Division of Surface Water
Application for Authorization: Class B Beneficial Use Sites

Biosolids Treatment Works Information

Treatment works name: Ringler Energy, LLC		
Ohio NPDES permit #: 4IN00204*AD		County: Morrow
Mailing address: 461 St. Rt. 61		
City: Marengo	State: OH	Zip: 43334
Operator of record: Alex Ringler		
Telephone number: (419)-253-5300		
Email address: alex@renergy.com		

Certification Statement

1. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

2. I have read and understand Chapter 3745-40 of the Ohio Administrative Code (OAC) and I agree to beneficially use biosolids in accordance with all applicable beneficial use requirements and restrictions established in Chapter 3745-40 of the Ohio Administrative Code.

3. I agree to only beneficially use biosolids that have satisfied a pathogen reduction alternative and a vector attraction reduction option and have metals concentration below the pollutant ceiling concentrations as established in Chapter 3745-40 of the Ohio Administrative Code.

4. I agree to maintain all applicable records established in Chapter 3745-40 of the Ohio Administrative Code.

Signature _____ Date 8 / 17 / 16

This form shall be signed by the operator of record for the treatment works, be an original signature, not a copy, and must be less than one year old at the time the application for transfer is submitted to Ohio EPA for review.

OhioEPA
Ohio Environmental Protection Agency
Division of Surface Water

Owner Consent for Beneficial Use

Exemption 6

Certification Statement

1. I agree to allow biosolids generated by the treatment plant identified on Form BUA-1 to be beneficially used on my property at agronomic rates.

2. I agree to allow federal, state and local regulatory staff access to the beneficial use site for the purposes of inspecting and authorizing the beneficial use site, beneficially using biosolids, and collecting and analyzing samples from the beneficial use site. I reserve the right to ask the above parties for proper identification at any time.

3. I certify that I am holder of legal title to the property described on application form BUA-5, or am authorized by the holder to give consent for the land application of biosolids, and that there are no restrictions to the granting of consent under this form.

Exemption 6

9 / 28 / 15
Date

For purposes of this form, "beneficial use site owner" means the person who owns the legal rights to the proposed beneficial use site. In the event the owner of the beneficial use site changes, Form BUA-2 must be revised and resubmitted to Ohio EPA.

ED_014244A_00000168-00002

Beneficial Use Site Operator Consent for Beneficial Use

[redacted]

Certification Statement

I agree to be responsible for complying with all applicable beneficial use requirements established in Chapter 3745-40 of the Ohio Administrative Code.

[redacted]

9 / 5 / 16
Date

For purposes of this form, "beneficial use site operator" means the person who plants, grows, harvests or otherwise manages feed crops, fiber crops, food crops or pasture land on the proposed beneficial use site. In the event the operator of the beneficial use site changes, Form BUA-3 must be revised and resubmitted to Ohio EPA.

Beneficial User Information

Beneficial user[1]: Ringler Energy, LLC		
Contact person: Alex Ringler		
Mailing address: 461 St Rt 61		
City: Marengo	State: OH	Zip: 43334
Telephone number: (419)-253-5300		
Email address: alex@renergy.com		

Certification Statement

I agree to be responsible for complying with all applicable beneficial use requirements established in Chapter 3745-40 of the Ohio Administrative Code.

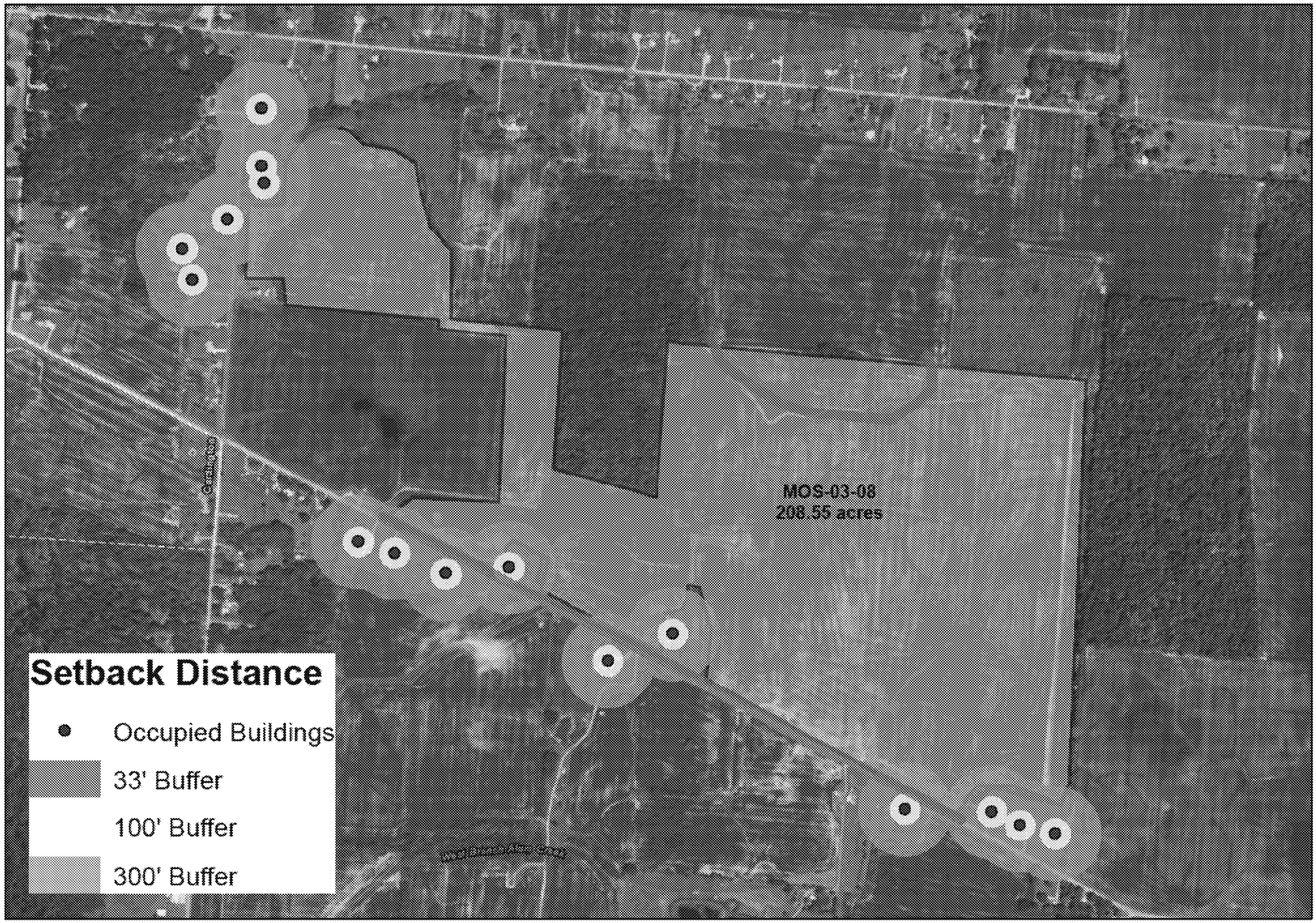
Signature[2] _____ Date 8 / 17 / 16

Original signatures, not copies, must be less than one year old at the time the application for transfer is submitted to Ohio EPA for review.

[1] For purposes of this form, the beneficial user means the person who sprays or spreads Class B biosolids onto the surface of the beneficial use site, injects below the surface of the beneficial use site, or incorporates into the soil of the beneficial use site, for the purpose of providing an agronomic benefit.

[2] In the event the beneficial user of the beneficial use site changes, Form BUA-4 must be revised and resubmitted to Ohio EPA.

MOS-03-08 Setback Distance



N
W E
S

0 0.15 0.3 0.6 Miles

Setback Distance		
MOS-03-08		
Total Area: 208.55 acres		
Setbacks:		
	Residence - 300' Buffer	12.97 acres
	Residence - 100' Buffer	.13 acres
	Surface Waters - 33' Buffer	3.59 acres
	Total Setback Area:	16.69 acres

Soil Map

Gwe5B2
Gwd5C2
Gwe5B2
Ble1B1
Gwd5C2
Ble1A1
Ble1B1
Pm
Pm
Ble1A1
Ble1B1
Ble1B1
Ble1A1
Ble1B1
Gwe5B2
Ble1A1
Gwe5B2
Ble1B1
Pm
Ble1B1
Pm
Ble1A1
Ble1A1
Gwe5B2
Ble1B1
Ble1A1
Ble1A1
Gwe5B2
Drive way
40° 29' 54" N
40° 29' 59" N
82° 32' 24" W
82° 30' 32" W
341300
341500
341700
341900
342100
342300
342500
342700
342900
343100
343300
343500
343700
Map Scale: 1:12,000 if printed on A landscape (11" x 8.5") sheet.
Meters
0
150
300
600
900
Feet
0
500
1000
2000
3000
N
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

Map Unit Legend

Morrow County, Ohio (OH117)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
Ble1A1	Blount silt loam, end moraine, 0 to 2 percent slopes	104.7	50.2%
Ble1B1	Blount silt loam, end moraine, 2 to 4 percent slopes	42.8	20.5%
Gwd5C2	Glynwood clay loam, 6 to 12 percent slopes, eroded	1.9	0.9%
Gwe5B2	Glynwood clay loam, end moraine, 2 to 6 percent slopes, eroded	8.1	3.9%
Pm	Pewamo silty clay loam, 0 to 1 percent slopes	51.1	24.5%
Totals for Area of Interest		**208.6**	**100.0%**

Map—Hydrologic Soil Group

Map Scale: 1:12,000 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 150 300 600 900

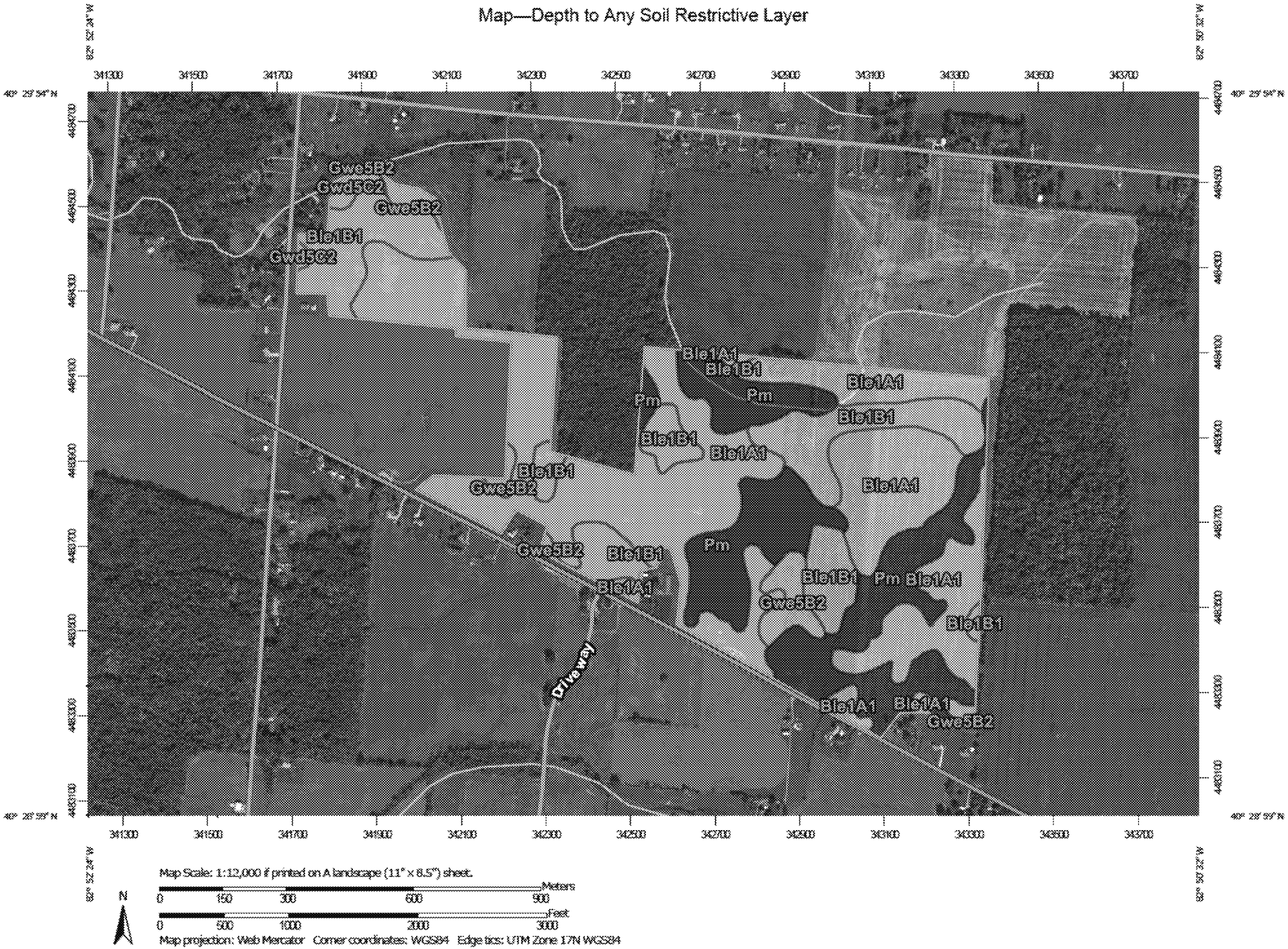
Feet: 0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

Table—Hydrologic Soil Group

Hydrologic Soil Group— Summary by Map Unit — Morrow County, Ohio (OH117)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
Ble1A1	Blount silt loam, end moraine, 0 to 2 percent slopes	D	104.7	50.2%
Ble1B1	Blount silt loam, end moraine, 2 to 4 percent slopes	D	42.8	20.5%
Gwd5C2	Glynwood clay loam, 6 to 12 percent slopes, eroded	D	1.9	0.9%
Gwe5B2	Glynwood clay loam, end moraine, 2 to 6 percent slopes, eroded	D	8.1	3.9%
Pm	Pewamo silty clay loam, 0 to 1 percent slopes	C/D	51.1	24.5%
Totals for Area of Interest			**208.6**	**100.0%**

Map—Depth to Any Soil Restrictive Layer



Map Scale: 1:12,000 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 150 300 600 900

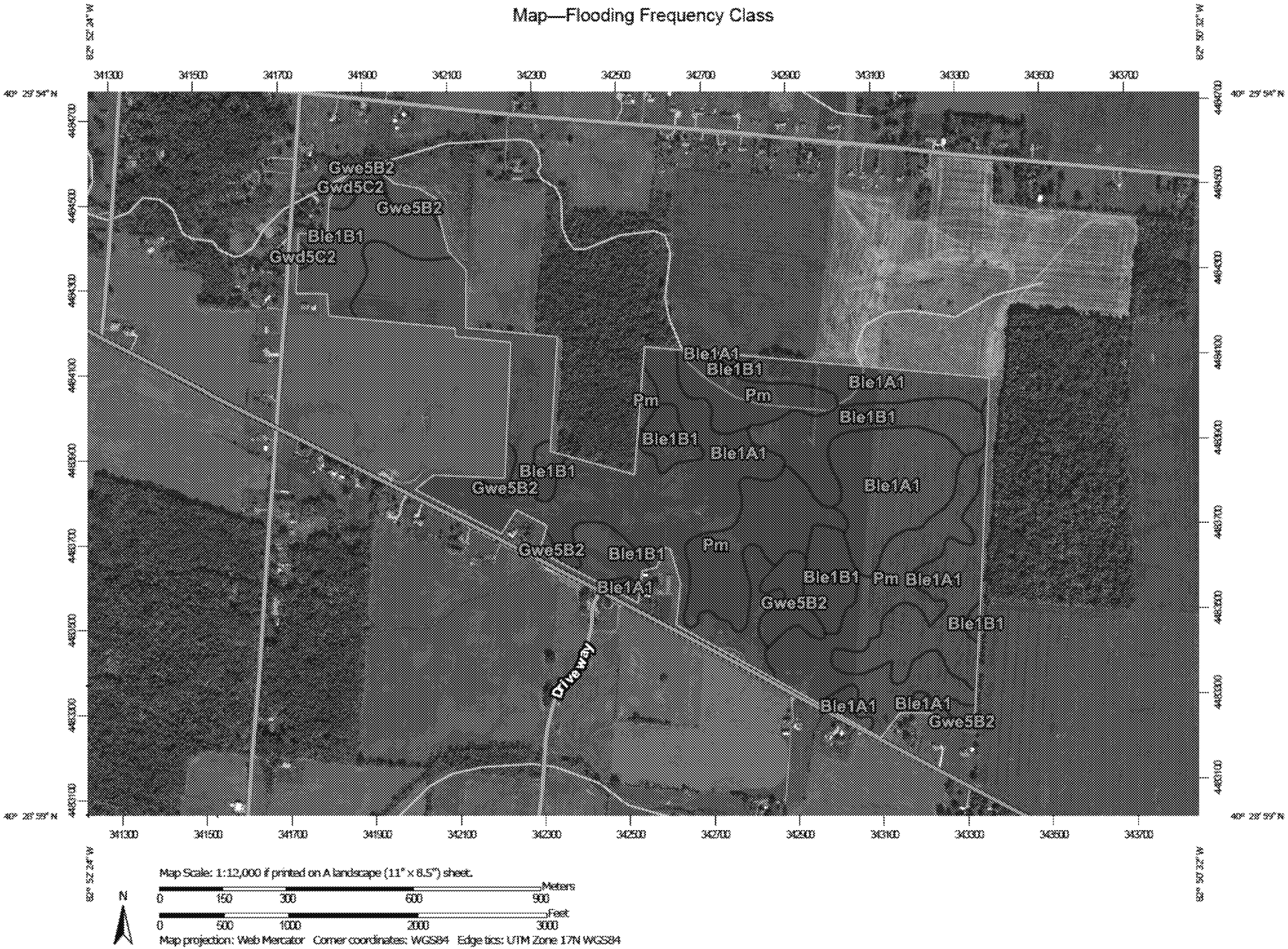
Feet: 0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

Table—Depth to Any Soil Restrictive Layer

Depth to Any Soil Restrictive Layer— Summary by Map Unit — Morrow County, Ohio (OH117)				
Map unit symbol	**Map unit name**	**Rating (centimeters)**	**Acres in AOI**	**Percent of AOI**
Ble1A1	Blount silt loam, end moraine, 0 to 2 percent slopes	99	104.7	50.2%
Ble1B1	Blount silt loam, end moraine, 2 to 4 percent slopes	94	42.8	20.5%
Gwd5C2	Glynwood clay loam, 6 to 12 percent slopes, eroded	74	1.9	0.9%
Gwe5B2	Glynwood clay loam, end moraine, 2 to 6 percent slopes, eroded	76	8.1	3.9%
Pm	Pewamo silty clay loam, 0 to 1 percent slopes	>200	51.1	24.5%
Totals for Area of Interest			**208.6**	**100.0%**

Map—Flooding Frequency Class



Table—Flooding Frequency Class

Flooding Frequency Class— Summary by Map Unit — Morrow County, Ohio (OH117)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
Ble1A1	Blount silt loam, end moraine, 0 to 2 percent slopes	None	104.7	50.2%
Ble1B1	Blount silt loam, end moraine, 2 to 4 percent slopes	None	42.8	20.5%
Gwd5C2	Glynwood clay loam, 6 to 12 percent slopes, eroded	None	1.9	0.9%
Gwe5B2	Glynwood clay loam, end moraine, 2 to 6 percent slopes, eroded	None	8.1	3.9%
Pm	Pewamo silty clay loam, 0 to 1 percent slopes	None	51.1	24.5%
Totals for Area of Interest			**208.6**	**100.0%**

lb/A

BROOKSIDE LABORATORIES, INC. 58251-7

SOIL AUDIT AND INVENTORY REPORT

Name Ringler Energy City Cardington State OH

Independent Consultant Brookside Consultants of Ohio, Inc. Date 05/19/2017

Sample Location ETGEN WHEAT 529	1	2	3	4	5
Sample Identification					
Lab Number	0323-1	0324-1	0325-1	0326-1	0327-1
Total Exchange Capacity (ME/100 g)	13.13	11.45	11.84	16.86	12.55
pH (H_2O 1:1)	6.7	5.7	7.3	6.5	6.7
Organic Matter (360°C LOI) %	3.08	2.45	2.60	3.79	3.08
Estimated Nitrogen Release lb/A	81	69	72	88	81
ANIONS — SOLUBLE SULFUR* ppm	9	11	11	9	11
PHOSPHORUS — MEHLICH III lb/A P as P_2O_5	92	69	202	133	156
PHOSPHORUS — MEHLICH III ppm of P	20	15	44	29	34
PHOSPHORUS — BRAY II lb/A P as P_2O_5	82	60	252	206	206
PHOSPHORUS — BRAY II ppm of P	18	13	55	45	45
PHOSPHORUS — OLSEN lb/A P as P_2O_5					
PHOSPHORUS — OLSEN ppm of P					
EXCHANGEABLE CATIONS — CALCIUM* lb/A	3718	2426	3382	4478	3298
CALCIUM* ppm	1859	1213	1691	2239	1649
MAGNESIUM* lb/A	560	376	544	736	614
MAGNESIUM* ppm	280	188	272	368	307
POTASSIUM* lb/A	162	192	382	296	324
POTASSIUM* ppm	81	96	191	148	162
SODIUM* lb/A	40	64	68	60	80
SODIUM* ppm	20	32	34	30	40
BASE SATURATION PERCENT					
Calcium %	70.79	52.97	71.41	66.40	65.70
Magnesium %	17.77	13.68	19.14	18.19	20.39
Potassium %	1.58	2.15	4.14	2.25	3.31
Sodium %	0.66	1.22	1.25	0.77	1.39
Other Bases %	4.70	6.00	4.10	4.90	4.70
Hydrogen %	4.50	24.00	0.00	7.50	4.50
EXTRACTABLE MINORS					
Boron* (ppm)	0.56	0.32	0.64	0.85	0.68
Iron* (ppm)	176	141	299	281	246
Manganese* (ppm)	101	61	96	20	56
Copper* (ppm)	2.35	1.65	2.67	3.69	3.09
Zinc* (ppm)	2.21	1.62	2.21	2.95	3.88
Aluminum* (ppm)	760	839	605	724	600
OTHER TESTS — Soluble Salts (mmhos/cm)					
Chlorides (ppm)					

* Mehlich III Extractable

lb/A

BROOKSIDE LABORATORIES, INC. 58251-7

SOIL AUDIT AND INVENTORY REPORT

Name Ringler Energy City Cardington State OH

Independent Consultant Brookside Consultants of Ohio, Inc. Date 05/19/2017

Sample Location ETGEN WHEAT 529	6	7	8	9	10
Sample Identification					
Lab Number	0328-1	0329-1	0330-1	0331-1	0332-1
Total Exchange Capacity (ME/100 g)	9.92	18.34	13.64	15.40	11.69
pH (H_2O 1:1)	6.6	6.8	5.5	5.9	5.3
Organic Matter (360°C LOI) %	2.67	4.27	3.27	3.59	2.62
Estimated Nitrogen Release lb/A	73	93	83	86	72
ANIONS — SOLUBLE SULFUR* ppm	9	10	10	10	11
PHOSPHORUS — MEHLICH III lb/A P as P_2O_5	115	147	115	137	82
PHOSPHORUS — MEHLICH III ppm of P	25	32	25	30	18
PHOSPHORUS — BRAY II lb/A P as P_2O_5	124	179	92	156	64
PHOSPHORUS — BRAY II ppm of P	27	39	20	34	14
PHOSPHORUS — OLSEN lb/A P as P_2O_5					
PHOSPHORUS — OLSEN ppm of P					
EXCHANGEABLE CATIONS — CALCIUM* lb/A	2616	5156	2516	3518	1958
CALCIUM* ppm	1308	2578	1258	1759	979
MAGNESIUM* lb/A	466	834	490	596	352
MAGNESIUM* ppm	233	417	245	298	176
POTASSIUM* lb/A	188	358	188	284	156
POTASSIUM* ppm	94	179	94	142	78
SODIUM* lb/A	58	56	46	58	58
SODIUM* ppm	29	28	23	29	29
BASE SATURATION PERCENT					
Calcium %	65.93	70.28	46.11	57.11	41.87
Magnesium %	19.57	18.95	14.97	16.13	12.55
Potassium %	2.43	2.50	1.77	2.36	1.71
Sodium %	1.27	0.66	0.73	0.82	1.08
Other Bases %	4.80	4.60	6.40	5.60	6.80
Hydrogen %	6.00	3.00	30.00	18.00	36.00
EXTRACTABLE MINORS					
Boron* (ppm)	0.40	0.74	0.38	0.72	0.36
Iron* (ppm)	146	235	259	296	228
Manganese* (ppm)	153	43	25	38	46
Copper* (ppm)	1.62	3.63	2.15	2.96	1.75
Zinc* (ppm)	1.97	2.86	2.65	2.06	1.28
Aluminum* (ppm)	665	834	1003	825	819
OTHER TESTS — Soluble Salts (mmhos/cm)					
OTHER TESTS — Chlorides (ppm)					
OTHER TESTS					
OTHER TESTS					

* Mehlich III Extractable

lb/A

BROOKSIDE LABORATORIES, INC. 58251-7

SOIL AUDIT AND INVENTORY REPORT

Name Ringler Energy City Cardington State OH

Independent Consultant Brookside Consultants of Ohio, Inc. Date 05/19/2017

Sample Location ETGEN WHEAT 529	11	12	13	14	15
Sample Identification					
Lab Number	0333-1	0334-1	0335-1	0336-1	0337-1
Total Exchange Capacity (ME/100 g)	11.53	13.71	12.29	17.00	14.99
pH (H_2O 1:1)	6.2	6.1	5.8	6.2	6.6
Organic Matter (360°C LOI) %	2.55	2.93	2.64	4.20	3.78
Estimated Nitrogen Release lb/A	71	79	73	92	88
ANIONS: SOLUBLE SULFUR* ppm	10	10	9	11	10
PHOSPHORUS: MEHLICH III lb/A P as P_2O_5	64	128	64	156	55
PHOSPHORUS: MEHLICH III ppm of P	14	28	14	34	12
PHOSPHORUS: BRAY II lb/A P as P_2O_5	46	165	37	165	64
PHOSPHORUS: BRAY II ppm of P	10	36	8	36	14
PHOSPHORUS: OLSEN lb/A P as P_2O_5					
PHOSPHORUS: OLSEN ppm of P					
EXCHANGEABLE CATIONS: CALCIUM* lb/A	2842	3436	2684	4362	3934
CALCIUM* ppm	1421	1718	1342	2181	1967
MAGNESIUM* lb/A	498	514	472	628	748
MAGNESIUM* ppm	249	257	236	314	374
POTASSIUM* lb/A	194	226	160	326	222
POTASSIUM* ppm	97	113	80	163	111
SODIUM* lb/A	56	58	54	62	60
SODIUM* ppm	28	29	27	31	30
BASE SATURATION PERCENT					
Calcium %	61.62	62.65	54.60	64.15	65.61
Magnesium %	18.00	15.62	16.00	15.39	20.79
Potassium %	2.16	2.11	1.67	2.46	1.90
Sodium %	1.06	0.92	0.96	0.79	0.87
Other Bases %	5.20	5.20	5.80	5.20	4.80
Hydrogen %	12.00	13.50	21.00	12.00	6.00
EXTRACTABLE MINORS					
Boron* (ppm)	0.41	0.51	0.32	0.65	0.52
Iron* (ppm)	145	186	148	238	129
Manganese* (ppm)	74	70	64	21	65
Copper* (ppm)	1.97	2.79	1.94	3.71	2.66
Zinc* (ppm)	1.45	2.05	1.40	2.43	1.79
Aluminum* (ppm)	760	737	755	812	716
OTHER TESTS: Soluble Salts (mmhos/cm)					
Chlorides (ppm)					

* Mehlich III Extractable

lb/A

BROOKSIDE LABORATORIES, INC.

58251-7

SOIL AUDIT AND INVENTORY REPORT

Name Ringler Energy City Cardington State OH

Independent Consultant Brookside Consultants of Ohio, Inc. Date 05/19/2017

Sample Location ETGEN WHEAT 529	16	17	18	19	20
Sample Identification					
Lab Number	0338-1	0339-1	0340-1	0341-1	0342-1
Total Exchange Capacity (ME/100 g)	15.33	16.34	11.25	17.25	19.66
pH (H_2O 1:1)	6.3	6.5	6.0	5.9	6.4
Organic Matter (360°C LOI) %	3.46	3.55	3.01	4.44	5.37
Estimated Nitrogen Release lb/A	85	86	80	94	102
ANIONS — SOLUBLE SULFUR* ppm	10	9	10	10	12
PHOSPHORUS — MEHLICH III lb/A P as P_2O_5	60	261	73	105	211
PHOSPHORUS — MEHLICH III ppm of P	13	57	16	23	46
PHOSPHORUS — BRAY II lb/A P as P_2O_5	50	385	41	115	224
PHOSPHORUS — BRAY II ppm of P	11	84	9	25	49
PHOSPHORUS — OLSEN lb/A P as P_2O_5					
PHOSPHORUS — OLSEN ppm of P					
EXCHANGEABLE CATIONS — CALCIUM* lb/A	3936	4480	2628	4148	5162
CALCIUM* ppm	1968	2240	1314	2074	2581
MAGNESIUM* lb/A	648	642	488	558	820
MAGNESIUM* ppm	324	321	244	279	410
POTASSIUM* lb/A	224	264	172	292	354
POTASSIUM* ppm	112	132	86	146	177
SODIUM* lb/A	52	48	60	50	62
SODIUM* ppm	26	24	30	25	31
BASE SATURATION PERCENT					
Calcium %	64.19	68.54	58.40	60.12	65.64
Magnesium %	17.61	16.37	18.07	13.48	17.38
Potassium %	1.87	2.07	1.96	2.17	2.31
Sodium %	0.74	0.64	1.16	0.63	0.69
Other Bases %	5.10	4.90	5.40	5.60	5.00
Hydrogen %	10.50	7.50	15.00	18.00	9.00
EXTRACTABLE MINORS					
Boron* (ppm)	0.49	0.63	0.38	0.74	0.84
Iron* (ppm)	179	251	156	248	228
Manganese* (ppm)	34	30	64	26	26
Copper* (ppm)	2.54	3.49	2.22	4.08	4.63
Zinc* (ppm)	1.60	2.46	1.80	2.48	3.80
Aluminum* (ppm)	780	762	740	885	854
OTHER TESTS — Soluble Salts (mmhos/cm)					
OTHER TESTS — Chlorides (ppm)					

* Mehlich III Extractable

lb/A

BROOKSIDE LABORATORIES, INC. 58251-7

SOIL AUDIT AND INVENTORY REPORT

Name Ringler Energy City Cardington State OH

Independent Consultant Brookside Consultants of Ohio, Inc. Date 05/19/2017

Sample Location			ETGEN WHEAT 529	21			
Sample Identification							
Lab Number				0343-1			
Total Exchange Capacity (ME/100 g)				16.19			
pH (H_2O 1:1)				6.1			
Organic Matter (360°C LOI) %				4.09			
Estimated Nitrogen Release			lb/A	91			
ANIONS	SOLUBLE SULFUR*		ppm	12			
	PHOSPHORUS	MEHLICH III	lb/A P as P_2O_5	87			
			ppm of P	19			
		BRAY II	lb/A P as P_2O_5	55			
			ppm of P	12			
		OLSEN	lb/A P as P_2O_5				
			ppm of P				
EXCHANGEABLE CATIONS	CALCIUM*		lb/A	4022			
			ppm	2011			
	MAGNESIUM*		lb/A	636			
			ppm	318			
	POTASSIUM*		lb/A	250			
			ppm	125			
	SODIUM*		lb/A	64			
			ppm	32			
BASE SATURATION PERCENT							
	Calcium		%	62.11			
	Magnesium		%	16.37			
	Potassium		%	1.98			
	Sodium		%	0.86			
	Other Bases		%	5.20			
	Hydrogen		%	13.50			
EXTRACTABLE MINORS							
	Boron* (ppm)			0.62			
	Iron* (ppm)			205			
	Manganese* (ppm)			39			
	Copper* (ppm)			3.40			
	Zinc* (ppm)			2.28			
	Aluminum* (ppm)			779			
OTHER TESTS	Soluble Salts (mmhos/cm)						
	Chlorides (ppm)						

* Mehlich III Extractable

Beneficial Use Site Information

Ohio EPA Site I.D. (Ohio EPA Use Only)

Field site I.D.: MOS-03-08

Beneficial use site location: Southeast of Cardington, Ohio; Northside of 529

County: Morrow	**Township**: Lincoln
Latitude: 40.487001	**Longitude**: -82.855274

Total acreage proposed for beneficial use: 208

Type of beneficial use to be performed:

Surface application ☐
Injection or immediate incorporation ■

Ground slope percent:

Less than 15%	■	15% to 19.9%	☐
Greater than 20%	☐		

Soil pH (s.u): 6.2

Bedrock depth (feet): Avg > 3 feet

Soil phosphorus (mg/kg): 28

Bray Kurtz P1 ■
Mehlich 3 ☐

Type of crops to be grown:

Crop Type	Expected Yield
Corn	1 8 0
Soybeans	6 0
Wheat	
Pasture	
Hay	
Other:	

Soil Types:

Soil Unit Symbol	Soil Unit Name	Hydrologic Soil Group	Flooding Frequency Class
BIe1A1	Blount silt loam, end moraine, 0 to 2 percent slopes	D	None
BIe1B1	Blount silt loam, end moraine, 2 to 4 percent slopes	D	None
Gwd5C2	Glynwood Clay loam, 6 to 12 percent slopes, eroded	D	None
Gwe5B2	Glynwood clay loam, end moraine, 2 to 6 percent slopes, eroded	D	None
Pm	Pewamo Silty clay loam, 0 to 1 percent slopes	C / D	None

Applicable isolation distances:

Type of Isolation Distance			
Surface waters of the state	■	Sinkhole/UIC class V drainage	☐
Occupied building	■	Private potable water source	☐
Medical care facility	☐		

Are any endangered species or endangered species habitats located on the beneficial use site?

☐ Yes	■ No

If "Yes" is marked, list the types of endangered species or endangered species habitat:

Have biosolids been beneficially used on the site since July 20, 1993?

☐ Yes	■ No

If "Yes" is marked, list the biosolids generators and years beneficial use occurred:

Generator	NPDES permit No.	Year of Beneficial Use

The application must also include all of the following:

- ■ A soil map of the proposed beneficial use site;
- ■ A frequency flood class map of the proposed beneficial use site;
- ■ An aerial map of the proposed beneficial use site that clearly identifies the entrance of the beneficial use site from the nearest road and all applicable isolation distances as established in Chapter 3745-40 of the Ohio Administrative Code;
- ■ A vicinity road map at or near the township level that clearly identifies the proposed beneficial use site with all roads labeled; and
- ■ A copy of the most recent soil test results identified in this form.