

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. ◀

Chlorination alternatives study for Denison Municipal Utilities

Will eliminate gas chlorination system

The Denison Municipal Utilities has hired Kuehl and Payer to convert the gas chlorination process it uses to treat the city's water supply.

"Currently, they use gas for the chlorination process for disinfection," says Neal Kuehl, "but the process—because of the explosive and caustic properties of the gas—is not without some danger; and the utility has decided to convert the system to a chlorine source that poses less risk."

Two systems will be evaluated: One which uses purchased liquid bleach, which contains sodium hypochlorite; this is used for the chlorination process. The other system actually makes the sodium hypochlorite from salt and the sodium hypochlorite is then used in the chlorination process.

"Utility management had initially looked at purchasing liquid bleach

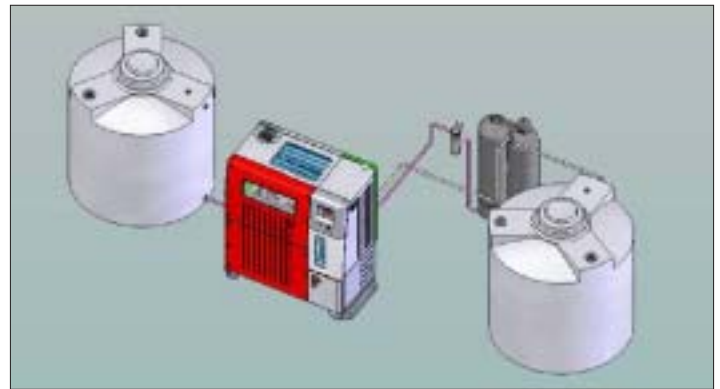


Diagram of an electrolytic process which uses ordinary salt from which sodium hypochlorite is made and that provides the chlorine for water disinfection. A salt brine from the tank at right passes over electrodes housed in the cabinet at center. The equipment is made by Miox.

to make chlorine. The bleach is similar to what you use in your home, but twice as strong. It is a 12% sodium hypochlorite solution.

"The problem is that using bleach as a source for sodium hypochlorite more than doubles the cost of water treatment over the old chlorine gas-based process. So, we suggested to the City that they consider purchasing a

machine which would make the sodium hypochlorite for the treatment process from salt.

"Although the initial cost of the equipment makes the conversion more expensive; the operating cost is lower."

The suggested process, which uses electrolysis, is shown in the diagram above. Salt is dumped into a tank of water (the large gray
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Algona wins this year's battle of the Titans



Above from the left are John Etler, Isaac Droessler, and Alex Wiseman.

ALGONA'S GROUND attack won out over Storm Lake in football's classic battle of the KPL Titans. This year's game of ninth graders was played September 10 in Algona.

And depending on your perspective, it was either a case of: the best team won; or the best team

lost. Either way it was a great game, closely fought to the finish, and with a final score of 28 to 22.

Even some of the KPL dads got into the act with Curt Wiseman and Don Etler taking on the chain gang job.

The team is currently 2-0. ◀

PROJECTS

Water treatment system for Indian Health Service

THE INDIAN HEALTH SERVICE (IHS) has hired Kuehl and Payer to develop the design, plans and specifications, for a **water treatment system** in Winnebago, Nebraska. The equipment for the system has already been purchased by the IHS. But, the building and the system themselves still need to be designed.

"Kuehl and Payer will be working for Lane Western on this contract," says Neal Kuehl. "It will be a design-build project with a yet to be determined contractor. Work is underway on a preliminary design, with the full blown design to be done later this fall."

The **City of Hawarden** has hired Kuehl and Payer to evaluate the city's existing **wastewater treatment plant**, with emphasis on sludge handling. "The plant is 25 years old, but in reasonably good condition. We had previously done work replacing clarifiers; and have now been asked to do a full blown evaluation of the rest of the plant. We will be using Fox Engineering from Ames to assist in this project. They are strong process engineers and we have worked with them in Eagle Grove, Cherokee, and Lake View." KPL is the prime contractor on this project.

Curt Wiseman reports that the Algona office is doing a **wastewater treatment plant for the Oak Lake Subdivision which is outside of Algona**. "We are also doing a wastewater system for Swea City.

"Here in **Algona**, we have an ongoing **storm sewer study** and we've been hired to make some improvements on the south and east side based on our recommendations. We've been hired by the City of **Leland for a lift station and new force main**. We're in the middle of that design now.

"We're working on **wastewater treatment improvements for both Early and Pomeroy**, we're finishing specs with construction scheduled for next year. Those are both fairly large projects.

"In **Algona** we've been hired for a water main project—a **water main extension**. We're working on the permit for that with the plans and specs done. In another interesting project here, we are doing the **plans and specs for a 2.5 acre lake** that will be constructed in the middle of a subdivision. Homes are planned for around the pond and the homeowners will own and maintain the pond."

"We are also working with Bob Payer on a **building addition to the Buena Vista County solid waste recycling building**. This will be a transfer station, mostly for construction waste from new homes and remodeling, but with another part for paper products. These will be bundled and taken to Cherokee for processing into pellets for energy."

The new **recreational trail in Battle Creek** is complete. Says Kent Rode, "Only the seeding and fertilizing remain.

"On the **Daniel Clark Swine Facility**, the pit has been poured for the finishing building and they are working on the above ground building. That's an EQUIP project.

"The **site plan for a new office building for CTS Air Services** in Breda is finished and the project is out for private bid. The **Emmetsburg Grand Avenue** repair project has been let to Black Top Services.

"This project involves the repair of settled trenches from a project done by another engineering firm and contractor back in 2004. Trenches in a three block area with the main line of a sanitary sewer and water main settled. The asphalt surface above also settled as did a large portion of service lines leading from the trenches. KPL was hired to remedy those areas. The surface and trenches

will be excavated to the sub base, the sub base material recompact and replaced. Asphalt will be placed over the repaired trenches.

"Site work and grading for the **Maple River Energy** biodiesel plant is nearing completion. The plant will crush soy beans, sell the meal and use the oil in biodiesel production. KPL did the **site plan** for this project.

"Site plans are complete for several **hog confinement facilities for General Development**. We are also doing some **tile layouts for pattern tiling** for several 160 acre farms for them.

"And we are getting into **design for a 58 acre business park** being done for the **Emmetsburg Economic and Community Development Organization**. They received a RISE grant for that project. These plans will be completed this winter for construction to begin next spring."

Staking for the new **Storm Lake Elementary School** continues. "We lost over three weeks because of the August rains," says Bob Payer. "The site prep will be finished early to mid October and the parking lots paved in two to four weeks.

"The **East Ridge addition in Holstein** was originally scheduled to be let on September 10, plans are being revised on that project with letting anticipated within the next 30 days. Underground construction is planned for this year and paving to be completed by June of 2008."

The **horizontal expansion to the Sac City Landfill** was completed in July and waste disposal operation began in the new cell in late August. Ivan Droessler was the project manager. He also says that construction of the **Cherokee horizontal expansion** is done except for the punch list. Waste disposal on the new cell is scheduled to begin on October 1. LeRoy and Sons from Arcadia, Iowa, was the contractor on the

Sac City project. Lundell Construction was the contractor in Cherokee. Brian Blomme was the inspector during construction in Sac City and Earl Zimmerman was construction inspector in Cherokee. Greg Villegas did the construction staking for both projects.

In other landfill news, the revised IADNR rules for landfills were to be approved by October 1, 2007. These have been delayed for 70 days. "These rules are in limbo at the moment and that has also put in limbo what will be required for fall sampling at both the Sac County and Cherokee County landfills," says Ivan.

"In animal waste projects, construction on the swine production facility for Brain Rank was completed the first week of August. Construction for the

Klocke Facility is almost done. Construction on the **reinforced concrete tank** for Mickelson is scheduled to begin any time and the last **open concrete tank** for Gary Dahl is slated to begin in September." Ted Zimmerman is doing the construction inspection on all these projects.

"In new animal waste projects, the **design for manure storage buildings** for Greenlee, Host, and Gee has begun with construction to begin yet this fall.

"And for **Sara Lee Foods, the design and layout for nine new turkey feeding lots** has been completed, with the potential of three more sites to be designed this year." Construction of six to nine other sites is almost done.

Scott Shevel reports that **construction staking for Highway**

60 is almost finished. "We are also revising a **preliminary plat for a Holstein subdivision** and approaching completion of construction staking for the **Awaysis parking lot and Great Lawn.**"

And Jeff Krueger reports that the Sac City office is staking a new **access road to the Sac City Airport** and working on a small **lake subdivision at Lake View.**

Drainage news

Work continues on **three CREP projects** says Don Etlar. "Earlier this year we started work on a CREP site in Clay County that contains a fen. This is a rare type of wetland caused by cool water from an artesian spring. Nick Roethler has been working with officials to avoid harming the fen if we do the project. A Kossuth County CREP site has encour-

tered serious sand problems, but may still proceed.

"Filings for the **planned flood relief for New Hartford** are complete and a hearing scheduled for December. New Hartford was flooded again by the heavy August rains. Kuehl and Payer has been hired by **Palo Alto and Kossuth counties to investigate repairs for Drainage District 1, Lateral B Ditch.** For **Dickinson County Drainage District 22** we will be evaluating the affect of sediments to East Lake Okiboji. And bids were taken and the contract awarded for **repairs for branch open ditch of Drainage District 53, Poca-hontas County,** on August 28. This operation which includes some sensitive work on the golf course will be done in October and early November."

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News about KPLers

Dan and Theresa Etlar honored by the ISU Alumni Association

DAN AND THERESA ETLER have received the James A. Hopson Volunteer Award from the Iowa State University Alumni Association.



Dan and Theresa

Dan and Theresa are president and treasurer, respectively, of the

ISU Alumni Club of Kansas City and have made the club one of the nation's strongest, generating the most new alumni memberships annually. They will be honored at half-time of the Homecoming game.

Dan is a former Kuehl and Payer employee and the son of Don Etlar.

Vincent Krepps, son of Clarence and Marcia Krepps, and a major in the Air Force is at the Command and Staff College in Fort Leavenworth.

The fifteen month course focuses on international studies. Vinnie enlisted in the Air Force and became a sergeant before being named to Officer Candidate School.

Jacob Droessler, who plays for the Minnesota State Mavericks football team has been moved to center. He was also voted in as one of four team captains. The team is off to a good start with a 2-1 record. Habitat for Humanity in Storm Lake is finishing its eighth house

which will be ready for move-in before Thanksgiving. If you'd like to get involved: talk to **Scott Shevel.**

Congratulations and best wishes

Two weddings and an engagement mark the summer of 2007.



Nick and Anne

Brian Blomme popped the question to **Jenilee Grotjohn** in late August in Minnesota while on a fishing trip. A 2008 wedding is planned.

Nick Roethler and **Jenny Frideres** were married June 2 in Whittemore,

Iowa; and **Nick Frederiksen** and **Anne Ostwald** were married September 8 in Algona.

Happy birthday

To **Gary Atherton** and **Sharon Gerdes** whose birthdays are July 6; to **Scott Shevel** whose birthday is July 16; to **Brian Blomme** whose birthday is July 21.

To **Melissa Riggert** whose birthday is August 17; to **Eric Yunginger** whose birthday is August 29.

To **Nick Roethler** whose birthday is September 1; to **Greg Villegas** whose birthday is September 13; to **Bob Payer** whose birthday is September 17; and to **Jeff Krueger** whose birthday is September 30. ◀



Nick and Jenny

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CHLORINE, continued ...

tank shown on the right) which creates the brine. The black tank adds a water softener to the brine which makes it less likely to leave calcium deposits on the electrodes during electrolysis.

The brine is then passed through the cabinet which contains the electrodes. The chlorine is broken out of the salt brine and sodium hypochlorite is produced. This is stored in the larger tank (shown on the left) where it is pumped to the water treatment system for use in disinfection.

"We believe that we can produce sodium hypochlorite for twenty-five cents a pound of chlorine versus \$1.20 a pound of chlorine if purchasing bleach in bulk. The initial cost of the equipment is of course higher for this extraction process. We will do the overall cost analyses for both processes and present them to the city for consideration."

For whichever approach the City of Denison decides to use, KPL will do the conversion design. ◀

PROJECTS, continued ...

KPL performed **storm damage assessments for drainage districts in Sac and Monona Counties** from which repair projects for nine districts in Monona County and four districts in Sac County developed says Ivan Droessler.

"Quotes for repairs in both counties have been received and construction is anticipated to be completed yet this year.

"Also, **construction on the open ditch clean out on Joint Drainage Districts 19 and 86, Sac and Buena Vista Counties**, has been completed and the completion hearing scheduled for this month. Construction on the **open ditch clean out on Drainage District 10 Calhoun County** is nearing completion with pipe installation and soil bank leveling remaining. Brian Blomme did the inspection and Greg Villegas did the construction staking for both these projects.

"Kuehl and Payer has also been appointed the **drainage district engineer to investigate and report**

on an open ditch clean out for Drainage District 6 in Calhoun County and Losey Drainage District in Monona County. This involves ten miles of open ditch survey to be completed yet this fall."

If you'd like more information about these or other projects, talk to any of the people mentioned. ◀

KPL CAREER OPPORTUNITY

Engineer. Opening for an individual with a PE designation and transportation expertise. Consulting experience a plus.

For more information:
Contact Clarence Krepps at
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