

**Table 2-1**

**Streamflow Data for Sevenmile and Tenmile Creeks**

	Measured Flow (cfs)													
<b>Sevenmile Creek</b>	07/14/99	05/24/12	06/14/12	08/07/12	08/23/12	08/28/12	08/29/12	09/13/12	09/20/12	10/03/12	10/16/12	05/24/13	08/30/13	09/04/13
Station 3A										2.1				
Station 3B										1.9				
CTH Z		5.4	5.6	2.1									2.6	2.4
Station 2A										2.3				
Station 2B										2.2				
Station 2C										2.0				
Station 2D										1.2				
Below Dam										<0.1				
Hollywood Road	1.6													
Station 1A										1.6				
Station 1B										1.2				
Station 1C										0.9				
Station 1D										0.6				
Rangeline Road		4.7		0.45		0.40						2.9	1.0	0.7
Highway 73						<0.1						1.7		
52nd Street			1.9									1.3		
64th Street						<0.1								
CTH U			2.1										<0.1	
<b>Tenmile Creek</b>														
Rangeline Road						32.2								
Highway 13	54.0	75.0	54.0	24.0	23.0	23.0	23.0	22.0	22.0	21.0	45.0	98.0	33.0	31.0
Bell Road						12.5								
CTH U				2.4	2.0	2.3	3.1	2.0	1.1		10.4			

Notes: Flow measurements for Tenmile Creek at Highway 13 from USGS gaging station 5401100; Tenmile Creek near Nekoosa. Sevenmile Creek flow measurement for 1999 from DNR files. Other data collected as follows: May 24, 2012 data collected by C. Andrews, S.S. Papadopoulos & Associates; August 7th, 23rd, 29th, September 13th, 20th and October 16th, 2012 data from DNR; August 28th and October 3, 2012 data collected by staff from Eco-Resources, LLC. All other data collected by B. Nauta, RJN Environmental Services, LLC.

**Table 2-2**

**Proposed and Existing High Capacity Wells**

<b>High Capacity Well</b>	<b>High Capacity Well System No.</b>	<b>Irrigated Fields</b>	<b>Total Acres</b>	<b>Well Capacity (MGD)</b>
W01	1	P01A and P01B	132	1.52
W02	1	P02	125	1.44
W05	1	P05	142	1.64
W06	1	P06	148	1.70
W07	1	P07	156	1.79
W08	1	P08 and P012	151	1.74
W09	1	P09	143	1.65
W15	1	P15	123	1.42
W17	1	P16 and P17	128	1.47
W19	1	P13 and P19	132	1.52
W20	1	P11 and P20	137	1.58
W21	1	P21	130	1.50
W23	1	P23	146	1.68
W24	1	P24	153	1.76
W25	1	P25 and P81	126	1.45
W26	1	P26	142	1.63
W27	2	P27	52	0.60
W28	2	P28	133	1.53
W30	3	P29 and P30	155	1.78
W31	3	P31	161	1.85
W38	1	P38	57	0.65
W39	4	P38 and P40	114	1.31
W41	4	P41 and P44	120	1.38
W42	4	P42 and P45	112	1.29
W43	5	P43	61	0.71
W46	5	P46	105	1.21
W48	5	P48	141	1.63
W51	5	P51	140	1.61
W53	5	P53 and P58	135	1.56
W55	6	P55	138	1.59
W59	5	P59	139	1.60
W60	6	P60	125	1.44
W61	6	P61	125	1.45
W68	5	P68	136	1.56
W74	6	P74 and P79	53	0.61
W75	3	P75	92	1.06
W82	3	P73 and P82	98	1.13
38632	6	P76	58	0.67
D1	1	-	-	0.50
D2	1	-	-	0.36

**Table 2-3****Average Annual Stream Base Flows and Calculated Changes in Average Base Flow Due to Pumping**

<b>Location</b>	<b>Estimated Base Flow from Measured Data (cfs)</b>	<b>Model Calibrated Base Flow (cfs)</b>	<b>Average Annual Change in Base Flow (cfs)</b>	<b>Average Annual Change in Base Flow (%)</b>
Big Roche-A-Cri at 1st Ave	9 to 10	10.9	0.00	0.0%
Chester Creek		4.1	0.01	0.3%
Fourteenmile Creek near New Rome	19 to 43	36.2	0.10	0.2%
Fourteenmile at mouth		47.3	0.11	0.2%
Buena Vista Creek at 100th Rd	30 to 40	24.1	0.00	0.0%
Buena Vista Cr. Ditch #2 N.Fork at Isherwood	6	3.4	0.00	0.0%
Fourmile Creek at 100th Rd	40 to 45	36.0	0.00	0.0%
Tenmile Cr. Ditch #5 at Taft	8	5.7	0.00	0.0%
Fourmile Creek at JJ&BB	1.2	4.1	0.00	0.0%
NB Tenmile Cr. at Isherwood/Harding	0.7	1.6	0.00	0.0%
Tenmile Creek near Nekoosa	55	52.1	0.39	0.7%
Tenmile Creek at mouth		58.8	1.26	2.1%
Sevenmile Creek at Rangeline		1.7	0.01	0.5%
Sevenmile Creek at mouth		4.0	0.02	0.6%
Fivemile Creek at mouth		12.5	0.01	0.0%

**Table 2-4**

**Summary of Summer and Annual Stream Flow Declines (%)**

	<b>Tenmile at County Z</b>	<b>Tenmile at Highway 13</b>	<b>Sevenmile at County Z</b>	<b>Sevenmile at Rangeline</b>
<b><i>Normal Year</i></b>				
July	2.8% (3.0)	1.5% (1.6)	0.3% (2.0)	0.5% (3.0)
August	4.7% (4.6)	2.5% (2.5)	0.5% (1.6)	0.7% (2.6)
September	5.6% (5.6)	2.7% (2.8)	0.6% (2.8)	1.3% (4.4)
Annual	2.1% (2.0)	0.8% (0.8)	0.6% (2.0)	0.5% (2.6)
<b><i>Dry Year</i></b>				
July	5.4%	2.0%	-11%	-28%
August	10%	5.9%	-12%	-38%
September	8.7%	3.7%	-15%	-57%
Annual	2.4%	0.6%	-5.4%	-12%

Notes: 1) The first number is percent change with 14" of irrigation water, the second number in parentheses is percent change with 11.5 inches of irrigation water; 2) Positive change indicates a decline in flow, a negative change indicates an increase in flow.

**Table 2-5**

**Changes in Stream Characteristics in August -- Normal Year**

	<b>Flow without Project (cfs)</b>	<b>Flow with Project (cfs)</b>	<b>% Flow Change</b>	<b>Stream Width without Project (feet)</b>	<b>Change in Width due to Project (feet)</b>	<b>Stream Depth without Project (feet)</b>	<b>Change in Depth due to Project (feet)</b>	<b>Temperature Change (°C)</b>
Sevenmile Creek at Rangeline Rd	1.69	1.68	0.7%	5.86	0.1'	0.35	<0.01	<0.1
Sevenmile Creek at County Z	3.86	3.84	0.5%	13.42	<0.1	0.46	0.01	<0.1
Tenmile Creek at Highway 13	39.88	38.90	2.5%			0.48	0.01	<0.1
Tenmile Creek at Rangeline	43.12	41.54	3.7%	28.4	<0.1	1.4	0.04	<0.1

Notes: 1) Change is depth for Tenmile Creek at Highway 13 based on USGS stage-discharge relationship -- no depth data available, 2) Temperature changes based on SSTEMP simulations.

**Table 2-6**

**Calculated Average Annual Stream Flows with Estimated Future Irrigation Pumping**

Location	Model Calculated Base Flow Normal Year (cfs)				Change in Flow as a Result of Future Irrigation Pumping
	Flow with Irrigation Pumping Existing as of 2011	Flow with Existing and Future Irrigation Pumping	Flow with Existing and GSD Irrigation Pumping	Flow with Existing, Future, and GSD Irrigation Pumping	
Tenmile Creek near Nekoosa	52.13	50.93	51.74	50.54	2.3%
Tenmile Creek at mouth	58.81	57.60	57.55	56.34	2.1%
Sevenmile Creek at Rangeline	1.70	1.67	1.69	1.66	1.3%
Sevenmile Creek at mouth	3.95	3.93	3.93	3.90	0.6%

Table 2-7

**Groundwater Quality Summary  
Town of Saratoga -- November 2013**

Analyte	No. of Samples	Units	Concentration		
			Median	80% Exceedance	Maximum
<b><i>Indicator Parameters</i></b>					
Conductivity	79	uS/cm	137	244	828
Hardness	79	mg/L	66	104	216
Alkalinity	79	mg/L	56	84	172
pH	79		7.9	8.2	8.8
<b><i>Cations</i></b>					
Calcium	38	mg/L	12	18	50
Magnesium	38	mg/L	4	9	20
Sodium	38	mg/L	8	52	191
Potassium	38	mg/L	0.5	2	12
Iron	38	mg/L	0.03	0.03	0.5
<b><i>Anions</i></b>					
Chloride	79	mg/L	6	24	178
Sulfate	38	mg/L	10	15	142
Nitrate	79	mg/L	0.8	2.7	6.7
<b><i>Pesticides</i></b>					
DACT	31	mg/L	ND	ND	ND

Note: 18% of wells less than 25 feet deep, 32% between 26 and 50 feet deep, 20% between 51 and 100 feet deep, 2% greater than 100 feet deep. 25% of well had 3" or smaller casing. In 80% of the samples the reported concentration was less than the 80% exceedance value.

**Table 2-8**

**Sites with Potential or Confirmed Soil and/or Groundwater Contamination**

<b>Site Number</b>	<b>Site Name</b>	<b>Type of Contamination</b>	<b>Status/Date Closed</b>	<b>Location</b>
1	Nekoosa Sanitary Treatment Plant	Not indicated	Dec-93	Cross-gradient; west side of Wisconsin River
2	Badger Marine	Not indicated	Oct-95	Cross-gradient; north side of Sevenmile Creek
3	Saratoga Gas & Grocery	Petroleum	Jun-10	Cross-gradient; north side of Sevenmile Creek
4	Saratoga Mini Mart	Petroleum	Dec-98	Cross-gradient; north side of Sevenmile Creek
5	Elmer Dye	Not indicated	Open site	Cross-gradient; north side of Sevenmile Creek
6	Pritzl's Corner Market	Petroleum	Open site	Cross-gradient; north side of Sevenmile Creek
7	Aniwa Creek Cranberries	Petroleum	Apr-03	Upgradient, other side of Spring Branch

Table 2-9

Stream Chemistry Sevenmile and Tenmile Creeks

	Units	7 Mile-1 (at Young Street)		7 Mile-4 (at Hollywood Road)		7 Mile (at CTH Z)		7 Mile (at Rangeline Rd)		10 Mile-1 (at CTH U)		10 Mile-2 (at Hwy 73)		10 Mile-3 (at Hwy 13)		10 Mile-4 (at CTH Z)	
		8/16/2012		8/16/2012		10/10/2012		10/10/2012		8/16/2012		8/16/2012		8/16/2012		8/16/2012	
		value	flag	value	flag	value	flag	value	flag	value	flag	value	flag	value	flag	value	flag
<b>General Chemistry</b>																	
pH	SU	7.55		7.94		7.93	HF	7.92	HF	8.01		7.75		7.68		7.88	
Ammonia (as N)	mg/L	0.15	J	<0.068		<0.068		<0.068		0.21		0.41		0.12	J	0.12	J
Nitrogen, Kjeldahl	mg/L	0.51		0.58		0.43	J	0.23	J	1.5		2.4		0.77		0.37	J
Nitrogen, Nitrate & Nitrite	mg/L	0.21		0.45		0.36		<0.052		1.7		0.93		0.69		0.68	
Phosphorus as P	mg/L	0.065		0.11		0.079		0.056		0.30		0.50		0.12		0.047	J
Specific Conductance	umhos/cm	310		210		180		250		360		290		230		210	
Oxygen, Dissolved	mg/L	10	H	9.5	H	9.9	H	9.5	H	8.3	H	7.9	H	8.5	H	9.7	H
Nitrogen, Total	mg/L	0.72		1.0		0.79		<0.40		3.2		3.3		1.5		1.1	
<b>Organochlorine Pesticides</b>																	
Aldrin	µg/L	<0.030		NS		<0.0059		<0.0059		<0.0059		<0.0059		<0.0059		NS	
alpha-BHC	µg/L	<0.036		NS		<0.0071		<0.0071		<0.0071		<0.0071		<0.0071		NS	
alpha-Chlordane	µg/L	<0.033		NS		<0.0066		<0.0066		<0.0066		<0.0066		<0.0066		NS	
Atrazine	µg/L	<5.6		NS		<1.1		<1.1		<1.1		<1.1		<1.1		NS	
beta-BHC	µg/L	<0.038		NS		<0.0077		<0.0077		<0.0077		<0.0077		<0.0077		NS	
4,4'-DDD	µg/L	<0.024		NS		<0.0048		<0.0048		<0.0048		<0.0048		<0.0048		NS	
4,4'-DDE	µg/L	<0.022		NS		<0.0043		<0.0043		<0.0043		<0.0043		<0.0043		NS	
4,4'-DDT	µg/L	<0.053		NS		<0.011		<0.011		<0.011		<0.011		<0.011		NS	
delta-BHC	µg/L	<0.015		NS		<0.0030		<0.0030		<0.0030		<0.0030		<0.0030		NS	
Dieldrin	µg/L	<0.016		NS		<0.0033		<0.0033		<0.0033		<0.0033		<0.0033		NS	
Endosulfan I	µg/L	<0.015		NS		<0.0030		<0.0030		<0.0030		<0.0030		<0.0030		NS	
Endosulfan II	µg/L	<0.029		NS		<0.0058		<0.0058		<0.0058		<0.0058		<0.0058		NS	
Endosulfan Sulfate	µg/L	<0.041		NS		<0.0082		<0.0082		<0.0082		<0.0082		<0.0082		NS	
Endrin	µg/L	<0.042		NS		<0.0085		<0.0085		<0.0085		<0.0085		<0.0085		NS	
Endrin Aldehyde	µg/L	<0.046		NS		<0.0091		<0.0091		<0.0091		<0.0091		<0.0091		NS	
Endrin Ketone	µg/L	<0.044		NS		<0.0088		<0.0088		<0.0088		<0.0088		<0.0088		NS	
gamma-BHC (Lindane)	µg/L	<0.015		NS		<0.0031		<0.0031		<0.0031		<0.0031		<0.0031		NS	
gamma-Chlordane	µg/L	<0.080		NS		<0.016		<0.016		<0.016		<0.016		<0.016		NS	
Heptachlor	µg/L	<0.041		NS		<0.0081		<0.0081		<0.0081		<0.0081		<0.0081		NS	
Heptachlor Epoxide	µg/L	<0.052		NS		<0.010		<0.010		<0.010		<0.010		<0.010		NS	
Methoxychlor	µg/L	<0.069		NS		<0.014		<0.014		<0.014		<0.014		<0.014		NS	
Toxaphene	µg/L	<0.74		NS		<0.15		<0.15		<0.15		<0.15		<0.15		NS	

NS: Not sampled.

J: Result is less than the reporting limit but greater than or equal to the method detection level, and the concentration is approximate.

H: Sample was prepped or analyzed beyond the specified holding time.

HF: Field parameter with a holding time of 15 minutes.

**Table 2-10**

**Estimated VOC Emission Factors**

Process or Constituent	Emission Factor	Emission Factor	Emissions	
	lb/hd-yr (1)	g/day-hd	g/s	ton/year
Enteric Emissions from Cows	4.30E+00	5.35E+00	3.28E-01	1.14E+01
Milking Parlor(s)	4.00E-02	4.98E-02	3.05E-03	1.06E-01
Freestall Barns	1.90E+00	2.36E+00	1.45E-01	5.04E+00
Corrals/Pens	1.00E+01	1.24E+01	7.63E-01	2.65E+01
Liquid Manure Handling (lagoons)	1.50E+00	1.87E+00	5.34E-02	1.86E+00
Liquid Manure Land Application	1.60E+00	1.99E+00	1.22E-01	4.24E+00
Solid Manure Land Application	3.90E-01	4.85E-01	2.98E-02	1.03E+00
Separated Solids Piles	6.00E-02	7.46E-02	4.58E-03	1.59E-01
Solid Manure Storage	<u>1.60E-01</u>	<u>1.99E-01</u>	<u>1.22E-02</u>	<u>4.24E-01</u>
<b>Total (tons/year)</b>	-	-	-	<b>5.07E+01</b>

Notes:

The rosendale will be operating with 5,300 dairy cows.

(1) Sheraz, Gill; and Ramon, Norman. (2012). *Air Pollution Control Officer's Revision of the Dairy VOC Emission Factors*. San Joaquin Valley Unified Air Pollution Control District.

**Table 2-11**

**Summary of Manure Parameters**

<b>Parameter</b>	<b>Value (1)</b>	<b>Units</b>
Total Nitrogen Production (3)	1,049,756	lbs/year
Total Liquid Manure Production	54,922,629	gal/year
Total Liquid Manure Production	462,013,541	lbs/year
Liquid Manure Density (2)	1,008	g/L
Total Solid Manure Production	49,640,000	lbs/year
Total Manure Production (solid + liquid)	511,653,541	lbs/year
Total Nitrogen in Liquid Manure	876,016	lbs/year
Total Nitrogen in Solids Manure	173,740	lbs/year

Notes:

- (1) Unless otherwise specified the values were provided by MB&F
- (2) Average density of liquid dairy manure from Pettygrove et al, 2003
- (3) Golden Sands Estimated Nitrogen Production in a year

**Table 2-12**

**Traditional Manure Application Equation Parameters**

**Liquid Manure Application**

Parameter	Value	Units
Rate Constant K	0.75	h-1
Time (t)	6	h
Fa (application factor) (2)	0.08	-
Fs (soil application factor)	1	-
Total Solids (3)	0.57	%
ALmax (lagoon water)	3.411	%
AL(t) (1)	0.270	%
Total Nitrogen in Liquid Lagoon	876,016	lbs/year
Total Ammonical Nitrogen (TAN) content in lagoon effluent	0.83	x100(%)
Total Ammonical Nitrogen (TAN) in Lagoon effluent	727,093	lbs/year
Total ammonia volatilized during fertilization	<b>1,962</b>	lbs/year

**Solid Manure Application**

Parameter	Value	Units
Rate Constant K	0.10	h-1
Time (t)	72	h
Fa (application factor) (2)	0.5	-
Fs (soil application factor)	0.7	-
Total Solids (3)	22	%
ALmax (Dairy manure)	86.77	%
AL(t) (1)	30.339	%
Total Nitrogen in Manure Solids	173,740	lbs/year
Total Ammonical Nitrogen (TAN) content in Manure Solids	0.50	x100(%)
Total Ammonical Nitrogen (TAN) in Manure Solids	86,870	lbs/year
Total ammonia volatilized during fertilization	<b>26,356</b>	lbs/year

Notes:

(1) Represents the total amount of ammonia lost during manure application expressed as a percentage of TAN applied.

Calculated by the formula:

$$AL(t) = fsf_AAL_{max}(1 - e^{-Kt})$$

from: Chastain, John P. (2005). *Manure Nitrogen Management Issues in Conservation Tillage*.

2005 Southern Conservation tillage Systems Conference Clemson University.

(2) Assumed direct injection or immediate incorporation of manure (liquid) and band spreading of manure (solid).

(3) To be conservative, the highest total solids in the allowable range for type of manure was used.

**Table 2-13**

**Center Pivot Manure Irrigation Manure Application Equation Parameters**

**Liquid Manure Application**

Parameter	Value	Units
Rate Constant K	0.75	h-1
Time (t)	6	h
Fa (application factor) (2)	1	-
Fs (soil application factor)	1	-
Total Solids (3)	0.57	%
ALmax (lagoon water)	3.411	%
AL(t) (1)	3.373	%
Total Nitrogen in Liquid Lagoon	876,016	lbs/year
Total Ammonical Nitrogen (TAN) content in lagoon effluent	0.83	x100(%)
Total Ammonical Nitrogen (TAN) in Lagoon effluent	727,093	lbs/year
Total ammonia volatilized during fertilization	<b>24,526</b>	lbs/year

**Solid Manure Application**

Parameter	Value	Units
Rate Constant K	0.10	h-1
Time (t)	72	h
Fa (application factor) (2)	0.5	-
Fs (soil application factor)	0.7	-
Total Solids (3)	22	%
ALmax (Dairy manure)	86.77	%
AL(t) (1)	30.339	%
Total Nitrogen in Manure Solids	173,740	lbs/year
Total Ammonical Nitrogen (TAN) content in Manure Solids	0.50	x100(%)
Total Ammonical Nitrogen (TAN) in Manure Solids	86,870	lbs/year
Total ammonia volatilized during fertilization	<b>26,356</b>	lbs/year

Notes:

(1) Represents the total amount of ammonia lost during manure application expressed as a percentage of TAN applied.

Calculated by the formula:

$$AL(t) = f_s f_a AL_{max} (1 - e^{-Kt})$$

from: Chastain, John P. (2005). *Manure Nitrogen Management Issues in Conservation Tillage*.

2005 Southern Conservation tillage Systems Conference Clemson University.

(2) Assumed irrigation as the most conservative application of manure (liquid) and band spreading of manure (solid).

(3) To be conservative, the highest total solids in the allowable range for type of manure was used.

**Table 2-14**

**Potential Air Emission Source Summary**

Contaminant	CAS No.	Description	Stack Flow Rate	Stack Exit Gas Temperature (K)	Stack Inner Diameter (m)	Release Height Above Grade (m)	Stack Height Above Roof (m)	UTM Source Coordinates (x,y)		Maximum Emission Rate (ton/year)	Maximum Emission Rate (g/s)	Average Period (hours)	Emission Estimation Technique
Nitrogen Oxides	10102-44-0	Digester Generator	3.07	686.15	0.40	8.0	NA	275090.03	4906908.89	2.39E+00	6.89E-02	1, Annual	EF
Nitrogen Oxides	10102-44-0	Emergency Generator	1.00	773.15	0.15	8.0	NA	275158.7	4906865.85	6.83E+01	1.97E+00	1, Annual	EF
Ammonia	7664-41-7	Housing	NA	NA	NA	6.0	NA	Various	Various	6.94E+01	2.00E+00	24, Annual	EF
Ammonia	7664-41-7	Lagoon Storage	NA	NA	NA	3.0	NA	274789.79	4906675.3	4.49E+01	1.29E+00	24, Annual	EF
Ammonia	7664-41-7	Land Application	NA	NA	NA	2.4	NA	Various	Various	2.54E+01	2.67E+00	24, Annual	EF
Hydrogen Sulfide	7783-06-4	Housing	NA	NA	NA	6.0	NA	Various	Various	3.62E+00	1.04E-01	24	EF
Hydrogen Sulfide	7783-06-4	Lagoon Storage	NA	NA	NA	3.0	NA	274789.79	4906675.3	3.64E+00	1.05E-01	24	EF
Particulate Matter (PM10)	NA	Housing	NA	NA	NA	6.0	NA	Various	Various	1.47E+00	4.24E-02	24	EF
Particulate Matter (PM10)	NA	Silage Pad	NA	NA	NA	0.0	NA	275045.54	4906846.65	4.31E-01	1.24E-02	24	EF
Particulate Matter (PM10)	NA	Digester Generator	3.07	686.15	0.40	8.0	NA	275090.03	4906908.89	1.79E-01	5.16E-03	24	EF
Particulate Matter (PM10)	NA	Emergency Generator	1.00	773.15	0.15	8.0	NA	275158.7	4906865.85	4.85E+00	1.40E-01	24	EF
Particulate Matter (PM2.5)	NA	Housing	NA	NA	NA	6.0	NA	Various	Various	4.55E-01	1.31E-02	24, Annual	EF
Particulate Matter (PM2.5)	NA	Silage Pad	NA	NA	NA	0.0	NA	275045.54	4906846.65	7.30E-02	2.10E-03	24, Annual	EF
Particulate Matter (PM2.5)	NA	Digester Generator	3.07	686.15	0.40	8.0	NA	275090.03	4906908.89	1.79E-01	5.16E-03	24, Annual	EF
Particulate Matter (PM2.5)	NA	Emergency Generator	1.00	773.15	0.15	8.0	NA	275158.7	4906865.85	4.85E+00	1.40E-01	24, Annual	EF

**Table 2-15**

**Potential Ammonia Emission Summary from Landspreading of Manure**

<b>Parameter</b>	<b>Value</b>	<b>Units</b>
Total Ammonia Volatilized	<b>50,881</b>	lbs/year
Estimated Landspreading Days	<b>100</b>	days
Ammonia Emission Rate During Landspreading	<b>2.67</b>	g/s
Average Land Parcel Area	<b>364,374</b>	m <sup>2</sup>

<b>Contaminant</b>	<b>CAS No.</b>	<b>Maximum POI Concentration (ug/m<sup>3</sup>)</b>	<b>Averaging Period (hour)</b>	<b>Ambient Air Criteria (ug/m<sup>3</sup>)</b>	<b>Percentage of Air Criteria</b>
Ammonia	7664-41-7	669	1	-	-
Ammonia	7664-41-7	267.48	24	418	64%
Ammonia	7664-41-7	53.50	Annual	100	54%

**Table 3-1**

**Hospitals and Clinics Near the GSD Project Area**

<b>Facility</b>	<b>Address</b>	<b>Phone</b>	<b>Distance<sup>1</sup></b>
<b><i>Hospital:</i></b>			
Riverview Community Hospital	410 Dewey Street Wisconsin Rapids	(715) 423-6060	8.1 miles
<b><i>Clinics:</i></b>			
Planned Parenthood: Wisconsin Rapids Health Ctr	1355 8th Street South Wisconsin Rapids	(715) 423-9610	7.1 miles
VA Wisconsin Rapids Clinic	710 East Grand Avenue Wisconsin Rapids	(715) 424-4682	7.7 miles
Carlson GI Clinic	410 Dewey Street Wisconsin Rapids	(715) 421-1001	8.1 miles
Riverview Family Clinic	420 Dewey Street Wisconsin Rapids	(715) 421-7474	8.1 miles
Riverview UW Cancer Center	410 Dewey Street Wisconsin Rapids	(715) 421-7442	8.1 miles
Aspirus Doctors Clinic	2031 Peach Street Wisconsin Rapids	(715) 423-0122	8.4 miles
Marshfield Clinic Wisconsin Rapids Center	220 North 24th Street South Wisconsin Rapids	(715) 424-8600	8.9 miles
Therapies Plus LLC	3541 Plover Road Wisconsin Rapids	(715) 423-5423	10.8 miles

<sup>1</sup> All locations are measured in miles from Tower Hill Road near the planned GSD Production Area.

**Table 3-2****Schools Near the GSD Project Area**

<b>Facility</b>	<b>Address</b>	<b>Phone</b>	<b>Distance<sup>1</sup></b>
Good Shepherd Lutheran Church and School-WELS	10611 State Highway 13 South Wisconsin Rapids	(715) 325-3355	0.81 mile
Humke Elementary	500 S Section Street Nekoosa	(715) 886-8010	5.07 miles
Nekoosa High School	500 Cedar Street Nekoosa	(715) 886-8060	5.39 miles
John Edwards High School	801 2nd Street Port Edwards	(715) 887-9000	5.4 miles
John Edwards Middle School	801 2nd Street Port Edwards	(715) 887-9000	5.4 miles
Port Edwards Elementary School	801 2nd Street Port Edwards	(715) 887-9000	5.4 miles
Alexander Middle School	540 Birch Street Nekoosa	(715) 886-8040	5.58 miles
Niikuusra Community School	540 Birch Street Nekoosa	(715) 886-8040	5.58 miles
Woodside Elementary	611 Two Mile Avenue Wisconsin Rapids	(715) 422-6145	5.79 miles
Grove Elementary	471 Grove Avenue Wisconsin Rapids	(715) 422-6136	6.3 miles
River Cities High School	2390 48th Street South Wisconsin Rapids	(715) 424-6798	6.81 miles
Central Cities Health Institute	1801 16th Street South Wisconsin Rapids	(715) 423-1520	6.85 miles
Lincoln High School	1801 16th Street South Wisconsin Rapids	(715) 423-1520	6.85 miles
St. Luke's Lutheran Church	2011 10th Street South Wisconsin Rapids	(715) 423-5990	6.9 miles
Kumon Math And Reading Center	1345 8th Street South Wisconsin Rapids	(715) 423-7323	7.1 miles
Grant Elementary	8511 County Rd WW Wisconsin Rapids	(715) 422-6175	7.22 miles
St Vincent De Paul School	831 12th Street South Wisconsin Rapids	(715) 422-0966	7.24 miles
West Junior High	1921 27th Avenue South Wisconsin Rapids	(715) 422-6200	7.29 miles
Assumption High School	445 Chestnut Street Wisconsin Rapids	(715) 422-0910	7.31 miles
Assumption Middle School	440 Mead Street Wisconsin Rapids	(715) 422-0950	7.36 miles
Pitsch Elementary	501 17th Street South Wisconsin Rapids	(715) 422-6171	7.41 miles

**Table 3-2**

**Schools Near the GSD Project Area**

<b>Facility</b>	<b>Address</b>	<b>Phone</b>	<b>Distance<sup>1</sup></b>
East Junior High School	311 Lincoln Street Wisconsin Rapids	(715) 422-6100	7.49 miles
WRPS four-year-old Kindergarten	510 Peach Street Wisconsin Rapids	(715) 422-6047	7.52 miles
Immanuel Lutheran School	111 11th Street North Wisconsin Rapids Wisconsin Rapids	(715) 423-0272	7.64 miles
Our Lady Queen of Heaven School	750 10th Avenue South Wisconsin Rapids	(715) 422-0980	7.7 miles
Howe Elementary School	221 8th Street North Wisconsin Rapids	(715) 422-6166	7.72 miles
Lots of Tots Preschool and 4K	441 Garfield Street Wisconsin Rapids	(715) 423-4237	7.9 miles
Precious Hearts Preschool	440 Garfield Street Wisconsin Rapids	(715) 423-4626	8.0 miles
St. Paul's Evangelical Lutheran School	311 14th Avenue South Wisconsin Rapids	(715) 423-4380	8.06 miles
Washington Elementary School	2911 Washington Street Wisconsin Rapids	(715) 422-6130	8.07 miles
G W Mead Elementary School	241 17th Avenue South Wisconsin Rapids	(715) 422-6150	8.15 miles
Mead Elementary Charter School	241 17th Avenue South Wisconsin Rapids	(715) 422-6150	8.15 miles
St Lawrence Early Childhood	551 10th Avenue North Wisconsin Rapids	(715) 422-0990	9.6 miles
Mid-State Technical College	500 32nd Street North Wisconsin Rapids	(715) 422-5300	9.6 miles
Lakeland College - Central Wisconsin Center	500 32nd Street North Wisconsin Rapids	(715) 422-5583	9.7 miles

<sup>1</sup> All locations are measured in miles from Tower Hill Road near the planned GSD Production Area.

**Table 3-3**

**Projected and Actual Traffic Counts**

<b>Golden Sands Dairy - Average Day Trip Generation (projected):</b>						
	<b>In</b>			<b>Out</b>		
	<i>Cars</i>	<i>Trucks</i>	<i>Total</i>	<i>Cars</i>	<i>Trucks</i>	<i>Total</i>
24 Hour	35	25	60	35	25	60
Morning*	3	1	4	2	1	3
Mid-day*	1	1	2	1	1	2
Afternoon*	2	2	4	3	1	4
<b>Counted at Golden Sands Dairy CR G Facility Corn Harvest</b>						
	<b>In</b>			<b>Out</b>		
	<i>Cars</i>	<i>Trucks</i>	<i>Total</i>	<i>Cars</i>	<i>Trucks</i>	<i>Total</i>
24 Hour	99	117	216	95	119	214
Morning	8	4	12	5	6	11
Mid-day	3	3	6	2	7	9
Afternoon	12	3	15	8	5	13

\*Peak hour rates estimated based on counts from CR G facility.