



# KEBS Quarterly News

Land Planning · Engineering · Surveying  
Soils Testing · Wetlands Planning

VOLUME 5, ISSUE 1

JANUARY 2006

## Inside this issue:

<i>Windsor Township Development Nears Completion</i>	2
<i>Kebs' Client Recognized</i>	2
<i>Cold Weather Construction</i>	3
<i>MACDC Winter Conference</i>	3
<i>Shadow Glen</i>	4
<i>Condominium/ Subdivision Breakfast Seminar</i>	4

## NEW WETLAND FEES

Meridian Township Board has adopted a new wetland fee schedule, effective January 1, 2006. The new wetland fee schedule requires a non-refundable administrative fee for verifications, delineations, and wetland use permits. In addition to the administration fee, there will be a required fee for all verifications, delineations, and wetland use permits based on the acreage of the site.

	Verification	Delineation	Wetland Use Permit
<b>Administrative<sup>1</sup></b>	\$100	\$100	\$250
Amendments to a wetland use permit			\$500 per amendment
Yearly review of mitigation area			\$250 per year
	Verification <sup>2,3</sup>	Delineation <sup>3</sup>	Wetland Use Permit <sup>3</sup>
<b>Acres</b>			
1 acre or less	\$250	\$750	\$2,000
>1 up to 10	\$500	\$1,000	\$2,500
>10 up to 20	\$750	\$1,250	\$3,000
>20 up to 40	\$1,000	\$1,500	\$3,500
>40 up to 60	\$1,250	\$1,750	\$4,000
>60 up to 80	\$1,500	\$2,000	\$4,500
>80 up to 100	\$1,750	\$2,250	\$5,000
For every 20 acres over 100	\$250	\$250	\$500

<sup>1</sup>. Administrative fees are non-refundable.

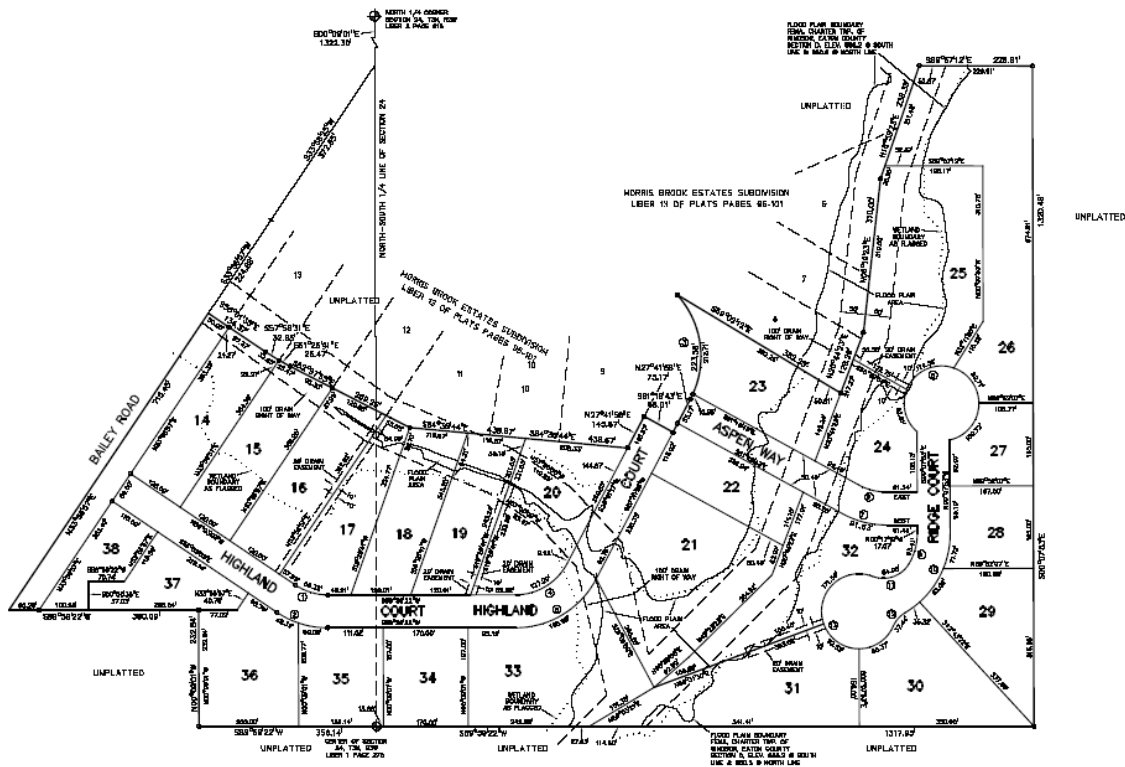
<sup>2</sup>. Wetland verification fees (acreage) shall be refundable if there is a finding of no wetland.

<sup>3</sup>. The applicant for those fees are based on acreage shall establish an escrow account with the Township. The escrow amounts represent the Township's best estimate of time and costs required to complete the requested service. The actual cost of the service may decrease or increase based on the Township Consultant's time spend conducting field assessments (dependent on site conditions and time of year), meetings, discussing and preparing reports on wetland issues. Any money remaining in the escrow account shall be returned to the applicant upon final approval by the Township. The applicant shall be responsible to pay any additional costs above the amount originally established for the escrow account.

# Windsor Township Development Nears Completion

Construction phase of Morris Brook Estates II is reaching completion. Electric and gas utility placement is scheduled for early January, and road and storm sewer construction is now complete. Final platting has begun on this development in Windsor Township off Bailey Road, just south of Holt Road. This site presented unique challenges of containing two county drain systems which contained regulated wetland and also lies partially within the 100-year flood plain. The final layout contains 24 lots of approximately one acre each. The client for this project is Premer Development, LLC (Mark Premer), and the Earthwork Contractor is Teri's Excavating. KEBS' services included construction staking for road construction, Wetland Mitigation, topographic mapping and construction staking of compensating cuts and flood plain fill quantities, and final plat production.

*Submitted by: Dave Bowerman, Survey Manager, Charlotte Office*



## KEBS' CLIENT RECOGNIZED

Mayberry Homes won the 2005 NRS Award in Customer Satisfaction - Excellence in Class from NRS Corp. and Professional Builder magazine. The award recognizes the company as the No. 2 production builder in North America among production builders of 100-499 homes annually. Congratulations to Mayberry Homes!

*Business Review Lansing/Jackson, November 24-30, 2005 issue.*

## COLD WEATHER CONSTRUCTION

Construction activities in the winter present many challenges and difficulties. Wearing appropriate clothing for the cold is one of the ways we work differently in the winter. Construction materials also need special treatment when temperatures begin to drop below freezing. With a little understanding of the material changes that occur, and precautions to follow, the limitations imposed by the weather can be minimized.



The first thing we notice in winter construction is frost developing in the soil subgrade. Most specifications will prohibit backfill, fill, or concrete placement in these conditions. The reason for this is that as water in the soil freezes, it expands in volume. When temperatures return that are high enough for the subgrade soils to thaw, the space formerly occupied by the ice leaves a void. These voids can cause settlement problems of a magnitude that is very difficult to predict. Covering the subgrade with plastic, insulating blankets, or using heating pads can help prevent this condition. There are also special heaters available to thaw large surface areas that become frozen.

Another cause for concern involves backfill material that freezes. Underground construction can occur regardless of the temperature outside because the work typically takes place below the frost level of the ground. The difficulties arise when the excavation is backfilled. Imported sand that is brought to a site in a thawed state needs to be backfilled and compacted before frost develops. The time it takes to develop enough frost to cause difficulties is variable and hard to predict, so a good practice is to use the sand immediately and keep it covered.

Sand that has been stockpiled will lose moisture into the dry air and also develop some frost with lower temperatures. When temperatures are near the freezing point, simply covering a stockpile with plastic can prevent many problems. Portable heaters are also used, but can cause the sand to dry excessively. Adding water to granular material in the winter is not a particularly fun job.

A common question is whether it is possible for frozen sand to be compacted. The answer is yes, but with a couple of significant qualifiers. It is possible, with a great deal of time and effort, to compact a frozen material to a specified density. The problems arise later when the sand thaws and voids remain, just like the frozen subgrade discussed above. It is also possible, with even more time and effort, to vibrate the sand particles enough to generate sufficient heat to melt the ice so that compaction can proceed normally. The compacted sand will just freeze again, but it *is* possible. Preventing frost from developing is usually the best action to take.

The nuclear gauges that KEBS uses to measure soil density and moisture content is largely unaffected by cold weather. The readings we take can be misleading, though. Typically, we record the dry density, %moisture, and %proctor numbers. When frozen water is present in the soils, the relative density will drop due to the expanded ice present in a larger volume. This lower dry density will probably cause a failing test. The %moisture will also increase since that number is the measured moisture divided by the dry density. The %moisture tends not to be as noticeable because the drier sands typically seen in the winter offset this increase.

These are just a few of the issues that develop and are addressed each winter. An experienced soils technician or engineer can help address specific cold weather issues for a particular project. A little prevention can keep work progress from dropping like the thermometer.

*Submitted by: Brian Swenson, Construction Technician, Soils/Wetlands Office*

## MACDC Winter Conference

Kebs, Inc. will have a booth at the Michigan Association of County Drain Commissioners' (MACDC) 107th Annual Winter Conference, held at the Grand Traverse Resort & Spa in Acme, Michigan, February 15-17, 2006. Please stop by our booth and visit us!

## **KEBS, Inc.**

2116 Haslett Road  
Haslett, MI 48840

Phone: 517.339.1014

Fax: 517.339.8047

E-mail: [info@kebs.com](mailto:info@kebs.com)



We're on the Web!

[www.kebs.com](http://www.kebs.com)

### ***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.*

## **Shadow Glen**

Maguire Development Group is in the approval process for one of the largest housing developments currently being proposed in Delta Township. Shadow Glen Subdivision and the Condominiums at Shadow Glen are being developed on 101 acres south of Willow Hwy. and east of Broadbent Road. The project consists of 119 single-family subdivision lots and a 76-unit duplex condominium.

There have been a number of challenges during the project development. The project is on the divide between two County Drain districts and storm water management has been one of the site issues along with the presence of wetlands. The project is being developed around the wetlands and all improvements and building sites are designed without any encroachment into the wetlands.

Bruce Stewart of KEBS Haslett office, prepared the concept plan for the development, KEBS Lansing Soils and Wetland office performed the wetland delineation, and the Charlotte office provided boundary and topographic surveys, site engineering, as well as providing assistance with approvals.

Construction, Final Plat and Condominium Master Deed preparation is currently scheduled for early Spring 2006.

*Submitted by David Starr, PE, Charlotte Office*

## **Condominium/Subdivision Breakfast Seminar**

Kebs, Inc. will be hosting a Condominium/Subdivision Breakfast Seminar at the Eagle Eye Golf Course in late January/early February (A date for this seminar has not been set, but more information will be sent out soon). The speakers at the seminar will discuss business, apartment, mobile home, residential, and commercial/industrial type condominiums, and how to decide whether to build a condominium or subdivision. Local attorneys will also be present to discuss Master Deed issues. If you would interested in attending, please contact Lynn Hose at our Haslett Office at (517) 339-1014.