



# KEBS Quarterly News

Land Planning · Engineering · Surveying  
Soils Testing · Wetlands Planning

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**Inside this issue:**

- Using the Right Fill for the Job* 2
- Maple Valley Career Fair* 2
- 2006 Lansing Open* 2
- From the Subdivision Department* 3
- Declaration of Restrictions, Reservations, and Easements* 3
- Michigan Wetland Suit Reach the Supreme Court* 4

## KEBS contracted to perform consulting work on a new Travel Plaza

Flying J has proposed to build a new travel plaza on the Southeast corner of US 23 and Sterns Road in Whiteford Township, Monroe County, just north of the Ohio state line. The 24-acre site has access to public utilities on the East side (Schnipke Road) and easy on-easy off access to US-23. The travel plaza will include multiple diesel and gasoline pumps, a restaurant, convenience store, laundry services, truck scale, and future hotel location. With 200 truck parking spaces and over 100 additional RV and car spaces, this project will be one of Flying J's largest developments. In order to maintain Flying J's construction timeline and proved the best possible service, KEBS is taking a multi-office approach to the project with surveying services being performed from the Marshall Office and engineering design and permitting provided by the Charlotte Office.

Late last winter, KEBS, Inc. performed the boundary and topographic survey of the property and we are currently in the site plan approval phase. The project site presents an interesting test to construction design and permitting with bedrock formations within 6 feet of the ground surface, a 'karst' geology which is susceptible to sink holes and groundwater contamination, a sanitary sewer district run by Sylvania, Ohio, and an 800 foot setback from the underground gas tanks to the proposed on-site water well. Construction is expected to begin this fall with a scheduled opening of spring of '07.

*Submitted by: Allen J. Patrick, P.E. Charlotte Office & Michael Groat, P.S. Marshall Office*



## Seeing Red

When you see someone wearing all brown carrying packages, you know that they work for UPS. Well, now when you see someone wearing red and surveying on the side of the road or in a field, you will know that they work for KEBS. Look for KEBS' field crew near you!

## Using the Right Fill for the Job

Summer earthwork activities are well underway and KEBS' Soils Department technicians have been busy at a variety of sites performing field density tests of compacted fill materials. At many sites, final grades are achieved by excavating the soils present in high areas and using these on-site materials to fill the low portions of the property. Site balancing has its limitations; however, and in many instances, imported fill materials are required in order to achieve the subgrade performance specified for the project. In most applications, granular imported materials (as opposed to clay) are desirable because of their drainage characteristics, their inter-particle strength, and the ability to control their moisture in the field. The desired qualities and behavior characteristics of granular fill can be further enhanced by specifying the particular particle size distribution or "gradation" best suited for the task at hand.

The Michigan Department of Transportation (MDOT) has established standard gradations for granular sands and aggregates that can be used for road construction in the State of Michigan. Due to their familiarity, these standard gradations are also often specified for granular fill used on other types of construction projects in the State. In general, the MDOT standard gradations limit the percentages of coarse aggregates (gravel-sized particles) and/or soil fines (clay and silt-sized particles) present in the granular material. By specifying an MDOT Class II material for a pavement subbase layer or for the sand cushion beneath a building floor slab, for example, the designer is limiting the percentage of soil fines to 7 percent or less, thereby enhancing the material's drainage characteristics and minimizing the frost susceptibility of the completed slab or pavement. By specifying a densely graded aggregate such as MDOT 22A or 21AA for a pavement base course layer, on the other hand, the designer is incorporating the inter-particle strength of larger-sized aggregates with the tight packing of finer aggregates to enhance durability while maintaining the material's free draining properties.

For fill placement below the groundwater table or when stabilizing a subgrade of soft cohesive soils, a coarsely graded aggregate such as MDOT 6A or 1" to 3" crushed stone can be used to "bridge" the unstable areas. In this application, loads are transferred via inter-particle contact between aggregates while relatively large void spaces are maintained, thereby, allowing for the displacement of the water or soft materials without causing excessive soil disturbance. Specified gradation requirements come into play in many other engineering applications involving granular fill, including utility trench backfill and pipe bedding materials, slope protection and erosion control, and the design of sand filters.

Equally important as specifying the proper fill gradations for your project is exercising adequate quality control over the materials delivered to the job site. KEBS' Soil Department maintains a full-service materials testing laboratory staffed with MDOT-certified aggregate testing technicians. Working in conjunction with you and your contractor, KEBS can provide proper aggregate sampling techniques whether at the production pit or at the on-site stockpile, laboratory sieve gradation analyses performed in accordance with ASTM testing protocol and consultations by a registered professional geotechnical engineer.

**GIVE US A CALL!**

*Submitted by: James Cruickshank, PE, Lansing Soils Office*



## Maple Valley Career Fair

KEBS was invited to participate in the 1st Annual Career Fair at the Maple Valley High School in Vermontville. Approximately 500 students walked through the gymnasium to visit and speak with people at the 45 booths from various colleges and companies around the area. The students had very good questions for us regarding surveying. We also gave away \$25 to the student that guessed how many KEBS caps were in the jar. There were 2 students that tied, therefore, splitting the money. We look forward to participating in future career fairs.

*Submitted by: Lynn Hose, Administrative Assistant/Marketing*



*Jeff Autenrieth answering a student's questions*

## 2006 Lansing Open

On June 5, 2006, KEBS, Inc. participated in the Lansing Chamber of Commerce scramble held at Eagle Eye and Hawk Hollow Golf Clubs. KEBS, Inc. sponsored a hole at the event and was responsible for measuring the longest drive. KEBS, Inc. also held a contest for participants allowing them to guess at longest drive of the group for a sleeve of golf balls. Everyone enjoyed the event and KEBS, Inc. plans to continue supporting chamber events in the future.

*Submitted by: Matthew Ottinger, Condominium Manager, Haslett Office*



## From the Subdivision Department

It has been almost a year now (July 1, 2005) since 2004 PA 525 came into effect amending portions of 1967 PA 288. Most of the amendments deal with the submittal process and time lines for the various approving agencies of the preliminary and final plat. KEBS, Inc. has tried to help educate the various agencies with their new responsibilities but there still seems to be some confusion. The one item that seems to generate the most confusion is what everyone is supposed to do with the certified true copy of the final plat.

The certified true copy of the final plat is sent to all agencies that review and sign the final plat. It is a paper copy of the original final plat that is certified, signed, and sealed by the surveyor. In the new process the drain commission, road commission, health department (if needed) municipality, MDOT (if needed), etc.

all receive the certified true copy of the final plat. The order in which these approvals are granted does not matter. Upon each agency's approval, we suggest that they sign and date the certified true copy of the final plat. The agency must notify the proprietor of their approval. At that time, the proprietor can take the final plat to each agency for their signature on the Mylar drawings. The following needs to be done in all circumstances:

1. When the approving agency signs the original final plat, they must place the date of their original signature next to their original signature on the Mylar. This may differ from the date the agency approved the final plat, but that is acceptable.
2. The agency **must** make a copy their certified true copy available to the chairman of the county plat board (usually the register of deeds). The act is not specific on how the certified true copy gets to the county plat board. The agency, proprietor, or surveyor can forward it on, but it must get to the county plat board.
3. The chairman of the county plat board **must** forward each agencies certified true copy of the final plat to the state review board.

These steps must be followed in order to ensure the final plat will be approved at the State.

The published rules that govern the execution of 1967 PA 288 have not been revised since 1967, and the guidelines have not been revised since 1991. The legislature is in the initial stage of reviewing these items and will be meeting with several groups in the next two years for their input to bring them up to date. Problems like those above hopefully will be worked out. In the mean time, we will continue to help educate the agencies to efficiently get your developments recorded.

*Submitted by: Jeffrey K. Autenrieth P.S., Charlotte Office Survey Manager*



## Declaration of Restrictions, Reservations, and Easements

### *What are they and how do they effect the lot owner or the builder?*

Basically, they are the wishes of the Developer of the land, into what type of residential community or neighborhood they are trying to achieve. The Declaration of Restrictions, Reservations, and Easements is a legal document that is recorded with the subdivision.

The restrictions explain how the land is to be used, whether it is for Single Family homes or maybe duplexes, or possibly a mix of each. It may also limit the use of the home by defining the use for single family residential purposes only. Which means you could not operate a business from the home such as a quilting or sewing shop, etc.

They also limit the size of the dwelling, the construction materials, and the location of the home being built on the lot. An example would be no homes more than 2 ½ stories in height exclusive of the basement are allowed. It can limit whether the house has to have an attached garage or not. The restrictions can also specify that a Building Review Board, set up by the developer, has the right to evaluate the building plans for compliance with architectural and other restrictions and guidelines for the development.

Restrictions may contain setbacks to the building or structure, which are greater than the local municipality. They can restrict the placement of fences, hedges, swimming pools, out buildings or sheds, driveways or sidewalks, patios, exterior televisions, radio, or other antenna or satellite dishes without prior written approval of the building review board.

Some Declarations and Restrictions are stricter than others. These are just a few of the many restrictions that may be included. The best advice is to ask for the current Deed or Declaration of Restrictions before purchasing the lot or land, and read them thoroughly, or you may not be able to enjoy the pool in the back yard, the fenced in yard, or tennis court that you thought you could.



*Submitted by: Glenn VanderMolen, Construction Dept. Manager, Haslett Office*

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### ***KEBS' Mission***

*Working together to provide professional engineering and surveying services that sets the highest standards, while enhancing the quality of life for our employees, clients, and communities.*

## **Michigan Wetland Suit Reaches the Supreme Court**

Recently there have been some headlines involving the Supreme Court and the interpretation and application of certain portions of the Clean Water Act (CWA) as it relates to regulated and regulating wetlands. At issue is Congress defining "navigable waters" as "waters of the United States", the Army Corps of Engineers defining "waters of the United States" to include wetlands adjacent to these "waters" and tributaries of the "waters", and the belief that the Clean Water Act governs only wetlands that directly abut "navigable waters of the United States" not wetlands that are adjacent to waters of the United States.



In short, back in 1988, Mr. John Rapanos filled over 22 acres of wetlands that were identified as having a direct surface water connection to a drain and, eventually, a navigable river. He did it knowing there was wetlands present, knowing that the wetlands were regulated, knowing he needed a permit, and after being told to cease by the MDNR, as well as the EPA. At issue was Mr. Rapanos' belief that his wetlands, even though they were connected to a tributary (the drain) of a "water of the United States" (the river), did not fall under the jurisdiction of the Clean Water Act because the CWA only governs wetlands that directly abut "navigable waters of the United States". In 1993 Mr. Rapanos was indicted on two federal criminal charges of filling wetlands. In 1995 he was convicted of filling a wetland without a permit. He appealed and, in 2003, the courts upheld the conviction. In 2005 he was sentenced to 3 years probation and \$185,000 in fines. (Ultimately he is facing over \$10 million in fines, \$3 million in mitigation fees, and the loss of 80 acres of his property.) That same year the Supreme Court decided to review his case and another related case. In June 2006, the Supreme Court argued "water of the United States" and the interpretation of navigability, adjacent wetlands, tributaries, etc. On June 19, 2006, "they held that the phrase 'the waters of the United States' includes only those relatively permanent, standing or continuously flowing bodies of water 'forming geographic features' that are described in ordinary parlance as 'streams,' 'oceans, rivers, [and] lakes,' and does not include channels through which water flows intermittently or ephemerally, or channels that periodically provide drainage for rainfall." As clear as that may be, they also advised that "wetlands need to have a 'significant nexus' to an actual navigable body of water", and that "The waters to which the wetlands must be adjacent.... are only those that are 'relatively permanent, standing or flowing.'" Unfortunately, the Supreme Court decided to remand the case back to the United States Court of Appeals.

So, as it has been for years, we sit and continue to wait for someone to make a decision. My guess is there will be no clarification until Congress gets involved and actually debates the issues, makes the decisions, and puts up with the complaints. In the mean time, if any decisions are made at the appeals level, I would expect there to be years of lag time before any changes occur at the state level. Stay tuned for any updates.

*Submitted by: Doug Longpre, Wetland and Environmental Specialist*