

## Wind Farm Development Opens Door to Innovative Engineering

Currently, Pinnacle's environmental and geotechnical teams are working on a number of wind farm development projects in the Midwest and Western United States. The initial development phase of the projects require an environmental review to determine the environmental impact of the project, if any, including any recommendations for compliance. After the necessary permitting is completed and the development is given the "green light", geotechnical engineering is necessary for the design and construction of the base or pad on which the tower is constructed.

Site analysis and soil testing are completed prior to structural design of the pad to determine soil composition and how it affects a specific pad design over time. The design of the pad must

be structurally sound. It must accommodate movements resulting from soil settling and other environmental and geological factors. For this reason, Pinnacle's geotechnical engineers are in the process of research and development towards a new type of concrete pad design that will allow for a wider range of movement due to soil corrections than current methods. The pad design also uses less concrete per square foot, and is thus less expensive to build. Since many wind farms have hundreds of turbine towers, the cost savings that a developer realizes on the pads alone can be significant.

Our partnership with wind farm developers has opened new doors for Pinnacle. Our engineers are not only performing environmental and geotechnical services for clients, they are finding new



Concrete pads serve as the structural base for wind turbine towers.

and innovative ways to promote cost efficiency without sacrificing quality. For more information, contact Eric Hansen at 763-315-4501.

### CEO'S CORNER

## Pinnacle adds Renewable Fuels & Geo-Technical Services

By Jim Holland, President/CEO

In a service orientated business, a company's service offerings are driven by the needs of their clients and ever changing market demand. As market demand changes based on new developments in research and environmental standards, so does our business strategy. Thus, Pinnacle is undertaking significant changes in personnel, administration, and client communication and resource tools that allow us to provide the most comprehensive and effective services to our clients.

A change that will lead Pinnacle into the next growth phase, is the re-alignment of our internal divisions. As we strive to provide our clients with comprehensive solutions to their environmental problems, we find it necessary to create select groups of engineers who focus their expertise in

one direction. Thus, we have created two new engineering divisions, one specific to Renewable Energy and the other Geo-Technical Engineering.

You may ask, why does renewable energy demand its own division? The Bush administration wants the U.S. to produce 35 billion gallons a year of ethanol and other alternative fuels, such as soybean-based biodiesel, by 2017, a five-fold increase over current requirements. State officials have said they would like about 25% of our liquid fuel to come from renewable sources by 2025<sup>1</sup>. In addition, on a more local level, Minneapolis ranks 8<sup>th</sup> in a list of cities around the country making the most successful use of renewable energy sources in their city operations<sup>2</sup>. These types of initiatives provide an ever increasing opportunity for Pinnacle.

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#### **Brownfield Redevelopment Grants Over \$1.5 million awarded to clients**

Within the last 15 years, Pinnacle has been able to find creative ways for clients to maximize the benefits of the various grant programs available in Minnesota. In particular, Pinnacle's work with the DEED program has included a wide range of project types with a variety of contaminants, both known and suspected.

Read more inside... ⇨

#### **Hydro Engineering - new addition to Pinnacle's Water Resource services**

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#### **Renewable Energy - projects bring surge in archaeological services**

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#### **Projects-In-the-News**

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### BROWNFIELD GRANT APPLICATION EFFORTS ACHIEVE RESULTS

Pinnacle’s success with Brownfield projects comes from our ability to demonstrate time and again how to reduce risk and advance the development of the project with practical environmental solutions. We accomplish this by understanding how both our clients and the regulatory agencies view the issues, and presenting more than one solution for addressing contamination identified on the properties. A brief summary follows for grants awarded to three projects that involved Pinnacle’s environmental team. Contact Eric Hansen for more information.

**Coloplast Campus Redevelopment Project—DEED grant award: \$890,000 Met Council TBRA Grant award: \$54,500—total of \$944,500 awarded.**

Moving at a rapid pace, this redevelopment project was put at risk when environmental contamination was discovered across the site. As an international corporation, Coloplast had never before chosen to expand on land that contained environmental contamination. But following the acquisition of Mentor Urology, headquartered on this West River Road site in Minneapolis, Coloplast planned to expand the site to serve as its US headquarters. An Environmental review indicated that the site was historically used as a sawmill, was filled with up to 60 feet of suspect material, and then used as a railroad switching yard. Pinnacle conducted a Phase II site investigation to determine if management of contaminated fill/groundwater would be necessary to complete the development. The Phase II revealed PAH and arsenic impacts, and elevated levels of lead at the Site. Following consultation with corporate representatives, a Response Action Plan (RAP) was completed to manage excavated soil, meeting not only the MPCA’s criteria, but also the client’s rigid standards. Timely project work and close coordination with the MPCA VIC program allowed the project to continue on a fast track. This was a key project

for the city of Minneapolis in continued support of their riverfront development campaign. Without assistance to overcome the environmental contaminants on the site, the company may have chose to relocate to a suburban Greenfield site. By closely coordinating with the city of Minneapolis, DEED and Metropolitan Council, a grant award was achieved to cover the proposed cleanup and the historic environmental investigation costs.

**Mixed-use Redevelopment project (client confidential) DEED grant award: \$265,000, Met Council TBRA award: \$295,200—total of \$560,200 awarded.**

What made this project stand out was the service Pinnacle was able to offer our client. This project was large, involving a former service station and feed mill with concrete silos and more than 30 process material tanks. The timelines were tight, with Pinnacle being asked to take over the site investigation just three days before the deadline for cleanup plans were to be submitted in anticipation of grant applications. Taking over from another environmental consultant, Pinnacle was able to both complete the investigation and coordinate cleanup plan approval in time for the grant schedules. With this work underway, we also prepared successful applications to the DEED and Met Council programs, despite the risk of the sites being declared ineligible because of program valuation thresholds. Because of the size of the proposed mixed-use redevelopment that consisted of two multi-story residential towers atop street level commercial space with underground parking, and other development grants already awarded to the project, environmental costs had to be presented in a way that demonstrated need and compliance with program standards. In the end, Pinnacle’s efforts involved a Phase I

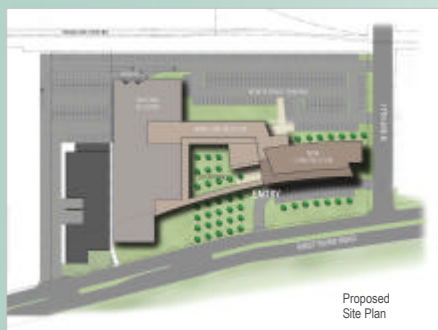


On-site contaminants at mixed-use redevelopment site.

Environmental Site Assessment, a Soil Investigation and Development Response Action Plan (DRAP), an additional site investigation and RAP for removal of impacted fill at the Site, a pre-demo survey, site remediation plans, bid specifications, and cleanup implementation. In addition, Pinnacle provided emergency response services for hazardous liquids clean-up following vandals removing process piping inside the building. As part of the site demolition, we conducted the regulated and solid waste clean-up, and the asbestos and lead abatement.

**Residential / Church Redevelopment project (client confidential) Hennepin County ERF Investigation Grant \$37,150 awarded.**

This site was under consideration for redevelopment when contamination was discovered from past filling and operation of an automotive repair facility. Redevelopment plans include construction of a multi-story residential/ church building with one level of underground parking, a surface parking area and associated green space. Following Pinnacle’s Phase II environmental site assessment, it was apparent that extensive fill on the site was problematic for both environmental and geotechnical reasons. This grant award funded a complete environmental site investigation and preparation of a Response Action Plan (RAP). As part of this work, the data was used to create a RAP that optimized geotechnical consideration with the environmental cleanup of the fill. Based on the grant award, this project is moving forward despite considerable environmental challenges.



Proposed Site Plan

## CLIENT EXPANSION FUELS COMPUTER SYSTEM UPDATE

Pinnacle's continued growth and success across our array of service areas has left us bursting at the seams. We were in desperate need of a more flexible, expandable computer system to handle day-to-day operations, client data management, invoicing and other administrative functions. In addition, we needed an integrated system, one that would provide more control over project budgeting and tools for use in project management. So, we are in the process of updating our systems to provide just that. Our intent is to create a more interactive method of handling projects and managing client data. Bear with us as we continue our conversion to the Deltek "Vision" software through the upcoming months.



*CEO ARTICLE continued from page 1*

Pinnacle has found the renewable energy market a great fit for the blend of services we offer. This segment of our company has evolved out of our industrial division. Pinnacle has assisted a number of ethanol and biodiesel developers with start up construction permits for new development and facility expansion. We provide turn key solutions involving, air and water quality compliance, health and safety programs, and process engineering. As this industry picks up momentum, we are prepared to support it with a "new" service offering, *hydrology/hydrogeologic engineering*, which we discuss in more depth in a related article.

Our Geotechnical division has developed, in part, through the expansion of our partnership with renewable energy developers. We currently provide environmental and geotechnical engineering, and construction material testing/special inspection services for the building and design of Renewable Energy projects. Refer to page one for a related article.

As a multi-disciplined engineering firm, we have a focused team of professionals who continue to develop innovative and cost effective solutions to challenging problems. In partnering with our clients, we provide a wealth of information and resources under one roof. As our client's needs change, so does our focus. Please feel free to contact me personally, to discuss how we can be of service or improve our services to you.

<sup>1</sup> Milwaukee Journal Sentinel, March 20 2007—Soybean Ethanol May Accelerate

<sup>2</sup> Minnesota Business Journal, July 2007: Business Briefs

## TRADESHOWS & EVENTS:

**Ryan** participated in the BBI Western Region Trade Show in Portland, Oregon October 10-11th and **Marley** will be attending the BBI Eastern Region Trade Show in Philadelphia, Pennsylvania November 28-30th, check out [www.biofuelsworkshop.com](http://www.biofuelsworkshop.com).

**Jim, John & Matt** attended the Railroad Environmental Conference October 23-25th on the Univ. of Illinois campus, Urbana-Champaign, IL. Jim was a Keynote speaker on the topic: *Fate and Transport of Ethanol in the Environment*.

**Jim & Steve** will be at the Renewable Fuels Association National Ethanol Conference, February 2008, visit [www.ethanolrfa.org](http://www.ethanolrfa.org).

## EMPLOYEE HIGHLIGHTS

Pinnacle welcomes new additions to our staff:

### INDUSTRIAL

Vanessa Barvels joined Pinnacle's industrial group as an Environmental Specialist in April. Vanessa has 20+ years of experience in the environmental consulting field. Her specialty areas include due diligence assessments, environmental compliance auditing, Superfund and RCRA soil and groundwater investigation projects, health & safety plans, and waste management project and program strategy.

Steve Sollom joined Pinnacle's Industrial division in June as an environmental engineer. A graduate of North Dakota State University, Steve has technical background in Chemical Engineering, with emphasis in emission control testing.

### BUSINESS DEVELOPMENT

Matt Stokes has re-joined Pinnacle's business development team after a two year absence. Matt's recent experience marketing for an industrial manufacturer will be valuable as he reviews environmental needs with our clients.

### ENVIRONMENTAL/GEOTECHNICAL

Jason Coyle became a member of Pinnacle's team in July. Jason has over 10 years experience in the consulting field. His diverse background in the management of field service crews for environmental engineering, geotechnical exploration, and materials testing projects makes him an excellent addition to our staff. Jason will be assisting both our Environmental and Geotechnical teams.

### RENEWABLE FUELS

Jessica Forsberg recently joined our Rochester office in September, coming on board with a strong background in air quality engineering. She will assist Marley and Ryan in our Renewable Fuels division with air permitting and compliance projects.

### ACCOUNTING/ADMINISTRATIVE SUPPORT

Gail Walden joined Pinnacle's administration staff in May, bringing with her a wealth of expertise in client and project management. Gail is responsible for the day-to-day computer management of client records, project set-up, and invoicing. Gail has come on board in the midst of our computer system upgrade and software conversion, a very busy time for Pinnacle's admin staff. Her assistance has been a huge asset during this transition period.

Melissa Walsh, the newest member of our staff, will be handling our receptionist and administrative support duties, while Holly Kukowski (our previous receptionist) steps up to assist our engineers with data entry, client recordkeeping, and accounts payable.

## USE OF ARCHAEOLOGICAL SERVICES EXPAND

Pinnacle has provided archaeological services as part of the Environmental Review process for hundreds of projects. It has been only recently, with the surge in renewable energy development, that we have had a need for a wider range of archaeological services. Pinnacle's environmental group has expanded on these services to meet the needs of our clients.

An often overlooked and relatively inexpensive archaeological service offered by Pinnacle is the inclusion of a fatal-flaw analysis study during the early stages of project development. Such services, though not required by the permitting agency, often identify significant archaeological or environmental issues very early on in the project. A fatal-flaw analysis compiles information about recorded archaeological and historical resources in the proposed project's vicinity which identifies any known problems prior to costly land or Right-Of-Way (ROW) acquisitions. Additional archaeological services offered include, an archaeological reconnaissance, archaeological surveys, and if necessary, actual test excavations which serve as a quick ground-level preview of the project area including soil depths, site types and features, and visits to any known significant archaeological sites.

For more information regarding our archaeological services contact Eric Hansen at 763-315-4501.



WWW.Pineng.com

Look for the launch of our new web site in November!

## NEW SERVICE AREA OFFERD HYDROLOGIC/HYDROGEOLOGIC ENGINEERING

A consistent management team is important to project continuity. The efficiency that results is priceless. With this in mind, Pinnacle has incorporated Hydrology/Hydrogeologic engineering into its line of service offerings. Our engineering team provides assessment, analysis and design services in applications involving the flow implications for water quality, and the transport of sediment, nutrients, and pollutants in natural or engineered watercourses.

Hydrologic/Hydrogeologic Engineering services:

- Water Supply Source Analyses
- Aquifer Response/Pump Testing
- Well Siting and Design
- Wellhead Protection Analysis
- Water Quality Analysis
- Permitting Application and Support

### Pinnacle Projects-In-the-News:

**Pinnacle to assist new communications company** - a new comer to the metro market, Pinnacle will assist a wireless communications firm with environmental and geotechnical services including Phase I ESA, NEPA Reviews, geotechnical engineering, and special inspections/construction materials testing.

**Phase I Environmental Site Assessment standard use settles in** - Nearly a year after the issuance of the most recent ASTM Phase I ESA standard, the industry seems to be just now settling into the use of this 'all appropriate inquiry' scope of work. We have seen lending institutions generally call for the most recent standard (to ensure the highest level of due diligence protections), while a segment of the land development community has opted to stay with the more cost effective 2005 standard. Both standards can be produced for a given project and Pinnacle has found ways to ensure that the client has the information they need to keep their project moving.



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