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July 6, 2010

Mark Smith
City of Minneapolis
218 North Rock Street
Minneapolis, KS 67467

Dear Mark;

As you requested, per referred by the Kansas Department of Health and Environment (KDHE), I conducted a sludge profile of your wastewater stabilization ponds on June 29, 2010. A report is enclosed. I have also enclosed a previous KRWA sludge profile and smoke testing report.

We took 64 measurements in the Cell #1. The average sludge depth in this cell was 16.06 inches. This cell was being operated at a depth of 5.3 feet. The loss of capacity due to sludge accumulation is 25.09 percent. The depth of heavy sludge averaged about 8 inches, with the exception being in the center and northwest corner of the cell where there is an excessive amount of sludge. This is demonstrated on the report. The sludge in the northwest corner of the cell was not measured due to the amount of sludge that was visible in that area.

In Cell #2, we took 31 measurements. The average sludge depth in this cell was 8.5 inches, with 6 inches of heavy sludge. This cell was being operated at a depth of 5.3 feet. The loss of capacity in this cell was 13.28 percent.

We took 36 measurements in Cell #3. The average sludge depth in this cell was 8.33 inches. This cell was also being operated at 5.3 feet of depth. The loss of capacity due to sludge accumulation was 13.01 percent.

I believe sludge removal is warranted from Cell #1 given the amount of heavy sludge. Sludge removal is usually only necessary when a system fails to meet discharge permit limits or when the system has constant odor problems. Odors will usually only occur when approximately 25 percent of lagoon capacity is lost due to sludge accumulation. Other factors include system design and capacity.

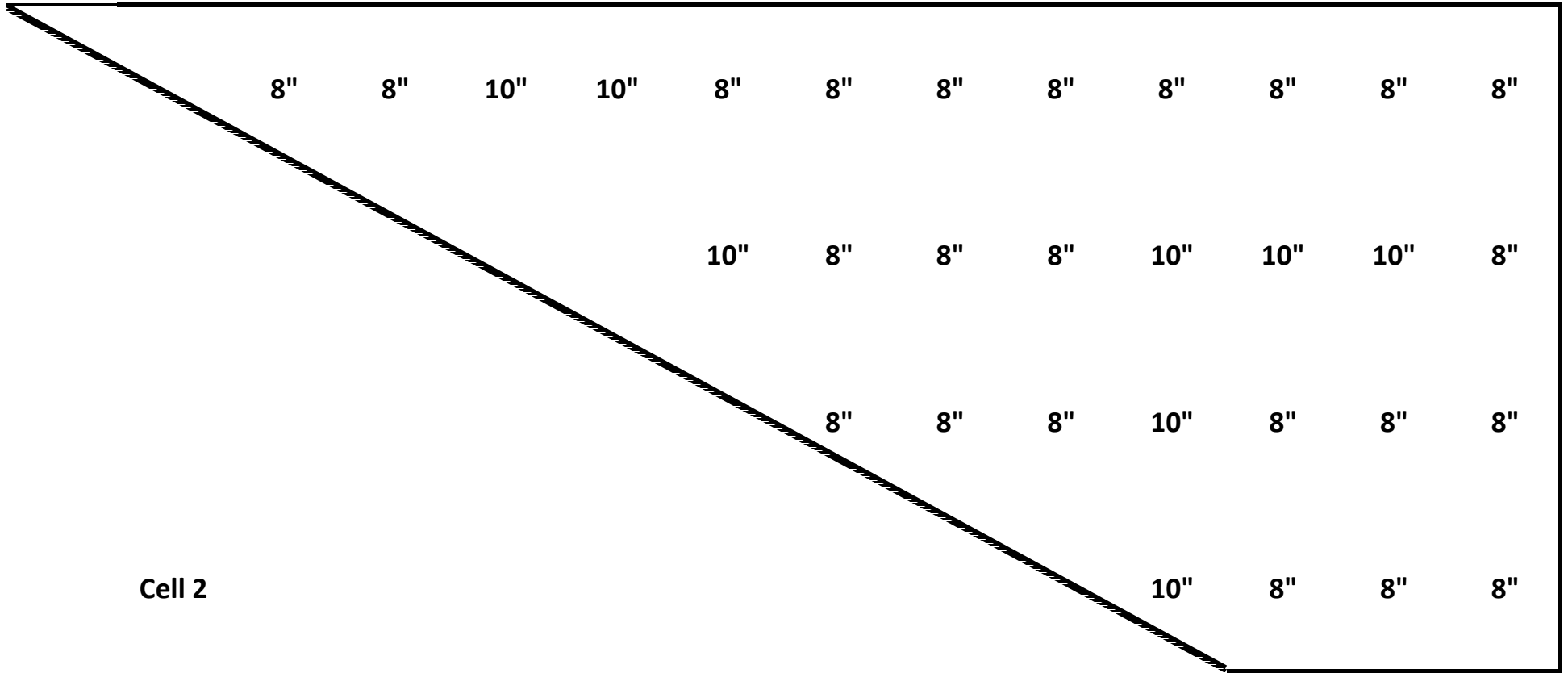
We also reviewed the design of the system and I believe that due to arrangements of the piping in the cells that the system is short-circuiting, which can cause incomplete treatment of the waste and failure to meet discharge limits. I understand that your system may be replacing a lift station and other collection system repairs. You may want to include sludge removal and changing the piping of the cells in the project. There was also some erosion of the dike walls that needs to be repaired.

Please call if KRWA can be of any further help or provide additional information.

Sincerely,

Charlie Schwindamann
Wastewater Tech

CS: ejr
Enclosures
C: Virginia Hoover, Mayor
Barry Hodges, City Administrator
Marsha Carpenter, KDHE, Salina
Gary Smith, USDA Rural Development



Cell 2

	8"	8"		8"	8"		8"	8"	8"	
	8"	8"	8"	10"		8"	8"	8"	8"	
8"	8"	8"	8"	8"		8"	8"	8"	12"	8"
10"	8"	8"	8"	8"	8"	8"	10"	8"	10"	8"

Cell 3