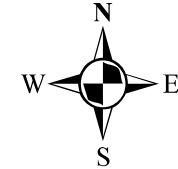





# Dare Farms

## Individual Fields

### Soil Map




#### Legend

-  Fields
-  Water
-  Water Buffer
-  Well
-  Well Buffer
-  Tile Risers
-  Existing Structures

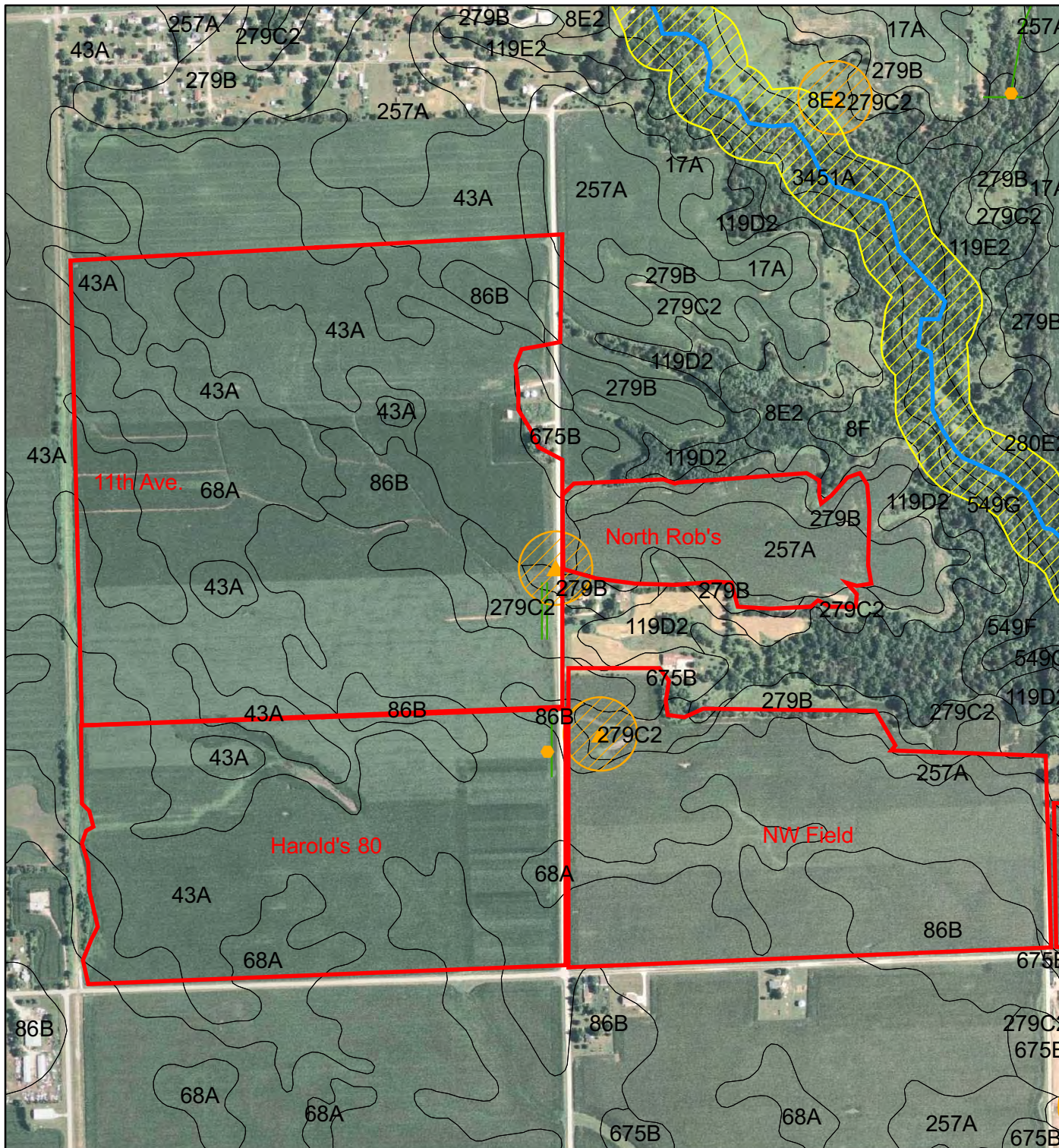
1,750

Feet

**Frank & West**  
Environmental Engineers, Inc.

7226 N. State Route 29  
Springfield, IL 62707

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Fax: 217/487-7687



**Individual Field Information****Dare Farms**

<b>Field Name:</b>	<u>11th Avenue</u>	<b>Total Acres</b>	149.0
		<b>Non-Spreadable Acres</b>	0.4
<b>Township</b>	Canton	<b>Total Spreadable Acres</b>	148.6
<b>Section</b>	11		
<b>FSA Farm #</b>	6180 & 6178 29657 &	<b>Predominant Soil Type:</b>	86B Osco silt loam, 2-5% slopes
<b>FSA Tract #</b>	29655	<b>P test</b>	27
<b>FSA Field #'s</b>	1 & 1	<b>K test</b>	238

**Individual Field Application & Nutrients**

Crop needs	Year	2008	2009	2010	2011	2012	2013
Crop		Corn	Corn	Corn	Corn	Corn	Corn
Yield	(bu/acre OR ton/acre)		200	200	200	200	200
N needed (lbs/ac)	lbs/ac		240	240	240	240	240
- Legume N credits	(lb/acre)		0	0	0	0	0
- Commercial fertilizer N credits	(lb/acre)						
- Manure N carryover credit **	(lb/acre)		14.2	7.1	22.4	52.0	25.1
Total N Credits	(lb/acre)		14.2	7.1	22.4	52.0	25.1
Crop N Need Minus Credits	(lb/acre)		226	233	218	188	215
Maintenance P needed *	(lb/acre)		86	86	86	86	86
Maintenance K needed *	(lb/acre)		56	56	56	56	56

\* Maintenance P & K needed are listed for calculation & uptake purposes only

\*\* Manure N carryover credit = Previous years' apps \* Org N \* Mineralization factor

<b>Dare Farms</b>							
<b>11th Avenue</b>		<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
<b>Manure Application</b>		Corn	Corn	Corn	Corn	Corn	Corn
Storage		Liquid		Liquid	Solid		Liquid
Application Method		Inject		Inject	Incorporate		Inject
Storage/Application Method		LINE1		LINE1	LINE2		LINE1
1st Year Available N ( $Am-N * N$ <i>retention due to app method</i> ) + ( $OrgN$ $* .35$ )	(lb/1000 gal or lb/ton)			11.84	12.15		11.84
N App Rate ( $Crop\ N\ Need / 1st\ Yr\ Av\ N$ )	(1000 gal/acre or ton/acre)			19.7	17.9		18.2
P App Rate ( $Maintenance\ P / P\ in\ analysis$ )	(1000 gal/acre or ton/acre)			5.65	4.78		5.65
Apply at Prate or Nrate?				Nrate	Nrate		Nrate
<b>Application Rate to Use</b>	<b>(1000 gal or Ton)</b>	<b>6.0</b>	<b>0.0</b>	<b>8.0</b>	<b>17.9</b>	<b>0.0</b>	<b>8.0</b>
Total application ( $App\ Rate * Spreadable\ Acres$ )	(gallons or Tons)			1,188,800	2,661		1,188,800
N applied ( $1st\ Year\ AvN * App\ rate$ )	(lb/acre)			95	218		95
P applied ( $P\ in\ manure * App\ rate$ )	(lb/acre)			122	322		122
K applied ( $K\ in\ manure * App\ rate$ )	(lb/acre)			151	466		151
<b>Additional N Needed</b>	<b>(lb/acre)</b>		<b>226</b>	<b>138</b>	<b>0</b>	<b>188</b>	<b>120</b>
Acres Covered	(acres)		0.0	148.6	148.6	0.0	148.6

**Individual Field Information****Dare Farms**

<b>Field Name:</b>	<u>North Rob's</u>	<b>Total Acres</b>	33.4
		<b>Non-Spreadable Acres</b>	0.0
<b>Township</b>	Canton	<b>Total Spreadable Acres</b>	33.4
<b>Section</b>	11		
<b>FSA Farm #</b>	6180, 6172 & 6182	<b>Predominant Soil Type:</b>	279B Rozetta silt loam, 2-5% slopes
<b>FSA Tract #</b>	29657, 2965 9 & 29649	<b>P test</b>	33
<b>FSA Field #'s</b>	2, 2, & 2	<b>K test</b>	185

**Individual Field Application & Nutrients**

Crop needs	Year	2008	2009	2010	2011	2012	2013
Crop		Corn	Corn	Corn	Corn	Corn	Corn
Yield	(bu/acre OR ton/acre)		200	200	200	200	200
N needed (lbs/ac)	lbs/ac		240	240	240	240	240
- Legume N credits	(lb/acre)		0	0	0	0	0
- Commercial fertilizer N credits	(lb/acre)						
- Manure N carryover credit **	(lb/acre)		0.0	14.2	49.4	24.7	31.2
Total N Credits	(lb/acre)		0	14.2	49.4	24.7	31.2
Crop N Need Minus Credits	(lb/acre)		240	226	191	215	209
Maintenance P needed *	(lb/acre)		86	86	86	86	86
Maintenance K needed *	(lb/acre)		56	56	56	56	56

\* Maintenance P & K needed are listed for calculation & uptake purposes only

\*\* Manure N carryover credit = Previous years' apps \* Org N \* Mineralization factor



<b>Dare Farms</b>							
<b>North Rob's</b>		<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
<b>Manure Application</b>		Corn	Corn	Corn	Corn	Corn	Corn
Storage			Liquid	Solid		Liquid	Solid
Application Method			Inject	Incorporate		Inject	Incorporate
Storage/Application Method			LINE1	LINE2		LINE1	LINE2
1st Year Available N ( $Am-N * N$ <i>retention due to app method</i> ) + ( $OrgN$ $* .35$ )	(lb/1000 gal or lb/ton)		11.84	12.15		11.84	12.15
N App Rate ( $Crop\ N\ Need / 1st\ Yr\ Av\ N$ )	(1000 gal/acre or ton/acre)		20.3	18.6		18.2	17.2
P App Rate ( $Maintenance\ P / P\ in\ analysis$ )	(1000 gal/acre or ton/acre)		5.65	4.78		5.65	4.78
Apply at Prate or Nrate?			Nrate	Nrate		Nrate	Nrate
<b>Application Rate to Use</b>	<b>(1000 gal or Ton)</b>	<b>0.0</b>	<b>6.0</b>	<b>18.6</b>	<b>0.0</b>	<b>8.0</b>	<b>17.2</b>
Total application ( $App\ Rate * Spreadable\ Acres$ )	(gallons or Tons)		200,400	621		267,200	300
N applied ( $1st\ Year\ AvN * App\ rate$ )	(lb/acre)		71	226		95	209
P applied ( $P\ in\ manure * App\ rate$ )	(lb/acre)		71	335		122	309
K applied ( $K\ in\ manure * App\ rate$ )	(lb/acre)		91	483		151	447
<b>Additional N Needed</b>	<b>(lb/acre)</b>		<b>169</b>	<b>0</b>	<b>191</b>	<b>121</b>	<b>0</b>
Acres Covered	(acres)		33.4	33.4	0.0	33.4	17.5

**Individual Field Information****Dare Farms**

<b>Field Name:</b>	<u>Harold's 80</u>	<b>Total Acres</b>	83.0
		<b>Non-Spreadable Acres</b>	0.0
<b>Township</b>	Canton	<b>Total Spreadable Acres</b>	83.0
<b>Section</b>	11		
<b>FSA Farm #</b>	3361	<b>Predominant Soil Type:</b>	43A Ipava silt loam, 0-2% slope
<b>FSA Tract #</b>	3156	<b>P test</b>	60
<b>FSA Field #'s</b>	1	<b>K test</b>	308

**Individual Field Application & Nutrients**

Crop needs	Year	2008	2009	2010	2011	2012	2013
Crop		Corn	Corn	Corn	Corn	Corn	Corn
Yield	(bu/acre OR ton/acre)		200	200	200	200	200
N needed (lbs/ac)	lbs/ac		240	240	240	240	240
- Legume N credits	(lb/acre)		0	0	0	0	0
- Commercial fertilizer N credits	(lb/acre)						
- Manure N carryover credit **	(lb/acre)		14.2	7.1	22.4	11.2	47.6
Total N Credits	(lb/acre)		14.2	7.1	22.4	11.2	47.6
Crop N Need Minus Credits	(lb/acre)		226	233	218	229	192
Maintenance P needed *	(lb/acre)		86	86	86	86	86
Maintenance K needed *	(lb/acre)		56	56	56	56	56

\* Maintenance P & K needed are listed for calculation & uptake purposes only

\*\* Manure N carryover credit = Previous years' apps \* Org N \* Mineralization factor

<b>Dare Farms</b>							
<b>Harold's 80</b>		<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
<b>Manure Application</b>		Corn	Corn	Corn	Corn	Corn	Corn
Storage		Liquid		Liquid		Solid	Liquid
Application Method		Inject		Inject		Incorporate	Inject
Storage/Application Method		LINE1		LINE1		LINE2	LINE1
1st Year Available N ( $Am-N * N$ <i>retention due to app method</i> ) + ( $OrgN$ $* .35$ )	(lb/1000 gal or lb/ton)			11.84		12.15	11.84
N App Rate ( $Crop\ N\ Need / 1st\ Yr\ Av\ N$ )	(1000 gal/acre or ton/acre)			19.7		18.8	16.3
P App Rate ( $Maintenance\ P / P\ in\ analysis$ )	(1000 gal/acre or ton/acre)			5.65		4.78	5.65
Apply at Prate or Nrate?				Nrate		Nrate	Nrate
<b>Application Rate to Use</b>	<b>(1000 gal or Ton)</b>	<b>6.0</b>	<b>0.0</b>	<b>8.0</b>	<b>0.0</b>	<b>18.8</b>	<b>8.0</b>
Total application ( $App\ Rate * Spreadable\ Acres$ )	(gallons or Tons)			664,000		1,563	664,000
N applied ( $1st\ Year\ AvN * App\ rate$ )	(lb/acre)			95		229	95
P applied ( $P\ in\ manure * App\ rate$ )	(lb/acre)			122		339	122
K applied ( $K\ in\ manure * App\ rate$ )	(lb/acre)			151		490	151
<b>Additional N Needed</b>	<b>(lb/acre)</b>		<b>226</b>	<b>138</b>	<b>218</b>	<b>0</b>	<b>98</b>
Acres Covered	(acres)		0.0	83.0	0.0	83.0	83.0

**Individual Field Information****Dare Farms**

<b>Field Name:</b>	<u>NW Field</u>	<b>Total Acres</b>	77.8
		<b>Non-Spreadable Acres</b>	0.0
<b>Township</b>	Canton	<b>Total Spreadable Acres</b>	77.8
<b>Section</b>	11		
<b>FSA Farm #</b>	6181 & 6182	<b>Predominant Soil Type:</b>	86B Osco silt loam, 2-5% slopes
<b>FSA Tract #</b>	:9658 & 29659	<b>P test</b>	33
<b>FSA Field #'s</b>	3 & 3	<b>K test</b>	215

**Individual Field Application & Nutrients**

<b>Crop needs</b>	<b>Year</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Crop		Corn	Corn	Corn	Corn	Corn	Corn
Yield	(bu/acre OR ton/acre)		200	200	200	200	200
N needed (lbs/ac)	lbs/ac		240	240	240	240	240
- Legume N credits	(lb/acre)		0	0	0	0	0
- Commercial fertilizer N credits	(lb/acre)						
- Manure N carryover credit **	(lb/acre)		0.0	14.2	7.1	22.4	30.1
Total N Credits	(lb/acre)		0	14.2	7.1	22.4	30.1
Crop N Need Minus Credits	(lb/acre)		240	226	233	218	210
Maintenance P needed *	(lb/acre)		86	86	86	86	86
Maintenance K needed *	(lb/acre)		56	56	56	56	56

\* Maintenance P & K needed are listed for calculation & uptake purposes only

\*\* Manure N carryover credit = Previous years' apps \* Org N \* Mineralization factor



<b>Dare Farms</b>							
<b>NW Field</b>		<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
<b>Manure Application</b>		Corn	Corn	Corn	Corn	Corn	Corn
Storage			Liquid		Liquid	Liquid	Liquid
Application Method			Inject		Inject	Inject	Inject
Storage/Application Method			LINE1		LINE1	LINE1	LINE1
1st Year Available N ( $Am-N * N$ <i>retention due to app method</i> ) + ( $OrgN$ $* .35$ )	(lb/1000 gal)		11.84		11.84	11.84	11.84
N App Rate ( $Crop\ N\ Need / 1st\ Yr\ Av\ N$ )	(1000 gal/acre)		20.3		19.7	18.4	17.7
P App Rate ( $Maintenance\ P / P\ in\ analysis$ )	(1000 gal/acre)		5.65		5.65	5.65	5.65
Apply at Prate or Nrate?			Nrate		Nrate	Nrate	Nrate
<b>Application Rate to Use</b>	<b>(1000 gal)</b>	<b>0.0</b>	<b>6.0</b>	<b>0.0</b>	<b>8.0</b>	<b>8.0</b>	<b>8.0</b>
Total application ( $App\ Rate * Spreadable\ Acres$ )	(gallons)		466,800		622,400	622,400	467,400
N applied ( $1st\ Year\ AvN * App\ rate$ )	(lb/acre)		71		95	95	95
P applied ( $P\ in\ manure * App\ rate$ )	(lb/acre)		71		122	122	122
K applied ( $K\ in\ manure * App\ rate$ )	(lb/acre)		91		151	151	151
<b>Additional N Needed</b>	<b>(lb/acre)</b>		<b>169</b>	<b>226</b>	<b>138</b>	<b>123</b>	<b>115</b>
Acres Covered	(acres)		77.8	0.0	77.8	77.8	58.4