

APRIL 24, 2012

GROUNDWATER AND SURFACE WATER
MONITORING AND MITIGATION PLAN

GREAT PLAINS SAND, LLC

PROPOSED MINING OPERATION
LOUISVILLE AND SAND CREEK TOWNSHIPS,
SCOTT COUNTY, MN



SUNDE ENGINEERING, PLLC.
10830 Nesbitt Avenue South
Bloomington, MN 55437-3100
Phone: (952) 881-3344
Fax: (952) 881-1913

GROUNDWATER AND SURFACE WATER MONITORING AND MITIGATION PLAN

I. INTRODUCTION

This Groundwater and Surface Water Monitoring and Mitigation Plan (Plan) has been developed for the Great Plains Sand's proposed sandstone mining facility in Louisville and Sand Creek Townships (Site). Mining activity at the Site will include the removal of aggregate materials below the water table. Removal will be accomplished by using excavators and/or dragline or dredging equipment and therefore will not involve dewatering.

An Environmental Assessment Worksheet prepared for the Site includes an assessment (Barr Assessment) of the potential impacts to groundwater flow, elevations, and quality prepared by Barr Engineering¹. This monitoring plan addresses the potential issues related to groundwater as a result of the proposed mining and processing activities that were identified within Barr's Assessment. A mining operation has the potential to impact groundwater flow rates, groundwater elevation, and groundwater quality. Because dewatering is not proposed as part of this operation, and recycling of process water minimizes the volume of groundwater withdrawals, groundwater analysis performed for the EAW indicated that the operation would not cause a significant change in water levels in surrounding wells or surface water features. The analysis in EAW concluded therefore that the project is unlikely to adversely impact nearby wells or base flow to Sand Creek. This document establishes a monitoring program to verify that mining activities are not causing a significant impact to nearby water well supplies or groundwater dependent surface waters.

Mining operations that mine into the water table, creating a lake or pond also have the potential to increase the risk of impacts to groundwater quality. Surface soils are removed and the excavation creates an exposure of the water table. Best Management Practices, (BMPs), and Spill Prevention and Response Plans and Site reclamation help to minimize this risk. Groundwater monitoring will be implemented to provide protection to potable groundwater supplies downgradient from the Site. Barr's Assessment included an analysis of travel times to downgradient receptors which was utilized in developing the Plan.

Potential mitigation measures are identified in the Plan to address scenarios of impacts to water flow, level, and quality. Cost estimates will be provided as part of the Interim Use Permit (IUP) process to allow the County to require a sufficient bond amount as

¹ Barr Technical Memorandum dated August 8, 2011

part of the IUP to assure that appropriate mitigation measures can be implemented, should the need ever arise.

II. SURROUNDING WATER SUPPLY WELLS:

Past hydrogeologic work has confirmed that the direction of groundwater flow beneath the Site is from the southeast to northwest towards the discharge region of the Minnesota River. The elevation of the water table beneath the Site varies from approximately 725 feet above mean sea level in the southeastern corner of the Site to 714 feet above mean sea level in the northwestern portion of the Site. There are several wells located within 0.5 miles of the Site, the vast majority of the wells are located either upgradient or side gradient of the Site, with only one well located downgradient of the Site (the Bennett well). Figure 1 illustrates the location of nearby wells identified in the County Well Index (CWI), probable well locations based on structures and tax parcel information, and additional wells of interest requested by Scott County and the Townships to be included in the Great Plains Sand database. The CWI is not entirely comprehensive, and additional wells exist that are not accounted for in the CWI. The area surrounding the Site is not served by municipal water so probable well locations were identified based on residential or commercial structures. Appendix 1 is a list of the wells illustrated on Figure 1, along with the property owner's name and address. Where logs are available, the aquifer the well is completed in is also identified. The majority of the surrounding wells are completed in the Quaternary Drift, Jordan Sandstone or Franconia Formation geologic units.

Groundwater modeling performed by Barr Engineering indicates that wells that are approximately 0.5 miles or greater distance from the groundwater withdrawal area will experience drawdowns of less than 0.5 feet at the well as a result of site operations. Wells that are closer to the site are predicted to experience drawdowns of 0.5-2.0 feet as a result of operations. Drawdowns of this magnitude are not sufficient to cause a water supply issue with wells that are properly installed and maintained. There is only one residential well located downgradient of the Site.

III. SURROUNDING GROUNDWATER DEPENDENT SURFACE WATERS:

The Site is situated just to the east of a significant discharge area within the Minnesota River Valley. Floodplain wetland complexes extend north-south alongside the western edge of the site. The wetlands are located west of the western most property line and railroad track and are not located on the Site itself. The wetlands are sustained in part by flooding episodes of the Minnesota River, precipitation and runoff flowing to the wetlands, groundwater contributions, and stream flow via a control structure located further downstream between the site and the confluence of the Sand Creek and the Minnesota River. According to InterFluv's Sand Creek Geomorphic Assessment² (Sand

² InterFluv, 2008. Sand Creek, MN Final Report - Fluvial Geomorphic Assessment

Creek Assessment) the water control structure holds water in the Swamp to allow the wetland to function somewhat normally.

Historical aerial photographs show that the wetlands closest to the site are periodically flooded with standing water readily visible (Figure 2) and at other times there is much less standing water and more emergent vegetation visible. Normal seasonal fluctuations in groundwater create variability in the groundwater contribution as well. Barr's analysis predicts a temporary reduction in the groundwater head on the order of approximately 0-1.0 feet in the wetland area and near Sand Creek. This is a change in the pressure head, the actual impact to water levels is likely to be less since the pressure head is typically above the water level in the wetland. Groundwater is only one contributor to the inflows of the wetland complex. The change in pressure head is within the range of normal seasonal fluctuations and will only occur when the site is being actively mined and the wet plant is operating, from April – November.

Sand Creek flows through the Louisville Swamp area west of the Site to the confluence with the Minnesota River. Sand Creek, from the confluence of Sand Creek with the Minnesota River to the reach west of the Site, is designated as Reaches 1 – 3 in the Sand Creek Assessment. The Assessment describes stream habitat as poor and documents that these reaches have been altered between 1855 and 1937. In fact, Sand Creek was ditched to drain into Louisville Swamp altering its natural outfall to the MN River, originally located south of the Site.

The reach immediately west of the Site is Reach 3 described in the Sand Creek Assessment as follows:

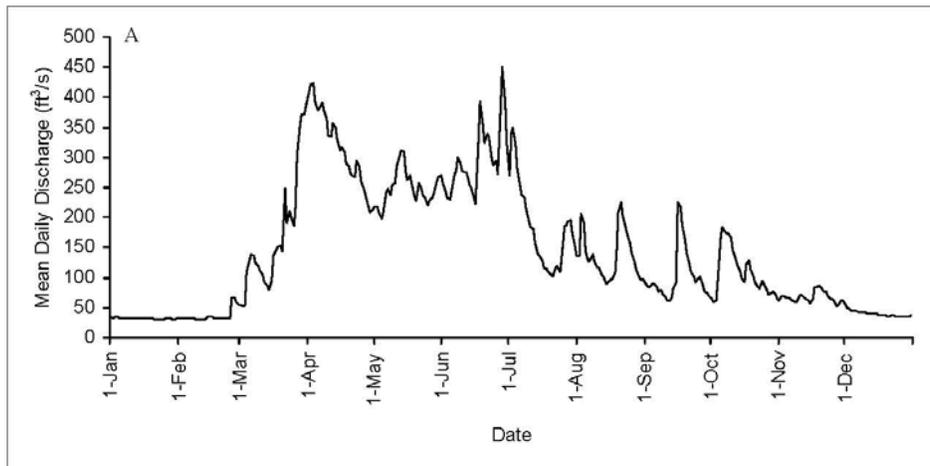
Sand Creek, Reach 3

Reach 3 extends for approximately 2 miles through the Louisville Swamp from Station 16000 to 27000, the boundary of the Minnesota Valley National Wildlife Refuge. This reach maintains a rectangular, sand-bed, wetland channel with reed canarygrass dominating the floodplains that are approximately 5 feet above the channel bed (Figure 16). The channel through this reach was excavated between 1855 and 1935 to channel water into the Louisville Swamp. There is little channel and habitat complexity in this reach with no riffles, canopy cover, large woody debris, or variation in sediment size.

Reduction in base flow to Sand Creek is estimated by Barr's modeling to be less than 2%. This reduction will occur seasonally on a temporary basis during the active mining

months of March – November. This corresponds to the time when Sand Creek is normally fed by snowmelt and stormwater runoff between March and November. Chart 1 is from the Sand Creek Assessment and illustrates the stormwater runoff contribution versus the base flow of the winter months. During the winter months when baseflow is sustained by groundwater flow, and the base flow falls to 30-50 ft³/s, there will be no impact to groundwater levels from Site activities. The control structure located just downstream from the area west of the Site regulates the summer flows and therefore no significant impact to the overall hydrology of the wetlands or Sand Creek is anticipated.

Chart 1



Average annual hydrograph for Sand based on mean daily discharge
Sand Creek Annual Hydrograph
(From Sand Creek Assessment)

IV. GROUNDWATER MONITORING PLAN:

The groundwater monitoring plan has been developed to monitor impacts to water quantity and water quality as a result of the proposed mining operations.

A. Monitoring Network:

Groundwater modeling has been performed by Barr Engineering to predict the impact to water levels in surrounding wells and surface water features as a result of the proposed ground water appropriation necessary to support mining and processing activities. Average projected operational water use at the Site as a result of mining activity, processing activity and employee use is estimated to be 250 gpm or less. The model predicts very modest impacts to adjacent water supply wells as well as to Sand Creek. A monitoring network, illustrated on Figure 3, will be established to monitor the impacts of the mining operation and verify that the model is a reasonable

representation of actual hydrologic conditions. The network will consist of upgradient and downgradient wells, open water sampling points, and a stream gage. Some monitoring points will be used to monitor just water levels and other monitoring points will be used to monitor water levels and water quality. The monitoring program will be implemented once the Interim Use Permit (IUP) has been obtained from the County.

1. Monitoring Wells

Three monitoring wells (MW-1, MW-2, and MW-3) currently located on the Q Prime property were constructed as part of the Remedial Investigation work previously conducted on this property. These wells will be incorporated into the monitoring well network. All three wells will be monitored for water levels. One well will be used as an upgradient water quality monitoring well. They eventually will need to be abandoned as the progression of mining (approximately during Phase 3) necessitates their removal. Prior to sealing these wells, a new upgradient well will be installed in the reclaimed area of Phase 1.

A monitoring well network will be established that will include downgradient and upgradient wells. The wells will be finished in the upper water table aquifer. One downgradient well nest (MW-4 and MW-4A) will be located between the mining limits and the residential well (Bennett Well) located downgradient of Phase 1. A second downgradient well (MW-5) will be constructed along the western edge of the property line, north of the processing building, to monitor water between the mining and processing operations and Sand Creek. A third monitoring well (MW-6) will be located upgradient of the mine area in the Southeast corner of the property. A second monitoring well nest (MW-7 and MW-7A) will be located south of the proposed mining operations to monitor groundwater levels and groundwater quality between the mine and the industrial development to the south which is served by private wells. These wells are anticipated to be finished in the upper ten feet of the water table and less than 60' deep. The nested A wells will be deeper (screened between approximately 675 and 685) to measure water quality that would be representative of the lower portion of the mining excavation. The monitoring wells are anticipated to be 2" PVC or steel wells (as required by Minnesota Well Code) to be used for water level and water quality monitoring. All wells in the monitoring well network will be installed prior to the onset of groundwater pumping.

2. Mining Area Open Water Sample:

A grab sample will be taken from the open water created by the mining operation. The location of this sampling point will change as mining and reclamation progresses across the site.

3. Photo Monitoring Points

Three photo monitoring points will be established to monitor the wetland complex associated with the MN River Valley located just west of the Site. These photo monitoring points will be used to compare vegetation and overall appearance of the wetland complex from year to year during mining operations. Photo monitoring points will be located within the wetland complex downgradient of the mining area on Q Prime property west of the railroad tracks (Figure 4). A staff gage will be located at a photo monitoring point (PMP-1) before the onset of pumping, to visually track water level variations over time.

Water Quality Monitoring Network

Monitoring Point ID

MW-4

MW-4A

MW-5

MW-6

MW-7

MW-7A

Mining Pond grab sample

Water Level Network

Monitoring Point ID

MW-1

MW-2

MW-3

MW-4

MW-4A

MW-5

MW-6

MW-7

MW-7A

Mining Pond

Wetland Photo Monitoring Points (PMP)

PMP-1

PMP-2

PMP-3

Staff gage

B. Parameters:

Water quality analysis will be performed for pH, specific conductance, total coliform bacteria, nitrates, chloride, sodium, sulfate and diesel range organics (DRO). The nested wells and the mining pond will also be analyzed for acrylamide as per method specified by Columbia Analytical Service (CAS), on a quarterly basis. In addition to the quarterly sampling of the mine pond, a pond grab sample will be taken and analyzed for acrylamide, sodium and sulfate within two days of emptying the thickener tank for the winter, and then once a week for the next two weeks for a total of three sampling events. Sampling and analysis will be performed by a qualified analytical laboratory.

In the event of a reportable spill of diesel fuel or petroleum based product on site, the pond will be sampled for DRO. If the Spill entered the water body, sampling will continue on a weekly basis until the MPCA recommends no further action or testing.

C. Frequency:

Water Quality: Upon receipt of the IUP, Great Plains Sand will install both the upgradient and the down gradient monitoring wells; MW-4, MW-4A, MW-5, MW-6, MW-7 and MW-7A. Upon completion of the well installation, baseline sampling will begin. At least two rounds of water quality samples will be taken at least two weeks apart to establish a baseline of pre-mining groundwater quality in the area. Thereafter, the monitoring schedule on Table 1 will be followed. This monitoring schedule was developed based on information contained in Barr’s assessment of particle travel time which indicates travel times to the Bennett Well are predicted to be between 117-133 days (4 months+/-).

Table 1 Monitoring Parameters/Frequency

ID	Parameter	Parameter	Parameter	Parameter	Parameter
	pH, specific conductance, total coliform bacteria, nitrates, sodium, sulfate, chloride, and diesel range organics (DRO).	Acrylamide	Acrylamide, sodium, and Sulfate. (Three samples per year on weekly basis beginning within 2 days of emptying tank).	DRO	Water Level
MW-1	NA				Quarterly
MW-2	NA				Quarterly
MW-3	NA				Quarterly
MW-4	Quarterly	Quarterly			Quarterly
MW-4A	Quarterly	Quarterly			Quarterly
MW-5	Quarterly				Quarterly
MW-6	Quarterly				Quarterly
MW-7	Quarterly	Quarterly			Quarterly
MW-7A	Quarterly	Quarterly			Quarterly
Water body Grab	Quarterly	Quarterly	Weekly; total 3 per year	Weekly if spill enters water body	Quarterly Staff gauge*

*Once a large enough working area has been established, a staff gage will be installed in the water body and water levels on a daily basis for the first four weeks in the morning before mining operations begin and again at the conclusion of mining at the end of the day. These will be relative water levels and used to record changes to the pond levels as a result of mining activity. After four weeks, frequency will drop to once per week. Data will only be recorded on days with active below water mining.

Water Level Monitoring: Water levels will be monitored quarterly for the life of the mine starting with an initial 6 month period of monthly water level readings. In addition, historical water level data available in the public domain (e.g. DNR observation

well data) will be used along with existing on-site monitoring wells will to establish a baseline for water levels at the site.

Photo monitoring points will be monitored and the staff gauge read two times a year during the growing season; one time in July and one time in September. If flooding events prevent access to the wetland photo monitoring points, that monitoring period will be adjusted to a later time when access is possible.

V. Contingency Plan

A. Water Level Monitoring:

The project is not anticipated to significantly alter long term flow patterns, impact wetlands or alter surface water. However, water level monitoring will be conducted during the life of the mine as described above. The purpose of the monitoring is to provide verification or modeling and early warning of the potential for excessive drawdown and lowered water levels before impacts can adversely affect surrounding wells or wetlands.

A.1 Threshold Levels

Water level monitoring threshold levels are intended to provide a comparison between predicted levels of drawdown and actual levels of drawdown while taking into account seasonal and regional fluctuations in groundwater levels. Water level monitoring is designed to verify the modeling results and provide an early warning system to the County and the Townships of the potential for water supply issues. Contingencies for water supply issues which may develop are separate and described subsequently in Section B, Water Quantity. The water level data will be plotted using a control chart that is based on the historical regional water levels along with the predicted maximum average drawdown for each perimeter well location at the site. The regional data will be supplied from the nearest DNR observation wells located in Belle Plaine and Shakopee. These wells will provide a measure of natural fluctuations in water table elevations due to local precipitation and climatic factors. The control chart limit will include a threshold that is at least one foot below the predicted maximum drawdown at the site based on the Barr modeling results. If during mining operations a decline in water levels, which is not a result of normal seasonal fluctuation in the groundwater level (as determined using a background monitoring well), is one foot greater than the drawdown predicted by the groundwater model at that location is observed, temporary contingency actions will be taken to monitor the impact on groundwater levels.

If water levels drop below this elevation, additional steps will be required. As monitoring continues and additional background data is collected, the threshold level

will be adjusted to account for natural or ambient changes in the water table that are not the result of pumping at the Site.

A.2 Potential Actions:

If during mining operations, a decline in water levels is noted in excess of one foot below the predicted maximum drawdown level, temporary contingency actions will be taken to moderate the impact on groundwater levels.

The first action will be to remeasure the well to verify the result within 24 hours of the initial measurement. If the measurement is verified at the downgradient edge of the mine site, the monitoring frequency will be increased to daily measurements over the next seven days. If there is no additional change, the water levels will be monitored weekly. If the effect is confirmed and water levels drop two feet below the predicted model results adjusted for climatic variation, additional actions will be implemented. These may include the installation of additional downgradient or upgradient wells. If drawdown effects, beyond those predicted in the model as ascertained above, are determined to be radiating outward from the mining area after three months of operation, additional steps such as limiting withdrawals and redirecting recharge to reduce drawdown at the Site may be taken.

B. Water Quantity:

The project is not anticipated to cause any impacts to water supply in surrounding wells. However, if adjacent wells within the GPS database experience well interference issues, they will be investigated promptly.

B.1 Threshold Levels

If a nearby resident or business reports problems with their well, the report will be validated against water level data collected from the Site.

B.2 Potential Actions

Well interference protocol as defined in the developer's agreement will be followed.

C. Water Quality:

There is one residential well (Bennett Well) located down gradient of the Site. Great Plains Sand will replace the Bennett well at no cost to the Bennetts, if and when the property owner at this location requests. If the property owner does not request a well replacement at the onset of the mining operation, MW-4 will be constructed in the upper portion of the water table aquifer and well MW-4A will be constructed with a

screen set at approximately 40-50 feet into the water table to provide early detection of potential groundwater impairments. The wells will be monitored for the parameters listed above on a quarterly basis.

C.1 Threshold Levels

Chloride, pH, specific conductance, and Total Coliform bacteria results will be used to evaluate general groundwater quality. These are indicator parameters. These data will be compared to results of previous events. If there is a documented increasing trend in the data (or decreasing trend in pH) and verified by resampling then the data will be statistically evaluated to determine if the concentrations are related to naturally occurring background. There are no health risk limits established for these parameters. There are also currently no HRL's established for DRO. If DRO is detected above 2.0 mg/l, the well will be resampled. Depending upon resampling results, either increased frequency of monitoring, monitoring of an expanded list of parameters (BETX, PAHs), or continued monitoring of trends will be adopted based upon discussion with Scott County Environmental Health.

The only parameters to be tested that have a Minnesota Department of Health; Health Risk Limit (HRL) established is Nitrate + Nitrite. Increased Nitrate + Nitrite levels to within ½ of the HRL in the will be used as a basis for additional investigation. If base line sampling indicates that upgradient and/or pre-mining Nitrate + Nitrite levels are already above ½ of the HRL, the action limit will be adjusted accordingly per approval from Scott County Environmental Health. Nitrate and bacterial problems are sometimes caused by structural flaws in the well which allow contaminated surface water to enter the well. The down gradient residential well may be an older well, or may be located in relative proximity to an older septic system. Repairing the well or constructing a new, deeper well often results in a significant reduction in the nitrate level.

If the concentrations evaluate above are determined to be related to the Site, additional actions will be required.

C.2 Potential Additional Actions

If groundwater sampling results indicate contamination from the Project as defined below, in the down gradient monitoring well, the well will be resampled within two weeks of receiving the initial results to verify the sampling results. In addition, a sample will also be taken from the Bennett Well for analysis.

If testing detects the presence of groundwater contamination above a Minnesota Department of Health Standard, and subsequent investigation confirms the source is the Great Plains Sand mining operation, an alternative supply of drinking water acceptable to the property owner and the Great Plains Sand Review Committee, will be provided to

that residence. This alternative source will be provided until a permanent alternative acceptable to the property owner and the Great Plains Sand Review Committee has been implemented. In addition, groundwater remediation may be required as necessary to meet MPCA requirements.

V. REPORTING

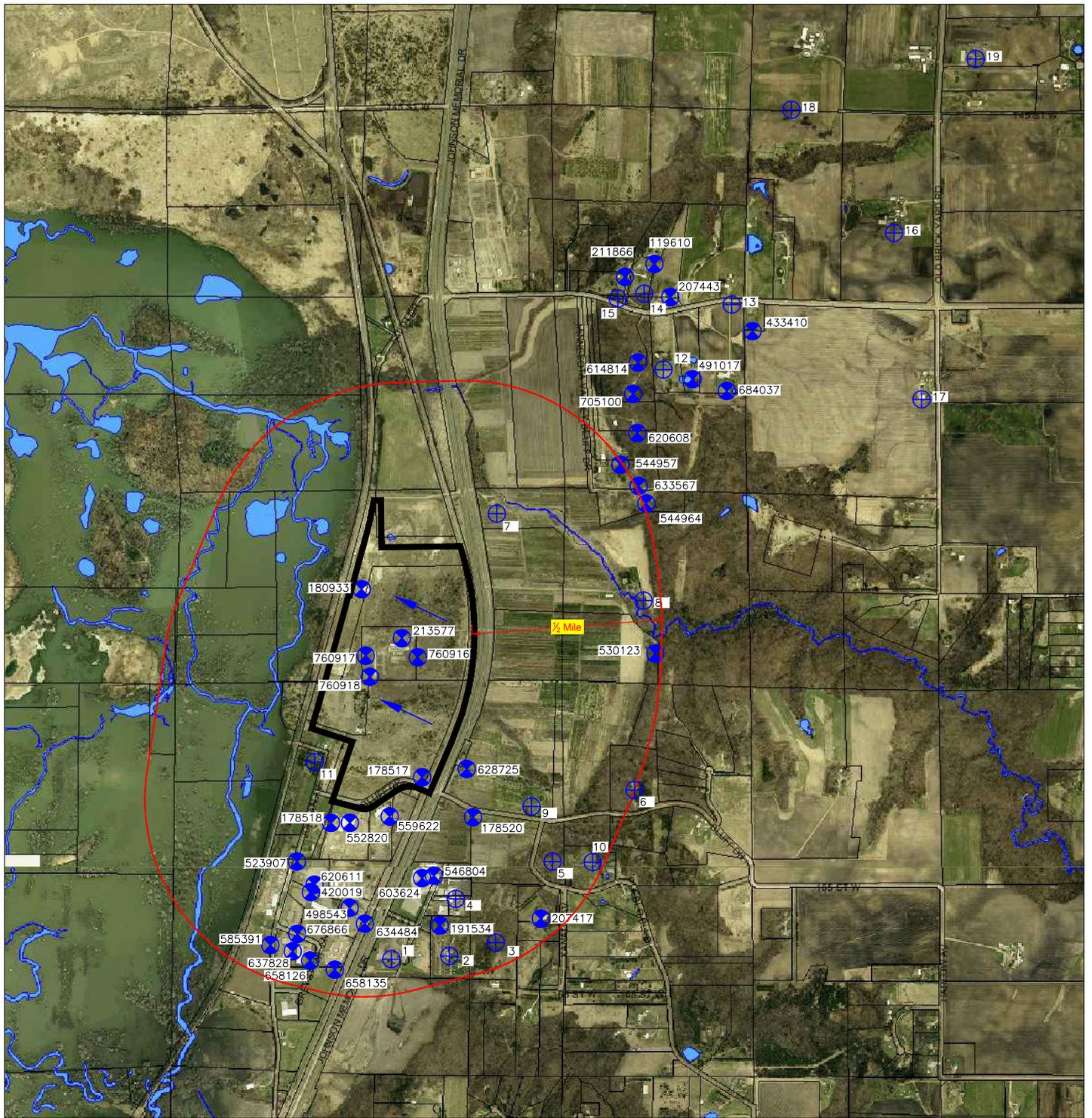
Water Quality data and water level data will be summarized an annual report and submitted to the Scott County Environmental Health Department.

VI. IMPORT OF SOILS

Only clean, uncontaminated soils free of debris, concrete, rubble, bituminous, asbestos, or any other contamination will be considered for import to the site. The source of any materials imported to the site will be determined prior to acceptance. Soils originating from redevelopment projects will be subject to testing for petroleum contamination at the borrow source. Import of soils from cleanup sites will not be considered for acceptance. All loads of imported soils will be visually inspected to insure compliance with the requirements. Any loads containing any evidence of rubble or petroleum contamination will be rejected.

Only on-site granular material will be used for reclamation purposes below the water table elevation in accordance with specifications established by a qualified soils engineering firm. Organic soils or soils considered unsuitable to support future development will not be used to achieve reclamation grades. Organic soils may be used in the topsoil layers and sideslope backfills.

Figures



- ⊗ Well Log Available - County Well Index
- ⊕ No Well Log Available - Assumed well location based on structures.
- ← Direction of groundwater flow beneath site.

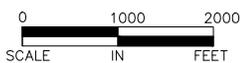
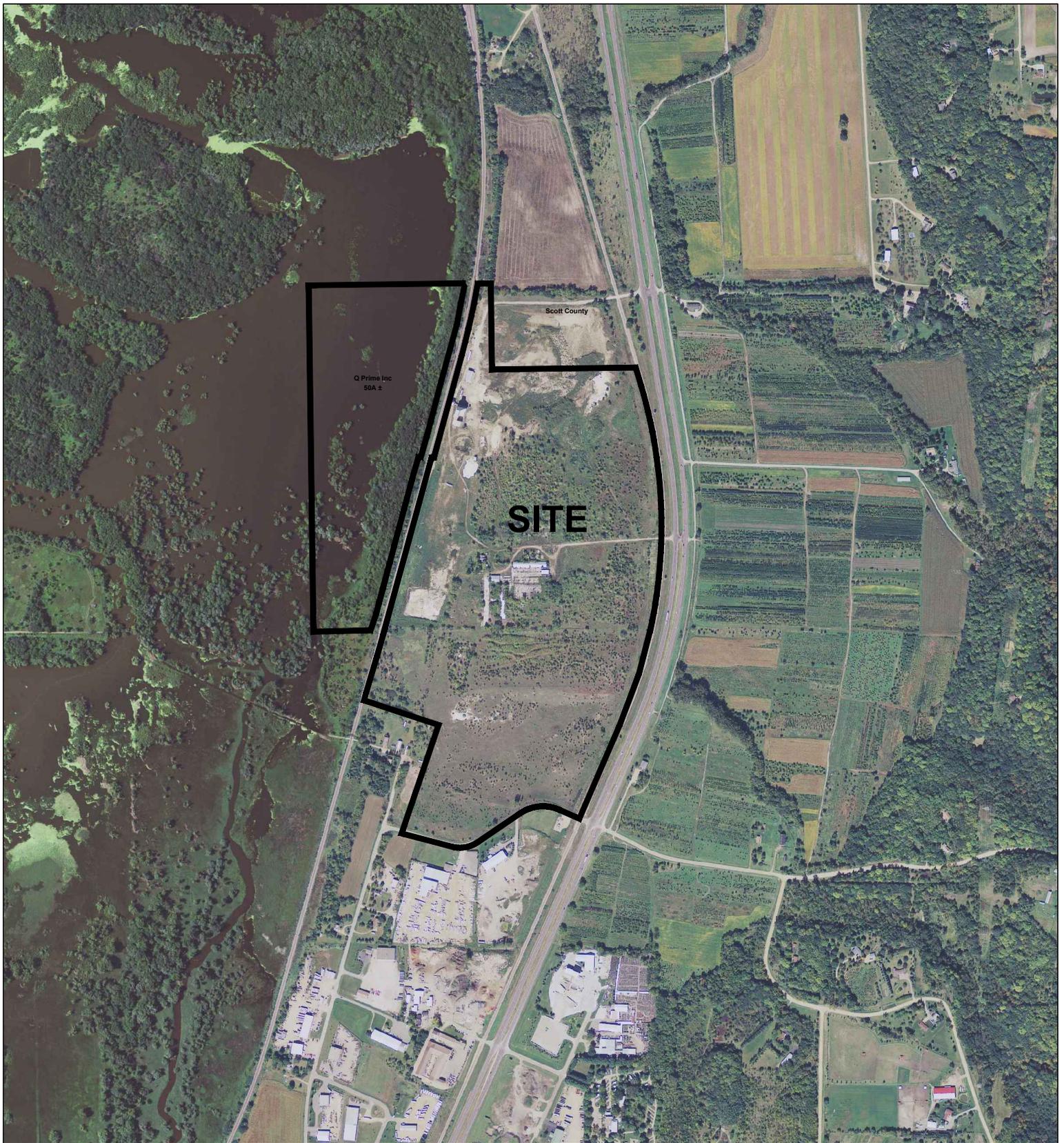


Figure 1 - Area Well Locations



CONSULTING CIVIL ENGINEERS
 10830 NESSBITT AVENUE SOUTH
 BLOOMINGTON, MINNESOTA 55437
 (952) 881-1344 TELEPHONE
 (952) 881-1913 FAX
 www.sundecivil.com



Source: 2010 FSA Photos Minnesota
Northstar Mapper

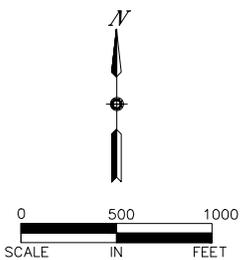
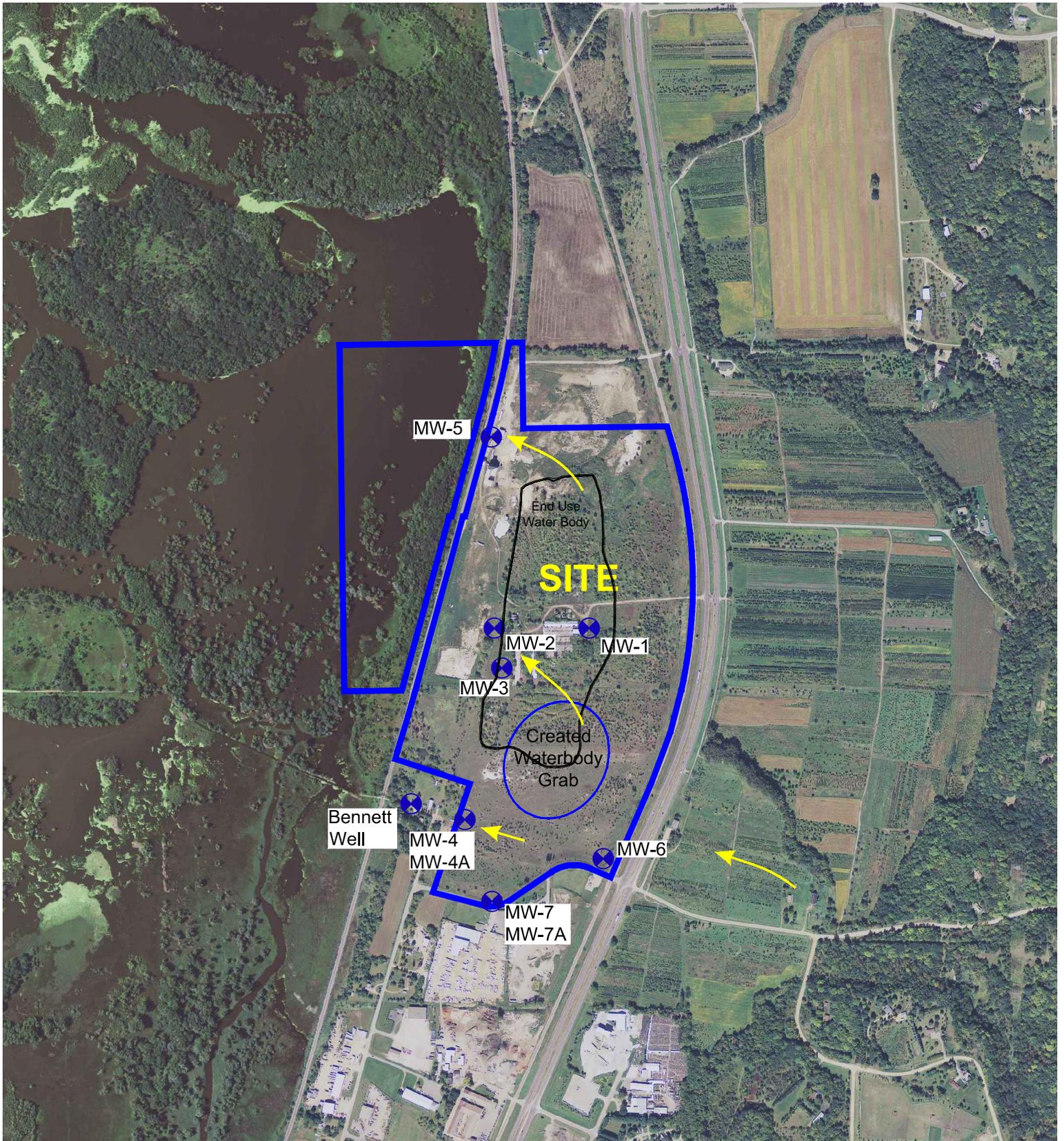


Figure 2
2010 Aerial Photo
Wetlands Flooded



CONSULTING CIVIL ENGINEERS
10830 NESBITT AVENUE SOUTH
BLOOMINGTON, MINNESOTA 55437
(952) 891-3344 TELEPHONE
(952) 891-1913 FAX
www.sundecivil.com

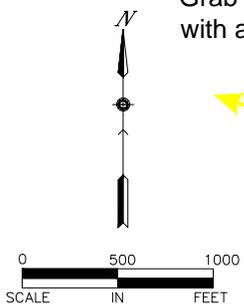


Source: 2010 FSA Photos Minnesota Northstar Mapper

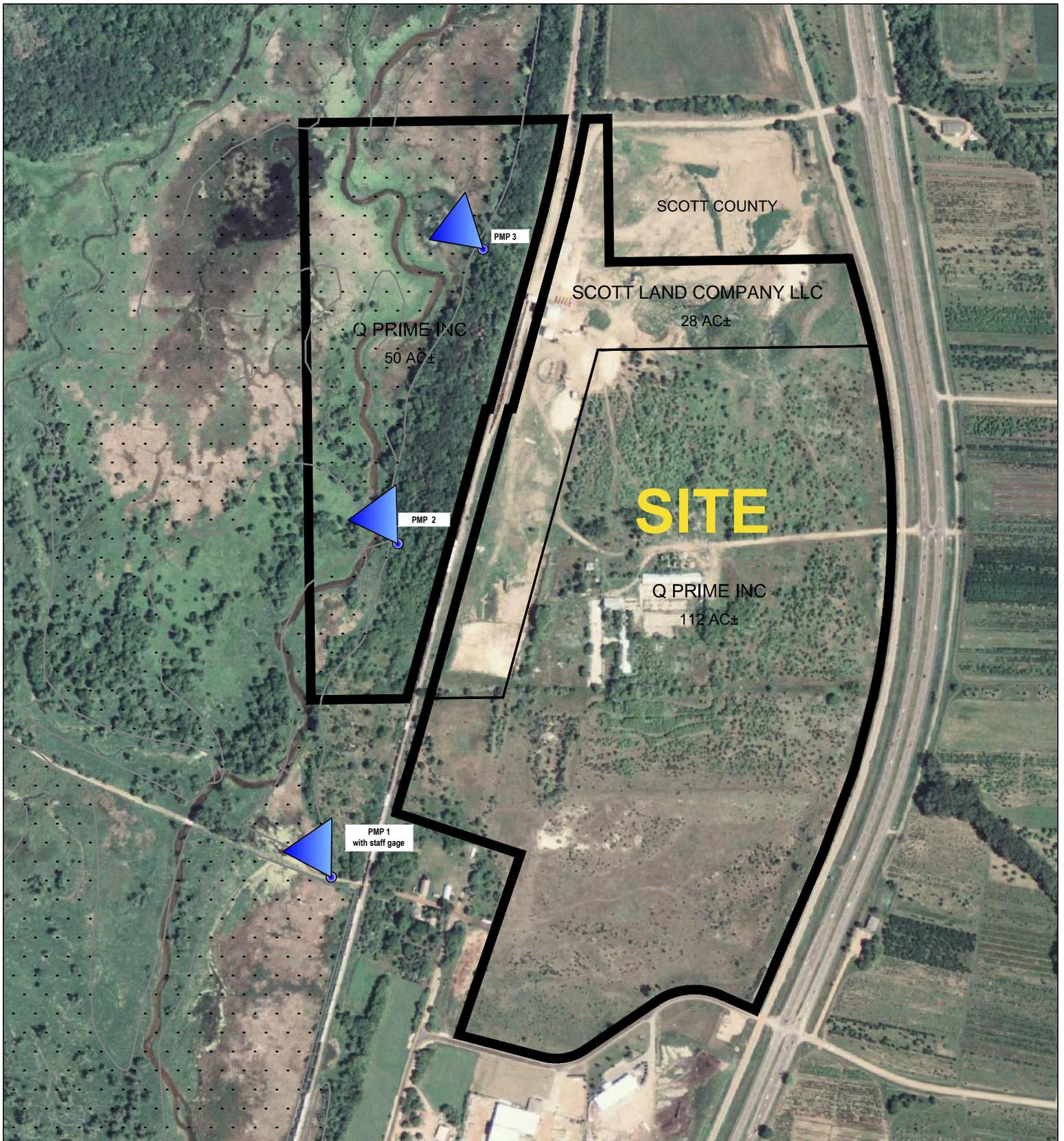
Grab Sample location to move with active mining operation.

Flow Path

Figure 3
Groundwater Monitoring Network

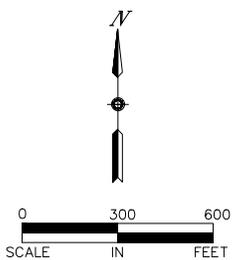


CONSULTING CIVIL ENGINEERS
10830 NESBITT AVENUE SOUTH
BLOOMINGTON, MINNESOTA 55437
(952) 881-3344 TELEPHONE
(952) 881-1913 FAX
www.sundecivil.com



Source: 2009 FSA Photos Minnesota
Northstar Mapper

Figure 4
Wetland Photo Monitoring Points



CONSULTING CIVIL ENGINEERS
10830 NESBITT AVENUE SOUTH
BLOOMINGTON, MINNESOTA 55437
(952) 891-3344 TELEPHONE
(952) 891-1913 FAX
www.sundecivil.com

Appendix 1

Great Plains Sand Area Wells Database

Appendix 1

The following wells will be in the database maintained by the Great Plains Sand and the Committee. These wells will be subject to the well interference program described in Section 4. I. 5. Groundwater of the Development Agreement. The database includes those wells in the County Well Index within 1/2 mile of the mining limits, probable well locations within 1/2 mile of the mining limits based on structure locations and County parcel data, and additional wells located over 1/2 mile from the Site but requested by the County to be included in the well interference program. Only wells completed in the Quaternary Water Table aquifer (also described as Quat Buried Artes Aquifer, and Quat Buried Unconf. Aquifer), the Jordan Aquifer, or an unknown aquifer are included in the well interference program. The St. Lawrence, Franconia and Ironton-Galesville aquifer wells are listed below for completeness of the database.

Well Database

Number	Well Name	Address	AQUIFER IF KNOWN		
County Well Index Wells Within 1/2 Mile of the Site					
191534	KANNENBERG, DENNIS N	3311 166TH ST W , JORDAN	St Lawrence		
207417	PREISSEN, JAMES	1645 PUEBLO BLVD , JORDAN	Multiple		
207443	FARENKAMP, WALDO	2556 150TH ST W , SHAKOPEE	St Lawrence		
211864	LINDSTROM, JERRY	3036 150TH ST W , SHAKOPEE	Jordan		
420019	MULLEN PROPERTY MGMT. CO.	16477 JORDAN AV , JORDAN	St. Lawrence-Franconia		
498543	HERMAN, WES	16586 JOHNSON MEMORIAL DR , JORDAN	Quat. Water Table Aquifer		
523907	CROOKS-HILL, DEBORAH J	16436 JORDAN AV , JORDAN	Franconia		
530123	COATS WENDELL B & LEANN D	15751 JOHNSON MEMORIAL DR , SHAKOPEE	Jordan		
544957	HEILING, JIM	15375 MINN. VALLEY BLUFF DR , SHAKOPEE	Franconia		
544964	BRANDEL, JOHN	15505 MINN. VALLEY BLUFF DR , SHAKOPEE	Franconia		
546804	CEMSTONE	3350 166TH ST W , JORDAN	Quat. Buried Artes. Aquifer		
552820	INTERLOCK CONCRETE PROD.	3535 BLUFF DR , JORDAN	Quat. Buried Artes. Aquifer		
559622	RJ PROP. HOLDINGS, LLC.	3441 BLUFF DR , SHAKOPEE	Quat. Buried Artes. Aquifer		
585391	KDH PROPERTIES	16640 JORDAN AV , JORDAN	Quat Water Table Aquifer		
603624	CEMSTONE	3350 166TH ST W , JORDAN	Franconia		
620611	MULLEN PROPERTY MGMT. CO.	16477 JORDAN AV S , JORDAN	Franconia		
628725	HARVIEUX, JEROME	3260 BLUFF DR , SHAKOPEE	Jordan-St Lawrence		
633567	THUENING, MIKE	15499 MINN. VALLEY BLUFF DR , SHAKOPEE	Quat. Buried Artes. Aquifer		
634484	MAJESTIC LAND CO INC.	16600 JOHNSON MEMORIAL DR , JORDAN	Franconia		
637828	O'BRIEN, KEVIN & SUZANNE	16656 GRAYSTONE LA , JORDAN	Franconia		
658126	KENIN O'BRIEN FAMILY LTD PTNSP	16690 GRAYSTONE LA , JORDAN	Franconia		
658135	CARSON SOUTH INT. INC.	16701 GRAYSTONE LA , JORDAN	Franconia		
676866	MNOK, LLC.	16641 GRAYSTONE LA , JORDAN	Franconia		
684037	FREUND, JACK	2571 150TH ST W , SHAKOPEE	Quat. Buried Unconf. Aquifer		
Probable Well Location Based on structure within 0.5 miles of mining limits					
Number	Property Owner	Address	AQUIFER IF KNOWN	Mailing Address	
1	Wesley Herman	16698 Berkshire Ave Jordan, MN 55352	Unknown	PO Box 159 Jordan, MN 55352	
2	EB Buck LLC	3315 166 St W Jordan, MN 55352	Unknown	Same	
3	Kimberly and Bradley Wodtke	3190 168 St W Jordan, MN 55352	Unknown	1030 Hope Ave Jordan, MN 55352	
4	Carolyn Kannenberg	3301 166th St W Jordan, MN 55352	Unknown	18101 Johnson Mem. Dr, Jordan, MN 55352	
5	Doris and Bruce Coghil	16451 Pueblo Blvd Jordan, MN 55352	Unknown	Same	
6	Vee and John Diebel	2776 Bluff Dr Shakopee, MN 55379	Unknown	Same	
7	Laureen and Jay Picha	15555 Johnson Memorial Dr Shakopee, MN 55379	Unknown	15741 Johnson Mem. Dr, Shakopee, MN 55379	
8	Laureen and Jay Picha	15741 Johnson Memorial Dr Shakopee, MN 55379	Unknown	Same	
9	Laverne and Jess Coghil	3056 Bluff Drive Shakopee, MN 55379	Unknown	Same	
10	Mary Lou and Gerald Frey	16465 Pueblo Blvd Jordan, MN 55352	Unknown	Same	
11	Frances Bennett	16210 Jordan Ave Jordan, MN 55352	Unknown	Same	
Additional Wells outside of 0.5 Miles requested by County to be included in Database					
Number	Property Owner	Address	City	ZIP	AQUIFER IF KNOWN
705100	Troy Boegeman	2771 150 St. W	Shakopee, MN	55379	Quat. Buried Artes. Aquifer
614814	Joseph Mullin	2775 150th St. W	Shakopee, MN	55379	Quat Buried Artes. Aquifer
12	Vernon J and Cynthia A Pieper	2661 150 St W	Shakopee, MN	55379	Unknown
491017	Bruce A and Kathy Fahrenkamp	2651 150 St W	Shakopee, MN	55379	Franconia
684037	Jack W and Maureen J Freund	2571 150 St W	Shakopee, MN	55379	Quat Buried Unconf. Aquifer
433410	James A and Carole A Boegeman	2495 150 St W	Shakopee, MN	55379	Franconia
13	Waldo R and Arlene J Fahrenkamp	2556 150 St W	Shakopee, MN	55379	Unknown
207443	Kristin Grommesch	2640 150 St W	Shakopee, MN	55379	St. Lawrence
14	Chad L and Denise L Weber	2736 150 St W	Shakopee, MN	55379	Unknown
119610	James A and Deborah G Fath	2760 150 St W	Shakopee, MN	55379	St. Law.-Franconia-Ironton-Galesville
15	Gary J and Donna M Marten	2820 150 St W	Shakopee, MN	55379	Unknown
211866	Wallace D and Joanne E Bakken	2796 150 St W	Shakopee, MN	55379	St. Law.-Franconia-Ironton-Galesville
16	Thomas D and Mary M Koskovich	14726 Old Brick Yard Rd	Shakopee, MN	55379	Unknown
17	Hilarion E Mechtel	15220 Old Brick Yard Rd	Shakopee, MN	55379	Unknown
18	Timothy L and Sandra L Breeggemar	2256 145 St W	Shakopee, MN	55379	Unknown
19	Bob Pieper	14391 Old Brick Yard Road	Shakopee, MN	55379	Unknown