



# CIVIL TALK

CIVIL ENGINEERING ♦ SURVEYING

STRUCTURAL ENGINEERING ♦ GRANT WRITING

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A NEWSLETTER FROM HENEGHAN & ASSOCIATES, P.C.

Celebrating Our 24th Year in Business

March 2010

## Farming and Agricultural Engineering



With spring just around the corner, farmers are anxiously awaiting the time that they can start planting their crops. The State of Illinois

takes on a different look in the spring, particularly as the corn and soybean crops begin to grow. The field (no pun intended) known as agricultural engineering applies engineering science and technology to agricultural production and processing. Since Ronnie Paul of Heneghan and Associates holds a masters degree in Agricultural Engineering, this newsletter feature will take a look at the basics of this unique discipline.

Agricultural engineering combines mechanical, civil, electrical, and chemical engineering principles with a knowledge of biological sciences and agricultural practices. Agricultural engineering has a broader scope than any other area of engineering and primarily focuses on solving the engineering problems of providing food and fiber for the people of the world.

Agricultural engineering includes: 1) design of agricultural machinery, equipment and structures; 2) crop production including seeding, tillage, irrigation and the conservation of soil and water; 3) animal production, including but not limited to the care and processing of poultry, fish, swine, beef, and dairy housing and production; 4) the engineering and processing of food.

More specifically, agricultural engineers perform tasks such as designing improved equipment to work the soil and harvest the crop; 2) developing water supplies for agriculture including systems for irrigation purposes; 3) design of proper drainage of agricultural property and; 4) designing buildings to house animals or store grains. What distinguishes agricultural engineers from others is their desire to achieve successes related to human and animal needs for food, fiber, and a sustainable, safe living and working environment.

Agricultural engineers may work for a variety of different employers including government agencies such as the United States Department of Agriculture, agricultural extension services, industrial or manufactures of agricultural products, or for private consultants like

Heneghan and Associates.

Iowa State University established the first curriculum for agricultural engineers in 1905 and the American Society of Agricultural Engineers, (now known as the American Society of Agricultural and Biological Engineers) was first founded in 1907. According to the website article, "What is Agricultural Engineering," during the 20th century, agricultural engineers helped replace human and animal drudgery with mechanical, hydraulic, electrical and chemical technologies for producing, harvesting, storing, processing and distributing our basic food, feed, and fiber supplies. During the 21st century, agricultural engineers will add precision and intelligence to these technologies by combining sensors with microcomputers, utilizing artificial intelligence, GPS, and other cutting edge technologies and software.

All of the above can be very important in helping to keep agriculture as one of the largest and most important industries in the world. The State of Illinois ranked number 4 out of all 50 states for being one of the nation's top agricultural producers. The 2 most popular crops grown in Illinois is soybeans and corn. According to the US Department of Agriculture, statistics show that the level of US farm output in 2008 was 158 percent above its level in 1948, growing at an average annual rate of 1.58 percent.



Soybean Crop

According to Ronnie Paul, "The agricultural industry is being asked to provide food, fiber, and fuel for a growing population as the environmental regulations and competition for available land continue to increase. Efficiency becomes increasingly important to remain viable in today's markets. Agricultural Engineers aim to improve efficiencies to meet world demand while remaining in compliance with environmental regulations designed to ensure our resources are available for future generations.

The same is true for HA's civil and structural engineers. Whether it is water, sewer, transportation, or any other project, HA's engineers aim to find an efficient solution that meets the goals of the project and maintains compliance with the environmental and regulatory agencies, thereby ensuring the client and the services they provide are available for generations to come."

- by Cheryl A. Moody

## Heneghan and Associates Receives Award

Heneghan and Associates was presented with an award in February from the American Council of Engineering Companies—



Left to Right: Gary Wilkin, HDR/CWI, Roger Johnson—Gateway; Keith Ritter—President of Gateway; Wally Cox—Heneghan and Associates; Dean Heneghan—Heneghan and Associates; Craig Olsen—Heneghan and Associates; Michael Klingner, ACEC-President.

currently serves 6 communities and 6 water companies for a total of around 20,000 residents. With its 45-50 miles of water lines and 3.4 million gallons a day capacity, Gateway Water Company is certain to see expansion in the near future.

*"I had rather be on my farm than be emperor of the world."* - George Washington

## Meet & Greet James Vogt



This month's "Meet & Greet" employee is Mr. James M. Vogt. Jim is the Survey Manager at Heneghan and Associates' (HA) Columbia, Illinois office. Jim became an employee with HA after owner of the firm, Dean Heneghan, bought out L.D. Benoy Professional Services formerly located in Columbia. Jim graduated from SIU at Edwardsville where he earned his Bachelor of Science degree in Civil Engineering. After receiving his Professional Engineering (PE) license in 2004, Jim went on to earn his Professional Land Surveying (PLS) license in 2005. If you need a survey done in Columbia or the surrounding area, chances are you will be talking with Jim. HA offers any kind of land surveying service you can imagine, including Global Positioning Station (GPS). Jim is a life-long resident of Columbia where he currently resides with his wife and twin girls. During his spare time, you might catch a glimpse of Jim on the golf course, or helping to coach his girls' various sports teams including softball, and volleyball. Just give Jim a call if you need information about land surveying.

CIVIL TALK is published by Heneghan & Associates P.C.  
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