Sampling Point: W-BAO-012121-01

Tree Statum (Plot size: 30' % Cover Species 2 Aunthor of Dominant Spocies 2 (A) 2			Absolute	Dominant	Indicator	Dominance Test worksheet:
2	Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species
3	1					
3	2					Total Number of Dominant
4						
5.						
6.						
						(A/B)
50% of total cover: 0 20% of total cover: 0 Total % Cover 0 M1 = 120 Sapling Stratum (Plot size: 15') 5 Y OBL FACW species 5 x 2 = 10 2	0					Prevalence Index worksheet:
Statum (Plot size: 15" Y OBL Plot species 1 No 1. Salx ngra 5 Y OBL FAC species 5 x 3 =						Total % Cover of: Multiply by:
Sale in gradum (Plot size:151) Sale in gradum (Plot size:161) 1. Sale in gradum (Plot size:1) FACW species5 x 2 =0 2. Sale in gradum (Plot size:			20% of	total cover:	0	OBL species 120 x 1 = 120
1. starting for a constraint registry 3 1 ODE FAC Species 0 x 3 = 0 3.		, , , , , , , , , , , , , , , , , , ,				
2.	1. Salix nigra		5	Y	OBL	
3	2					
4						
5.						
6.						Column Totals: 130 (A) 150 (B)
5 = Total Cover Hydrophytic Vegetation Indicators: Shrub Stratum (Plot size:15') 20% of total cover:1 X 1 - Rapid Test for Hydrophytic Vegetation 2						Prevalence Index = $B/A = 1.15$
50% of total cover: 3 20% of total cover: 1 A 1 - Rapid Test for Hydrophytic Vegetation Shrub Stratum (Plot size: 15						
Shrub Stratum (Plot size:115/15/						
1.			20% of	total cover:	1	
2	Shrub Stratum (Plot size:	15')				
3	1					
3.	2					
4						. ,
5.						Problematic Hydrophytic Vegetation (Explain)
6.						
						¹ Indicators of hydric soil and wetland hydrology must
50% of total cover: 0 20% of total cover: 0 Herb Stratum (Plot size: 5') 1. 1. Typha angustifolia 90 Y OBL 2. Scirpus atrovirens 5 N OBL 3. Juncus canadensis 20 N OBL 4. Scirpus cyperinus 5 N FACW 5. Andropogon virginicus 5 N FACW 6.				= Total Cov		
Herb Stratum (Plot size: 5') 1. Typha angustifolia 90 Y OBL 2. Scirpus atrovirens 5 N OBL 3. Juncus canadensis 20 N OBL 4. Scirpus cyperinus 5 N FACW 5. Andropogon virginicus 5 N FACU 6.						Definitions of Five Vegetation Strata:
1. Typha angustifolia 90 Y OBL (7.6 cm) or larger in diameter at breast height (DBH). 2. Scirpus atrovirens 5 N OBL Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. 3. Juncus canadensis 20 N OBL Sproximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. 5. Andropogon virginicus 5 N FACU Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. 6. — — — — — 7. — — — — — 8. — — — — — — 9. — — — — — — — 10. — — — — — — Woody vines, regardless of size, and woody plants, except woody vines, regardless of height. 11. _ _ _ _ _ Woody vine – All woody vines, regardless of height. 12. _ _ _ _ _ _ _ _ 2.			20% of	total cover:	0	Tree – Woody plants, excluding woody vines,
2. Scirpus atrovirens 5 N OBL 2. Scirpus atrovirens 5 N OBL 3. Juncus canadensis 20 N OBL 4. Scirpus cyperinus 5 N FACW 5. Andropogon virginicus 5 N FACU 6. — — — 7. — — — 8. — — — 9. — — — 10. — — — 11. _ _ _ 125 = Total Cover _ _ 50% of total cover: _ _ _ 1. _ _ _ 2. _ _ _ _ 3. _ _ _ _ 1. _ _ _ _ 10. _ _ _ _ 11. _ _ _ _ 2. _ _ _ _ 3.	Herb Stratum (Plot size:	<u> </u>				
2.						(7.6 cm) or larger in diameter at breast height (DBH).
3. Juncus canadensis 20 N OBL approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. 4. Scirpus cyperinus 5 N FACW 5. Andropogon virginicus 5 N FACU 6.	2. Scirpus atrovirens		5	<u>N</u>	OBL	Sapling – Woody plants, excluding woody vines,
4. scriptis cyperints 5 N FACV 5. Andropogon virginicus 5 N FACU 6.	3. Juncus canadensis		20	<u>N</u>	OBL	approximately 20 ft (6 m) or more in height and less
0. 10 0 approximately 3 to 20 ft (1 to 6 m) in height. 6. approximately 3 to 20 ft (1 to 6 m) in height. approximately 3 to 20 ft (1 to 6 m) in height. 8.	4. Scirpus cyperinus		5	N	FACW	than 3 in. (7.6 cm) DBH.
6.	5 Andropogon virginicus		5	N	FACU	Shrub – Woody plants, excluding woody vines.
7	6					
8.						
9						
10						plants, except woody vines, less than approximately 3
11.						ft (1 m) in height.
11.	10					Woody vine – All woody vines regardless of height
50% of total cover: 63 20% of total cover: 25 Woody Vine Stratum (Plot size: 30') 1. 1.	11					
Woody Vine Stratum (Plot size:30') 1			125	= Total Cov	er	
1.		50% of total cover: 63	20% of	total cover:	25	
1.	Woody Vine Stratum (Plot size	e: 30')				
2.						
3.						
4 5 5 50% of total cover: 0 20% of total cover: 0 Hydrophytic Vegetation Present? Yes X No						
5. 0 = Total Cover Hydrophytic 50% of total cover: 0 20% of total cover: 0 Hydrophytic Vegetation Present? Yes X						
0 = Total Cover Vegetation 50% of total cover: 0 20% of total cover: 0 Present? Yes X No						
0 = Total Cover Vegetation 50% of total cover: 0 20% of total cover: 0	5					Hvdrophytic
			0	= Total Cov	er	Vegetation
		50% of total cover: 0	20% of	total cover:	0	Present? Yes X No
	Remarks: (Include photo num	bers here or on a separate s	sheet.)			1

	ription: (Describe to	o the depth n			tor or confirm	the absence	e of indicato	ors.)	
Depth	Matrix			<u>Features</u>	1 . 2				
(inches)	Color (moist)	<u>%</u> (Color (moist)	<u>% Тур</u>	e ¹ Loc ²	Texture	- <u> </u>	Remarks	
_									
							·		
_							. <u> </u>		
_									
							·		
							·		
_									
_									
¹ Type: C=Co	ncentration, D=Deple	etion. RM=Rec	duced Matrix. MS	=Masked Sand	Grains.	² Location: F	PL=Pore Lini	ng, M=Matrix.	
Hydric Soil I			····· , ····					oblematic Hy	dric Soils ³ :
Histosol (Г	Dark Surface	(\$7)				410) (MLRA 1	
	ipedon (A2)	Γ		low Surface (S8	MI RA 147		•	Redox (A16)	,
Black His		- T		rface (S9) (MLF	, .		(MLRA 14	. ,	
	n Sulfide (A4)	T T	Loamy Gleye	. , .	,,			odplain Soils	(F19)
	Layers (A5)	- F	Depleted Mat	. ,			(MLRA 13		()
	ck (A10) (LRR N)	Ē	Redox Dark S	. ,			•	Dark Surface	(TF12)
	Below Dark Surface	(A11) <u> </u>	·	k Surface (F7)			•	in in Remarks	. ,
	rk Surface (A12)	Ϋ́Υ	Redox Depre	. ,			- (1		/
	ucky Mineral (S1) (Ll	rrn, Ē		ese Masses (F1	2) (LRR N,				
-	147, 148)	-			, , , , ,				
	leyed Matrix (S4)	C	Umbric Surfa	ce (F13) (MLR /	A 136, 122)	³ In	dicators of h	vdrophytic veg	etation and
	edox (S5)	Ī		odplain Soils (F			-	logy must be i	
	Matrix (S6)	Ē		, laterial (F21) (N			•	ed or problem	
	ayer (if observed):	No			-				
Type:	/								
Depth (inc	hec):					Hydric Soi	I Present?	Voc	No
	1100).					Hyunc Sol	rresent?	Yes	
Remarks:									

Soils were not obtained due to US DOE restrictions on digging in the area. Assumed hydric due to strong vegetative and hydrologic indicators.

Upland AS-005 WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Arboles Station and Transmission Lines Project	City/County: Pike County		Sampling Date:	01/21/2021
Applicant/Owner: AEP		State: OH	_ Sampling Poir	nt:
Investigator(s): BAO, JFW	Section, Township, Range:	S 18 T 4N R 21 W		
Landform (hillslope, terrace, etc.): <u>Flat</u>	Local relief (concave, convex, r	none): Flat	Slo	pe (%): <u>0</u>
Subregion (LRR or MLRA): LRR N Lat: 39.01474	Long:	-83.00	0554 Datur	m: WGS 84
Soil Map Unit Name: UoA: Urbanland-Omulga complex, 0 to 6 per	cent slopes	NWI classifica	tion: N/A	
Are climatic / hydrologic conditions on the site typical for this time of	of year? Yes X No	_ (If no, explain in Re	marks.)	
Are Vegetation, Soil, or Hydrology significa	antly disturbed? Are "Norm	nal Circumstances" pro	esent? Yes	X No
Are Vegetation, Soil, or Hydrology naturally	y problematic? (If needed	l, explain any answers	s in Remarks.)	

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No <u>X</u> No <u>X</u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes	No
Remarks: Upland point associated with Wetland various underground electrical wires	AS-005 (W-BA0	D-012121-01). Soil s	ample was unable to be obser	ved due to US E	OOE restrictions in area due to

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
Saturation (A3) Oxidized Rhizospheres on Living Ro	ots (C3) 📃 Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduced Iron (C4)	Dry-Season Water Table (C2)
Sediment Deposits (B2)	(C6) L Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface (C7)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in Remarks)	Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes <u>No X</u> Depth (inches):	
Water Table Present? Yes No X Depth (inches):	
Saturation Present? Yes <u>No X</u> Depth (inches): <u>V</u>	Vetland Hydrology Present? Yes NoX
	· · · · ·
Saturation Present? Yes <u>No X</u> Depth (inches): <u>V</u> (includes capillary fringe)	· · · · ·
Saturation Present? Yes <u>No X</u> Depth (inches): <u>V</u> (includes capillary fringe)	· · · · ·
Saturation Present? Yes No _X _ Depth (inches): V V (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection V	· · · · ·
Saturation Present? Yes No _X _ Depth (inches): V V (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection V	· · · · ·
Saturation Present? Yes No _X _ Depth (inches): V V (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection V	· · · · ·
Saturation Present? Yes No _X _ Depth (inches): V V (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection V	· · · · ·
Saturation Present? Yes No _X _ Depth (inches): V V (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection V	· · · · ·
Saturation Present? Yes No _X _ Depth (inches): V V (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection V	· · · · ·
Saturation Present? Yes No _X _ Depth (inches): V V (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection V	· · · · ·
Saturation Present? Yes No _X _ Depth (inches): V V (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection V	· · · · ·
Saturation Present? Yes No _X _ Depth (inches): V V (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection V	· · · · ·
Saturation Present? Yes No _X _ Depth (inches): V V (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection V	· · · · ·

Sampling Point: U-BAO-012121-01

		Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:	30')	% Cover	Species?	Status	Number of Dominant Species
1					That Are OBL, FACW, or FAC: (A)
2					
3					Total Number of Dominant Species Across All Strata: <u>3</u> (B)
					(B)
4					Percent of Dominant Species
5					That Are OBL, FACW, or FAC: <u>33.33</u> (A/B)
6					Prevalence Index worksheet:
		0	= Total Cov	er	
	50% of total cover: 0	20% of	total cover:	0	Total % Cover of: Multiply by:
Sapling Stratum (Plot size:	4 5 1				OBL species x 1 =
	/				FACW species0 x 2 =0
1					FAC species x 3 = 150
2					FACU species x 4 =120
3					UPL species 20 x 5 = 100
4					Column Totals: 100 (A) 370 (B)
5					
6					Prevalence Index = B/A =3.7
			= Total Cov		Hydrophytic Vegetation Indicators:
	50% of total cover: <u>20</u>	20% of	total cover:	8	1 - Rapid Test for Hydrophytic Vegetation
Shrub Stratum (Plot size:)				2 - Dominance Test is >50%
1					3 - Prevalence Index is ≤3.0 ¹
2					4 - Morphological Adaptations ¹ (Provide supporting
3					data in Remarks or on a separate sheet)
					Problematic Hydrophytic Vegetation ¹ (Explain)
4					
5					¹ Indicators of hydric soil and wetland hydrology must
6					be present, unless disturbed or problematic.
		0	= Total Cov	er	Definitions of Five Vegetation Strata:
	50% of total cover: 0	20% of	total cover:	0	
Herb Stratum (Plot size:					Tree – Woody plants, excluding woody vines,
		10	V	EAC	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
			<u> Y </u>		
2. Erigeron annuus			Y	FACU	Sapling – Woody plants, excluding woody vines,
3. Daucus carota		20	Y	UPL	approximately 20 ft (6 m) or more in height and less
4. Setaria pumila		10	<u>N</u>	FAC	than 3 in. (7.6 cm) DBH.
5. Trifolium repens		10	Ν	FACU	Shrub – Woody plants, excluding woody vines,
6					approximately 3 to 20 ft (1 to 6 m) in height.
7					Herb – All herbaceous (non-woody) plants, including
8					herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3
9					ft (1 m) in height.
10					
11					Woody vine – All woody vines, regardless of height.
			= Total Cov		
	50% of total cover: 50	20% of	total cover:	20	
Woody Vine Stratum (Plot size	e: <u> </u>				
1					
2					
3					
4					
5					Hydrophytic
		0	= Total Cov	er	Vegetation
	50% of total cover: 0	20% of	total cover-	0	Present? Yes <u>No X</u>
Domorkov (Include shate source)					
Remarks: (Include photo num	bers here or on a separate s	neet.)			

Profile Desc	ription: (Describe t	o the depth n	eeded to docum	ent the in	dicator o	or confirm	the absence of in	dicators.)	
Depth	Matrix			Features					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks	
—									
_									
_									
_									
1 <u>т</u> 0 0							2		
Hydric Soil I	oncentration, D=Deple	elion, RIVI=Re	duced Matrix, MS	=iviasked ;	Sand Gra	ins.		ore Lining, M=Matrix	
		r		(0-)				·	
Histosol	. ,	ļ	Dark Surface		(Muck (A10) (MLRA	
	pipedon (A2)	ļ	Polyvalue Bel					Prairie Redox (A16))
Black His	. ,	Ļ	Thin Dark Su	, ,		47, 148)		.RA 147, 148)	
	n Sulfide (A4)	ļ	Loamy Gleye		2)			ont Floodplain Soils	s (F19)
	l Layers (A5)	ļ	Depleted Mat	. ,				.RA 136, 147)	
	ck (A10) (LRR N)	ļ	Redox Dark S		,			Shallow Dark Surface	
	Below Dark Surface	(A11)	Depleted Dar		. ,		Other	(Explain in Remarks	s)
	rk Surface (A12)	1	Redox Depres						
	lucky Mineral (S1) (L l	RR N, [Iron-Mangane	ese Masse	s (F12) (L	.RR N,			
	\ 147, 148)		MLRA 136	*					
	leyed Matrix (S4)]	Umbric Surfac					rs of hydrophytic ve	-
Sandy R	edox (S5)]	Piedmont Flo	odplain So	ils (F19)	(MLRA 14)	8) wetland	I hydrology must be	present,
Stripped	Matrix (S6)]	Red Parent N	laterial (F2	1) (MLRA	A 127, 147)) unless o	disturbed or problem	natic.
Restrictive L	ayer (if observed):	Yes							
Туре:			_						
Depth (inc	ches):		_				Hydric Soil Pres	sent? Yes	No X
			-						

Remarks:

Soil sample was unable to be observed due to US DOE restrictions in area. Soils estimated due to restriction based on relative topography and plant species.

Wetland AS-006 WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Arboles Station and Transmission Lines Project	City/County: Pike County	Sam	oling Date: 01	/21/2021
Applicant/Owner: AEP		State: OH Sa	mpling Point:	W-BAO-012121-04
Investigator(s): BAO, JFW	Section, Township, Range: <u>S</u>	5 7 T 4N R 22W		
Landform (hillslope, terrace, etc.): Swale	_ Local relief (concave, convex, no	one): Concave	Slope	(%): 1
Subregion (LRR or MLRA): LRR N Lat: 39.01328	Long:	-83.01067	Datum:	WGS 84
Soil Map Unit Name: UoA: Urbanland-Omulga complex, 0 to 6 per	rcent slopes	NWI classification:	N/A	
Are climatic / hydrologic conditions on the site typical for this time of	of year? Yes X No	(If no, explain in Remark	(s.)	
Are Vegetation, Soil, or Hydrology signification	antly disturbed? Are "Norma	al Circumstances" presen	t? Yes X	No
Are Vegetation _, Soil _, or Hydrology natural	y problematic? (If needed,	explain any answers in R	emarks.)	

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes X No Yes X No Yes X No	Is the Sampled Area within a Wetland?	Yes X No
Remarks:			
PEM wetland fed by a culvert and drai	ns to Pond AS-001.		
HYDROLOGY			

Primary Indicators (minimum	ors:		Secondary Indicators (minimum of two required)
Curfage Mater (A1)	of one is required; cl	heck all that apply)	Surface Soil Cracks (B6)
✓ Surface Water (A1)	ļ	True Aquatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)	ļ	Hydrogen Sulfide Odor (C1)	🗹 Drainage Patterns (B10)
Saturation (A3)		Oxidized Rhizospheres on Living	Roots (C3) 🔲 Moss Trim Lines (B16)
Uater Marks (B1)		Presence of Reduced Iron (C4)	Dry-Season Water Table (C2)
Sediment Deposits (B2)		Recent Iron Reduction in Tilled So	oils (C6) 🛛 🔲 Crayfish Burrows (C8)
Drift Deposits (B3)		Thin Muck Surface (C7)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	ļ	Other (Explain in Remarks)	Stunted or Stressed Plants (D1)
Iron Deposits (B5)			Geomorphic Position (D2)
Inundation Visible on Ae	ial Imagery (B7)		Shallow Aquitard (D3)
Water-Stained Leaves (E	9)		Microtopographic Relief (D4)
Aquatic Fauna (B13)			FAC-Neutral Test (D5)
Field Observations:			
Surface Water Present?	Yes X No	Depth (inches):1.00	
Water Table Present?	Yes No _>	X Depth (inches):	
Saturation Present?	Yes X No	Depth (inches):0.00	Wetland Hydrology Present? Yes X No
(includes capillary fringe)			
	eam gauge, monitorii	ng well, aerial photos, previous inspec	tions), if available:
	eam gauge, monitoriı	ng well, aerial photos, previous inspec	tions), if available:
	eam gauge, monitoriı	ng well, aerial photos, previous inspec	tions), if available:
Describe Recorded Data (str	eam gauge, monitoriı	ng well, aerial photos, previous inspec	tions), if available:
Describe Recorded Data (str	eam gauge, monitoriı	ng well, aerial photos, previous inspec	tions), if available:
Describe Recorded Data (str	eam gauge, monitoriı	ng well, aerial photos, previous inspec	tions), if available:
Describe Recorded Data (str	eam gauge, monitoriı	ng well, aerial photos, previous inspec	tions), if available:
Describe Recorded Data (str	eam gauge, monitoriı	ng well, aerial photos, previous inspec	tions), if available:
Describe Recorded Data (str	eam gauge, monitoriı	ng well, aerial photos, previous inspec	tions), if available:
Describe Recorded Data (str	eam gauge, monitoriı	ng well, aerial photos, previous inspec	tions), if available:
Describe Recorded Data (str	eam gauge, monitoriı	ng well, aerial photos, previous inspec	tions), if available:
Describe Recorded Data (str	eam gauge, monitoriı	ng well, aerial photos, previous inspec	tions), if available:
Describe Recorded Data (str	eam gauge, monitoriı	ng well, aerial photos, previous inspec	tions), if available:

Sampling Point: W-BAO-012121-04

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30'</u>)		Species?		Number of Dominant Species
1				That Are OBL, FACW, or FAC:3 (A)
2				
				Total Number of Dominant
3				Species Across All Strata:3 (B)
4				Dereent of Deminent Species
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)
6				
<u> </u>		= Total Cov		Prevalence Index worksheet:
			ei	Total % Cover of:Multiply by:
50% of total cover: 0	20% of	total cover	0	
Sapling Stratum (Plot size: 15')				
1. Platanus occidentalis	20	Y	FACW	FACW species x 2 =220
				FAC species 10 x 3 = 30
2				FACU species0 x 4 =0
3				UPL species 0 x 5 = 0
4				100
5				Column Totals: <u>120</u> (A) <u>250</u> (B)
				Prevalence Index = $B/A = 2.08$
6				
	20	= Total Cov	rer	Hydrophytic Vegetation Indicators:
50% of total cover:10	20% of	total cover	4	X 1 - Rapid Test for Hydrophytic Vegetation
Shrub Stratum (Plot size:				X 2 - Dominance Test is >50%
				X 3 - Prevalence Index is ≤3.0 ¹
1				
2				4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
3				
4				Problematic Hydrophytic Vegetation ¹ (Explain)
5				¹ Indicators of hydric soil and wetland hydrology must
6				be present, unless disturbed or problematic.
	0	= Total Cov	er	Definitions of Five Vegetation Strata:
50% of total cover: <u>0</u>	20% of	total cover	0	
	20 /0 01			Tree – Woody plants, excluding woody vines,
Herb Stratum (Plot size:5')				approximately 20 ft (6 m) or more in height and 3 in.
1. Juncus effusus	30	Y	FACW	(7.6 cm) or larger in diameter at breast height (DBH).
2. Phalaris arundinacea	60	Y	FACW	Sapling – Woody plants, excluding woody vines,
3. Dichanthelium clandestinum	10	N	FAC	approximately 20 ft (6 m) or more in height and less
4			·	than 3 in. (7.6 cm) DBH.
4				
5				Shrub – Woody plants, excluding woody vines,
6				approximately 3 to 20 ft (1 to 6 m) in height.
7				Herb – All herbaceous (non-woody) plants, including
				herbaceous vines, regardless of size, and woody
8				plants, except woody vines, less than approximately 3
9			·	ft (1 m) in height.
10				187 - J. J. Marson Allows a device a manual second back
11				Woody vine – All woody vines, regardless of height.
		= Total Cov	er.	
50% of total cover: 50	20% of	total cover	20	
Woody Vine Stratum (Plot size: 30')				
1				
2				
3	·		·	
4				
5				
		= Total Cov		Hydrophytic
				Vegetation Present? Yes X No
50% of total cover: 0	20% of	total cover	0	
Remarks: (Include photo numbers here or on a separate s	shoot)			1

Profile Desc Depth	ription: (Describe to	o the dept		nent the i x Features		or confirm	n the absence of ir	ndicators.)	
(inches)	<u>Matrix</u> Color (moist)	%	Color (moist)	<u>x reatures</u> %	Type ¹	Loc ²	Texture	Rem	arks
0 — 10	10YR 4/2	90	10YR 6/8	10	C	М	Silty clay loam		
_									
_									
_									
_									
_									
¹ Type: C=Cc	oncentration, D=Deple				Sand Cr		² Location: PL=Po	oro Lining M-M	latrix
Hydric Soil I						1113.			tic Hydric Soils ³ :
Histosol			Dark Surface					Muck (A10) (ML	
	vipedon (A2)		Polyvalue Be					Prairie Redox	(A16)
Black His	stic (A3) n Sulfide (A4)		Thin Dark Su			47, 148)		RA 147, 148) nont Floodplain	Soils (F19)
	Layers (A5)		Depleted Ma		12)			_RA 136, 147)	0013 (1 10)
	ck (A10) (LRR N)		Redox Dark	· · ·	,			Shallow Dark Si	
	Below Dark Surface	(A11)	Depleted Dai				U Other	(Explain in Rer	narks)
\equiv	urk Surface (A12)								
	lucky Mineral (S1) (L l \ 147, 148)	KK N,	Iron-Mangan MLRA 13		es (F12) (I	_RR N,			
	leyed Matrix (S4)		Umbric Surfa	•	MLRA 13	6, 122)	³ Indicato	ors of hydrophyt	ic vegetation and
Sandy R	edox (S5)		Piedmont Flo	odplain S	oils (F19)	(MLRA 14	48) wetland	d hydrology mus	st be present,
	Matrix (S6)		Red Parent M	/laterial (F	21) (MLR	A 127, 14	7) unless	disturbed or pro	oblematic.
	ayer (if observed):								
· · ·								.ov	× ••
	ches):						Hydric Soil Pres	sent? Yes	<u> </u>
Remarks: US Departme	ent of Energy property	does not a	allow digging past 1	2"					

Upland AS-006 WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Arboles Station and Transmission Lines Project	City/County: Pike County	S	Sampling Date:	01/21/2021
Applicant/Owner: AEP		State: OH	Sampling Poir	t: <u>U-BAO-012121-04</u>
Investigator(s): BAO, JFW	Section, Township, Range:	S 7 T 4N R 22W		
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave, convex, r	ione): <u>Convex</u>	Slop	be (%): <u>3</u>
Subregion (LRR or MLRA): LRR N Lat: 39.01329	Long:	-83.01	060 Datur	n: WGS 84
Soil Map Unit Name: UoA: Urbanland-Omulga complex, 0 to 6 per	rcent slopes	NWI classificat	tion: N/A	
Are climatic / hydrologic conditions on the site typical for this time of	of year? Yes X No	_ (If no, explain in Rer	marks.)	
Are Vegetation 🧹 , Soil, or Hydrology significa	antly disturbed? Are "Norm	nal Circumstances" pre	esent? Yes	XNo
Are Vegetation _, Soil, or Hydrology natural	y problematic? (If needed	, explain any answers	in Remarks.)	

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No <u>X</u> No <u>X</u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes	No		
Remarks:							
Upland point associated with W-BAO-	Upland point associated with W-BAO-012121-04						
vegetation mowed							

Wetland Hydrology Indicato	rs:				Secondary Indicators (minimum of two required)
Primary Indicators (minimum	of one is requi	red; check	all that apply)		Surface Soil Cracks (B6)
Surface Water (A1)			True Aquatic Plants (B14)		Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)			Hydrogen Sulfide Odor (C1)		Drainage Patterns (B10)
Saturation (A3)			Oxidized Rhizospheres on Living	Roots (C3)	Moss Trim Lines (B16)
Water Marks (B1)			Presence of Reduced Iron (C4)		Dry-Season Water Table (C2)
Sediment Deposits (B2)			Recent Iron Reduction in Tilled So	oils (C6)	Crayfish Burrows (C8)
Drift Deposits (B3)			Thin Muck Surface (C7)		Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)			Other (Explain in Remarks)		Stunted or Stressed Plants (D1)
Iron Deposits (B5)					Geomorphic Position (D2)
Inundation Visible on Aer	al Imagery (B	7)			Shallow Aquitard (D3)
Water-Stained Leaves (B	9)				Microtopographic Relief (D4)
🔲 Aquatic Fauna (B13)					FAC-Neutral Test (D5)
Field Observations:					
Surface Water Present?	Yes	No <u>X</u>	Depth (inches):		
Water Table Present?	Yes	No <u>X</u>	Depth (inches):		
Saturation Present? (includes capillary fringe)	Yes	No <u>X</u>	Depth (inches):	Wetland H	Hydrology Present? Yes NoX
	am gauge, mo	onitoring w	ell, aerial photos, previous inspec	tions), if ava	ilable:
Remarks:					

Sampling Point: U-BAO-012121-04

Tree Stratum (Plot size:	Absolute Dominant Indicator Dominance Test worksheet:
1	30') % Cover Species 2 Status
2	
3.	
4.	
5. 0 = Total Cover That Are OBL, FACW, or FAC: 50.00 (A/ 6. 0 = Total Cover: 0 Prevalence Index worksheet: 1. 1 0 FAC worksheet: Multiply by: 2. 0 = Total Cover: 0 FAC worksheet: 3. 1 0 FAC species 0 x 1 = 0 5. 0 = Total Cover 0 FAC species 0 x 2 = 0 6. 0 = Total Cover 0 = Total Cover 0 FAC species 0 x 3 = 120 5. 50% of total cover: 0 = Total Cover 0 = Total Cover 0 = Prevalence Index is 3.0 ¹ 2 -	Species Across All Strata: (B)
5	Percent of Dominant Species
6.	That Are OBL, FACW, or FAC: 50.00 (A/E
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	
Total % Cover of: Multiply by: Sapling Stratum (Plot size: 15' 0 Stratum (Plot size: 15' 0 Stratum (Plot size: 15' 1 160 (Expland) 2 0 = Total Cover 9 Total % Cover of: Multiply by: 0 Stratum (Plot size: 1 Stratum (Plot size: 1 160 (Expland) 160 (Expland) 1 2 1 Stratum (Plot size: 15' 1 Stratum (Plot size: 1 1 1 1 Stratum (Plot size: 1 1 1 Stratum (Plot size:	Drovalance Index worksheet:
Sapling Stratum (Plot size: 15') 1. 15' 15' 1. 1. 15' 15' 2. 15' 15' 16' 3. 10' 15' 16' 4. 10' 16' 16' 5. 10' 15' 16' 6. 10' 16' 16' 7. 10' 16' 16' 1. 10' 10' 10' 10' 1. 10' N FAC' 10' 1. 10' N FAC' 10' 10' 1. 10' N FAC' 10' 10' 10' 1. 10' N FAC' 10'	Total % Cover of: Multiply by:
Sapling Stratum (Plot size: 15) 1 1. 2. 3. 4. 5. 6. 50% of total cover: 0 2. 50% of total cover: 0 2. 50% of total cover: 0 2. 3. 1. 2. 3. 4. 5. 6. 2. 3. 4. 5. 6. 0 = Total Cover 1. Dicinathelium clandestinum 3. 1. 2. 3. 4. 5. 5. 6. <td>UBL Species U XI = Y</td>	UBL Species U XI = Y
1.	
2.	
3.	
4.	
5.	
6.	
50% of total cover: 0 20% of total cover: 0 Shrub Stratum (Plot size: 15' 2 1.	Prevalence Index = B/A =3.2
50% of total cover: 0 20% of total cover: 0 Shrub Stratum (Plot size: 15' 2 1. 2 3 3 2. 3 4 Morphological Adaptations ¹ (Provide supportidat in Remarks or on a separate sheet) 3. 4 4 Morphological Adaptations ¹ (Provide supportidat in Remarks or on a separate sheet) 4. 5 - - 5. - - - 6. 0 = Total Cover - 0 = Total Cover - - 50% of total cover: 0 20% of total cover: 0 1. Dichanthelium clandestinum 30 Y FAC 2. Allium canadense 10 N FAC 3. Setaria pumila 10 N FAC 4. - - - - 5. - - - - 5. - - - - 6. - - - - 7. C cm) or larger in diameter at breast height (DBH). </td <td>0 = Total Cover Hydrophytic Vegetation Indicators:</td>	0 = Total Cover Hydrophytic Vegetation Indicators:
Shrub Stratum (Plot size: 15') 1 2. 2. 3. - 4. - 5. - 6. - 0 = Total Cover 1. - 6. - 5. - 6. - 0 = Total Cover 1. - 50% of total cover: 0 2. 20% of total cover: 0 1. Dichanthelium clandestinum 30 Y 2. Allium canadense 10 N 3. Setaria pumila 10 N 4. Poa sp. 50 Y 5. - - - 3. Setaria pumila 10 N 4. Poa sp. 50 Y 5. - - - 3. Setaria pumila 10 N 4. Poa sp. 50 Y 5. - - - 50 Y	
1	
2	
3	
3.	4 - Morphological Adaptations' (Provide supportin
4	
5.	
6.	
0 = Total Cover 50% of total cover: 0 20% of total cover: 0 1. Dichanthelium clandestinum 3. Setaria pumila 4. Poa sp. 5. 50 50 50 50 50 50 50 50 50 50 50 50 50 50 50 50 50 50 50 50	Indicators of hydro soli and wetland hydrology hust
Definitions of the vegetation strata. 50% of total cover: 0 Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. Herb Stratum (Plot size: 5') 30 Y FAC 1. Dichanthelium clandestinum 30 Y FAC 2. Allium canadense 10 N FACU 3. Setaria pumila 10 N FAC 4. Poa sp. 50 Y Shrub – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. 5	
Herb Stratum (Plot size:5') 1. Dichanthelium clandestinum30YFAC FAC If ee - woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). 2. Allium canadense10NFAC 10NFAC Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. 3. Setaria pumila	0 = Total Cover Definitions of Five Vegetation Strata:
Herb Stratum (Plot size:5') 1. Dichanthelium clandestinum30YFAC FAC approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). 2. Allium canadense10NFAC 10NFAC Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 10 in. (7.6 cm) or larger in diameter at breast height (DBH). 3. Setaria pumila10 10	50% of total cover: 0 20% of total cover: 0
1. Dichanthelium clandestinum 30 Y FAC 2. Allium canadense 10 N FACU 3. Setaria pumila 10 N FAC 4. Poa sp. 50 Y Shrub – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. 5	ree – vvoody plants, excluding woody vines,
2. Allium canadense 10 N FACU 3. Setaria pumila 10 N FAC 4. Poa sp. 50 Y Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. 5 Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height	(7.Com) on lower the discussion of here on the interview (DDU)
3. Setaria pumila 10 N FAC approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. 4. Poa sp. 50 Y Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height	
4. Poa sp. 50 Y than 3 in. (7.6 cm) DBH. 5. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height	capiling modely modely modely
4. Foalsp. 50 1 5.	
approximately 3 to 20 ft (1 to 6 m) in height	<u>50 Y</u> unan 5 m. (7.6 cm) DBH.
approximately 3 to 20 ft (1 to 6 m) in height.	Shrub – Woody plants, excluding woody vines,
	approximately 3 to 20 ft (1 to 6 m) in height.
	hand a second
plants, except woody vines, less than approximately	plants, except woody vines, less than approximately 3
9 ft (1 m) in height.	ft (1 m) in height.
11 Woody vine – All woody vines, regardless of height.	
100 = Total Cover	100 = Total Cover
50% of total cover: 50 20% of total cover: 20	
Woody Vine Stratum (Plot size:30')	(Plot size:)
1	
2	
3	
5 Hydrophytic	
= Total Cover Vegetation	= Total Cover Vegetation
50% of total cover: 0 20% of total cover: 0 Present? Yes No X	50% of total cover: 0 20% of total cover: 0 Present? Yes No X
Remarks: (Include photo numbers here or on a separate sheet.)	hoto numbers here or on a separate sheet.)

Profile Desc	ription: (Describe to	o the dept				or confirn	the absence of indic	ators.)
Depth (inches)	<u>Matrix</u> Color (moist)	%	Redo: Color (moist)	<u>x Features</u> %	s Type ¹	Loc ²	Texture	Remarks
0 — 10	10YR 4/3	80	10YR 4/6	20	<u> </u>	<u></u>	Silty clay loam	Remarks
	1011(4/3		1011(4/0					
_								
_								
	ncentration, D=Deple	etion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ins.	² Location: PL=Pore L	
Hydric Soil I			_					Problematic Hydric Soils ³ :
Histosol			Dark Surface		(00) (1)			k (A10) (MLRA 147)
Black His	ipedon (A2)		Polyvalue Be					irie Redox (A16) 147, 148)
	n Sulfide (A4)		Loamy Gleye	. ,		47, 140)		Floodplain Soils (F19)
	Layers (A5)		Depleted Mat)			136, 147)
	ck (A10) (LRR N)		Redox Dark S	Surface (F	6)		Very Shal	low Dark Surface (TF12)
	Below Dark Surface	(A11)	Depleted Dar				Other (Ex	plain in Remarks)
	rk Surface (A12)		Redox Depre					
-	ucky Mineral (S1) (L l . 147, 148)	RR N,	Iron-Mangane MLRA 13		es (F12) (l	_RR N,		
	leyed Matrix (S4)		Umbric Surfa			6 122)	³ Indicators o	f hydrophytic vegetation and
	edox (S5)		Piedmont Flo					drology must be present,
	Matrix (S6)		Red Parent M	•	. ,		· · · · ·	urbed or problematic.
Restrictive L	ayer (if observed):	No						
Туре:								
Depth (inc	:hes):						Hydric Soil Present	:? Yes <u>No X</u>
Remarks:							·	
US Departme	nt of Energy property	does not a	allow digging past 1	2"				

Wetland AS-007 WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Arboles Station and Transmission Lines Project	City/County: Pike County	Sa	ampling Date: 01	/22/2021
Applicant/Owner: AEP			Sampling Point:	
Investigator(s): BAO, JFW	Section, Township, Range: <u>S</u>	7 T 4N R 22W		
Landform (hillslope, terrace, etc.): Gulch or Gully	_ Local relief (concave, convex, no	ne): Concave	Slope	(%): 1
Subregion (LRR or MLRA): LRR N Lat: 39.01074	Long:	-83.012	10 Datum:	WGS 84
Soil Map Unit Name: UoA: Urbanland-Omulga complex, 0 to 6 per	rcent slopes	NWI classification	on: N/A	
Are climatic / hydrologic conditions on the site typical for this time of	of year? Yes X No	(If no, explain in Rem	arks.)	
Are Vegetation, Soil, or Hydrology signification	antly disturbed? Are "Norma	l Circumstances" pres	ent? Yes X	No
Are Vegetation _, Soil _, or Hydrology natural	y problematic? (If needed,	explain any answers i	n Remarks.)	

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes X	Is the Sampled Area within a Wetland?	Yes X No
Remarks: PEM linear wetland in maintained trans	mission line ROW	between two built up mounds	

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	14)
High Water Table (A2)	r (C1) 🗹 Drainage Patterns (B10)
Saturation (A3) Oxidized Rhizospheres	s on Living Roots (C3) 📃 Moss Trim Lines (B16)
Water Marks (B1)	Iron (C4)
Sediment Deposits (B2)	in Tilled Soils (C6) 📃 Crayfish Burrows (C8)
Drift Deposits (B3)	7) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in Rema	arks)
Iron Deposits (B5)	Geomorphic Position (D2)
🗹 Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes X No Depth (inches): 2	2.00
Water Table Present? Yes X No Depth (inches): 5	0.00
Saturation Present? Yes No X Depth (inches):	Wetland Hydrology Present? Yes X No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previ	ious inspections) if available:
Describe Recorded Data (sitean gauge, monitoring well, aenai photos, previ	
Remarks:	
Remarks.	

Sampling Point: W-BAO-012221-01

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30')		Species?		Number of Dominant Species
1				That Are OBL, FACW, or FAC: 2 (A)
2				
3				Total Number of Dominant Species Across All Strata: 2 (B)
				Species Across Air Strata (b)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC:(A/B)
6				Prevalence Index worksheet:
	0	= Total Cov	er	
50% of total cover:0	20% of	total cover	0	Total % Cover of: Multiply by:
Sapling Stratum (Plot size: 15')				OBL species x 1 =
<u></u> /				FACW species90 x 2 =180
1				FAC species x 3 = 0
2				FACU species x 4 = 0
3	·			UPL species x 5 =0
4				Column Totals:90 (A)180 (B)
5				
6				Prevalence Index = B/A = 2.00
	0			Hydrophytic Vegetation Indicators:
				\underline{X} 1 - Rapid Test for Hydrophytic Vegetation
50% of total cover: <u>0</u>	20% of	total cover	0	
Shrub Stratum (Plot size:15')				$\frac{X}{X}$ 2 - Dominance Test is >50%
1				X 3 - Prevalence Index is ≤3.0 ¹
2				4 - Morphological Adaptations ¹ (Provide supporting
3				data in Remarks or on a separate sheet)
4				Problematic Hydrophytic Vegetation ¹ (Explain)
5		·		¹ Indicators of hydric soil and wetland hydrology must
6				be present, unless disturbed or problematic.
	0	= Total Cov	er	Definitions of Five Vegetation Strata:
50% of total cover: <u>0</u>	20% of	total cover	0	
				Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
	10	Ν	FACW	(7.6 cm) or larger in diameter at breast height (DBH).
Scirpus cyperinus Equisetum hyemale	10		FACW	
				Sapling – Woody plants, excluding woody vines,
3. Juncus effusus	30		FACW	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
4. Eupatorium perfoliatum	20	Y	FACW	
5. Cyperus esculentus	10	<u> N </u>	FACW	Shrub – Woody plants, excluding woody vines,
6 Carex cristatella	10	Ν	FACW	approximately 3 to 20 ft (1 to 6 m) in height.
7				Herb – All herbaceous (non-woody) plants, including
				herbaceous vines, regardless of size, and woody
8				plants, except woody vines, less than approximately 3
9				ft (1 m) in height.
10				Woody vine – All woody vines, regardless of height.
11				woody vine – All woody vines, regardless of height.
	90	= Total Cov	er	
50% of total cover: 45	20% of	total covor	18	
	20 /0 01		10	
Woody Vine Stratum (Plot size: 30')				
1				
2				
3				
4				
5				Hydrophytic
		= Total Cov		Vegetation Present? Yes X No
50% of total cover:0	20% of	total cover	0	
Remarks: (Include photo numbers here or on a separate s	sheet.)			

Profile Desc	ription: (Describe to	o the depth	needed to docum	ent the i	ndicator o	or confirm	the absence	e of indicators.)
Depth	Matrix			Features				
<u>(inches)</u>	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0 — 10	10YR 4/2	90	5YR 4/6	10			Silty clay	
_								
						<u> </u>		
_								
						<u> </u>		
¹ T. max. 0-0				-Meelced			² 1	
Hydric Soil I	ncentration, D=Deple		Reduced Matrix, Mo	-waskeu	Sand Gra	uns.		PL=Pore Lining, M=Matrix. eators for Problematic Hydric Soils ³ :
			Dark Surface	(87)				2 cm Muck (A10) (MLRA 147)
	(AT) ipedon (A2)		Polyvalue Bel		o (S8) (M			Coast Prairie Redox (A16)
Black His			Thin Dark Su					(MLRA 147, 148)
	n Sulfide (A4)		Loamy Gleye	. ,		47, 140)		Piedmont Floodplain Soils (F19)
	Layers (A5)		Depleted Mat		_/		·	(MLRA 136, 147)
	ck (A10) (LRR N)		Redox Dark S		6)			/ery Shallow Dark Surface (TF12)
	Below Dark Surface	(A11)	Depleted Dar		,			Other (Explain in Remarks)
🔲 Thick Da	rk Surface (A12)		Redox Depres	ssions (F8	3)			
🔲 Sandy M	lucky Mineral (S1) (L l	RR N,	Iron-Mangane	ese Masse	es (F12) (L	_RR N,		
	. 147, 148)		MLRA 136					
	leyed Matrix (S4)		Umbric Surfa					dicators of hydrophytic vegetation and
	edox (S5)		Piedmont Flo					etland hydrology must be present,
	Matrix (S6)		Red Parent N	laterial (F	21) (MLR/	A 127, 147	7) ur	nless disturbed or problematic.
Restrictive L	ayer (if observed):	No						
Туре:								
Depth (inc	hes):						Hydric Soi	l Present? Yes X No
Remarks:								
US Departme	nt of Energy property	does not a	llow digging past 12	2"				

Upland AS-007 WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Arboles Station and Transmission Lines Project	City/County: Pike County		Sampling Date:	01/22/2021
Applicant/Owner: AEP		State: OH	_ Sampling Poir	nt:
Investigator(s): BAO, JFW	Section, Township, Range: <u>S</u>	6 7 T 4N R 22W		
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave, convex, no	one): <u>Convex</u>	Slo	be (%): <u>1</u>
Subregion (LRR or MLRA): LRR N Lat: 39.01056	Long:	-83.0	01210 Datur	n: WGS 84
Soil Map Unit Name: UoA: Urbanland-Omulga complex, 0 to 6 per	rcent slopes	NWI classifica	ation: N/A	
Are climatic / hydrologic conditions on the site typical for this time	of year? Yes X No	(If no, explain in Re	emarks.)	
Are Vegetation, Soil, or Hydrology signification	antly disturbed? Are "Norma	al Circumstances" p	resent? Yes	XNo
Are Vegetation , Soil , or Hydrology natural	y problematic? (If needed,	explain any answer	rs in Remarks.)	

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No <u>X</u> No <u>X</u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes	No
Remarks:					
Upland point associated with W-BAO-0	012221-01				

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)	Drainage Patterns (B10)
Saturation (A3) Oxidized Rhizospheres on Living F	Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduced Iron (C4)	Dry-Season Water Table (C2)
Sediment Deposits (B2)	ils (C6) Crayfish Burrows (C8)
Drift Deposits (B3)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No X Depth (inches):	
Weter Table December 20 No. No. X. Deckh (webse)	
Water Table Present? Yes <u>No X</u> Depth (inches):	
Saturation Present? Yes <u>No X</u> Depth (inches):	Wetland Hydrology Present? Yes NoX
Saturation Present? Yes <u>No X</u> Depth (inches): (includes capillary fringe)	· · · · · · · · · · · · · · · · · · ·
Saturation Present? Yes <u>No X</u> Depth (inches):	· · · · · · · · · · · · · · · · · · ·
Saturation Present? Yes No _X _ Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection)	· · · · · · · · · · · · · · · · · · ·
Saturation Present? Yes <u>No X</u> Depth (inches): (includes capillary fringe)	· · · · · · · · · · · · · · · · · · ·
Saturation Present? Yes No _X _ Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection)	· · · · · · · · · · · · · · · · · · ·
Saturation Present? Yes No _X _ Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection)	· · · · · · · · · · · · · · · · · · ·
Saturation Present? Yes No _X _ Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection)	· · · · · · · · · · · · · · · · · · ·
Saturation Present? Yes No _X _ Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection)	· · · · · · · · · · · · · · · · · · ·
Saturation Present? Yes No _X _ Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection)	· · · · · · · · · · · · · · · · · · ·
Saturation Present? Yes No _X _ Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection)	· · · · · · · · · · · · · · · · · · ·
Saturation Present? Yes No _X _ Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection)	· · · · · · · · · · · · · · · · · · ·
Saturation Present? Yes No _X _ Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection)	· · · · · · · · · · · · · · · · · · ·
Saturation Present? Yes No _X _ Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection)	· · · · · · · · · · · · · · · · · · ·
Saturation Present? Yes No _X _ Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection)	· · · · · · · · · · · · · · · · · · ·

Sampling Point: U-BAO-012221-01

Tree Stratum (Plot size:30') Absolute Dominant Indicator % Cover Species? Status Dominance Test worksheet: 1 That Are OBL, FACW, or FAC:1	
	(A)
2	()
	(B)
4 Percent of Dominant Species	
5 That Are OBL, FACW, or FAC:50.00	(A/B)
6 Prevalence Index worksheet:	
50% of total cover: 0 20% of total cover: 0 70% of total cover of: Multiply by:	
$OBL species _ 0 x i = 0$	
FACW species $x^2 = 10^{-10}$	_
1 FAC species 40 x 3 = 120	
2 FACU species 70 x 4 = 280	
3 UPL species x 5 = 0	
4 Column Totals: 115 (A) 410	(B)
5	_ (=)
6 Prevalence Index = B/A =3.57	
0 = Total Cover Hydrophytic Vegetation Indicators:	
1 3 - Prevalence Index is ≤3.0 ¹	
2 4 - Morphological Adaptations ¹ (Provide sup data in Remarks or on a separate sheet)	porting
3	
4 Problematic Hydrophytic Vegetation ¹ (Expla	n)
5	
Indicators of hydric soil and wetland hydrology	nust
50% of total cover: 0 20% of total cover: 0 Tree – Woody plants, excluding woody vines,	
Herb Stratum (Plot size:) approximately 20 ft (6 m) or more in height and 3	in.
1. Asclepias syriaca 10 FACU (7.6 cm) or larger in diameter at breast height (D	3H).
2. Pycnanthemum virginianum 10 N FAC Sapling – Woody plants, excluding woody vines	
3. Setaria pumila 30Y FAC approximately 20 ft (6 m) or more in height and l	
4. Equisetum hyemale 5 N FACW than 3 in. (7.6 cm) DBH.	
or the second se	
6 approximately 5 to 20 m (1 to 6 m) in height.	
7 Herb – All herbaceous (non-woody) plants, inclu	
8 herbaceous vines, regardless of size, and wood plants, except woody vines, less than approximation of the second	
9 ft (1 m) in height.	lery 5
10	
11.	ght.
115 = Total Cover	
50% of total cover: <u>58</u> 20% of total cover: <u>23</u>	
Woody Vine Stratum (Plot size:30')	
1	
2	
3	
5 Hydrophytic	
0 = Total Cover Vegetation	
50% of total cover: 0 20% of total cover: 0 Present? Yes No X	
Remarks: (Include photo numbers here or on a separate sheet.)	

Profile Desc	ription: (Describe to	o the dept				or confirm	n the absence of indicators.)	
Depth (inches)	<u>Matrix</u> Color (moist)	%	Redo: Color (moist)	<u>x Features</u> %	SType ¹	Loc ²	Texture Remarks	
	10YR 4/3		10YR 5/6	<u> </u>			Silty clay loam	
	ncentration, D=Deple	etion, RM=I	Reduced Matrix, MS	S=Masked	Sand Gra	iins.	² Location: PL=Pore Lining, M=Matrix.	
Black His Hydroger Stratified 2 cm Mud Depleted Thick Da Sandy M MLRA	(A1) ipedon (A2) stic (A3) n Sulfide (A4) Layers (A5) ck (A10) (LRR N) Below Dark Surface rk Surface (A12) ucky Mineral (S1) (LI 147, 148)		Dark Surface Polyvalue Be Thin Dark Su Loamy Gleye Depleted Mat Redox Dark S Depleted Dar Redox Depre Iron-Mangana MLRA 136	iow Surfac rface (S9) d Matrix (trix (F3) Surface (F k Surface ssions (F ese Masse 6)	(MLRA 1 F2) 6) (F7) 3) es (F12) (L	47, 148) -RR N,	Indicators for Problematic Hydric 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19 (MLRA 136, 147) Very Shallow Dark Surface (TF Other (Explain in Remarks)))
Sandy R	leyed Matrix (S4) edox (S5) Matrix (S6)		Umbric Surfa	odplain S	oils (F19)	(MLRA 14		
	ayer (if observed):	No		`				
Type: Depth (inc	hes):						Hydric Soil Present? Yes N	o_X_
Remarks: US Departme	nt of Energy property	does not a	allow digging past 1:	2"				

Wetland AS-008 WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Arboles Station and Transmission Lines Project	City/County: Pike County	Sam	pling Date:
Applicant/Owner: AEP		State: OH Sa	ampling Point: <u>W-BAO-012221-02</u>
Investigator(s): BAO, JFW	Section, Township, Range:	S 7 T 4N R 22W	
Landform (hillslope, terrace, etc.): Swale	Local relief (concave, convex,	none): <u>Concave</u>	Slope (%): <u>1</u>
Subregion (LRR or MLRA): LRR N Lat: 39.00827	Long:	-83.01237	Datum: WGS 84
Soil Map Unit Name: UoA: Urbanland-Omulga complex, 0 to 6 per	rcent slopes	NWI classification:	N/A
Are climatic / hydrologic conditions on the site typical for this time of	of year? Yes X No	_ (If no, explain in Remar	ks.)
Are Vegetation, Soil, or Hydrology signification	antly disturbed? Are "Norr	nal Circumstances" preser	nt? Yes X No
Are Vegetation , Soil , or Hydrology natural	y problematic? (If needed	d, explain any answers in F	Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes X Yes X Yes X	No No No	Is the Sampled Area within a Wetland?	Yes X	No
Remarks:					
PEM wetland in t-line ROW					

Wetland Hydrology Indicato	rs:			Secondary Indicators (minimum of two required)
Primary Indicators (minimum	of one is required; chec	<u>xk all that apply)</u>		Surface Soil Cracks (B6)
Surface Water (A1)		True Aquatic Plants (B14)		Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)		Hydrogen Sulfide Odor (C1)		Drainage Patterns (B10)
Saturation (A3)	\checkmark	Oxidized Rhizospheres on Living	Roots (C3)	Moss Trim Lines (B16)
Water Marks (B1)		Presence of Reduced Iron (C4)		Dry-Season Water Table (C2)
Sediment Deposits (B2)		Recent Iron Reduction in Tilled So	oils (C6)	Crayfish Burrows (C8)
Drift Deposits (B3)		Thin Muck Surface (C7)		Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)		Other (Explain in Remarks)		Stunted or Stressed Plants (D1)
Iron Deposits (B5)				Geomorphic Position (D2)
Inundation Visible on Aer	ial Imagery (B7)			Shallow Aquitard (D3)
Water-Stained Leaves (B	9)			Microtopographic Relief (D4)
🔲 Aquatic Fauna (B13)				FAC-Neutral Test (D5)
Field Observations:				
Surface Water Present?	Yes <u>No X</u>	_ Depth (inches):		
Water Table Present?	Yes X No	Depth (inches): <u>4.00</u>		
Saturation Present?	Yes X No	_ Depth (inches):0.00	Wetland H	ydrology Present? Yes X No
(includes capillary fringe)	am dauge monitoring	well, aerial photos, previous inspec	tions) if avai	lahle.
Describe Recorded Data (sire	an gauge, monitoring	well, aerial priotos, previous inspec	10113 <i>)</i> , 11 ava	
Remarks:				
Remarks.				

Sampling Point: W-BAO-012221-02

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:30')	% Cover	Species?	Status	Number of Dominant Species
1				That Are OBL, FACW, or FAC: 2 (A)
2				Total Number of Dominant
3				Species Across All Strata: 2 (B)
4				
5				Percent of Dominant Species That Are OBL, FACW, or FAC:100.00 (A/B)
6				、 ,
	0	= Total Cov	er	Prevalence Index worksheet:
50% of total cover:0	20% of	total cover:	0	Total % Cover of: Multiply by:
Sapling Stratum (Plot size:15')				OBL species x 1 = 40
1,				FACW species60 x 2 =120
				FAC species20 x 3 =60
2				FACU species0 x 4 =0
3				UPL species 0 x 5 = 0
4				Column Totals: <u>120</u> (A) <u>220</u> (B)
5				Prevalence Index = R/A = 1.83
6				Prevalence Index = B/A = 1.83 Hydrophytic Vegetation Indicators:
		= Total Cov		
50% of total cover: 0	20% of	total cover:	0	1 - Rapid Test for Hydrophytic Vegetation
Shrub Stratum (Plot size:15')				$\frac{X}{X}$ 2 - Dominance Test is >50%
1				X 3 - Prevalence Index is ≤3.0 ¹
2				4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
3				
4				Problematic Hydrophytic Vegetation ¹ (Explain)
5				1
6				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
		= Total Cov	er	Definitions of Five Vegetation Strata:
50% of total cover: <u>0</u>				Deminitions of Five vegetation Strata.
	20 % 01	lotal cover.		Tree – Woody plants, excluding woody vines,
Herb Stratum (Plot size: 5')				approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
1. Eupatorium perfoliatum	~~	<u> N</u>	FACW	
2. Typha angustifolia		<u> </u>	OBL	Sapling – Woody plants, excluding woody vines,
3. Mimulus ringens		N	OBL	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
4. Dichanthelium clandestinum	20		FAC	
5Juncus effusus	10	<u>N</u>	FACW	Shrub – Woody plants, excluding woody vines,
6. Carex squarrosa	30	Y	FACW	approximately 3 to 20 ft (1 to 6 m) in height.
7				Herb – All herbaceous (non-woody) plants, including
8				herbaceous vines, regardless of size, and woody
9				plants, except woody vines, less than approximately 3 ft (1 m) in height.
10				
11				Woody vine – All woody vines, regardless of height.
		= Total Cov	er	
50% of total cover: 60	20% of	total cover	24	
Woody Vine Stratum (Plot size:30')	207001			
1				
2				
3				
4				
5				Hydrophytic
	0	= Total Cov	er	Vegetation
50% of total cover:0	20% of	total cover:	0	Present? Yes X No
Remarks: (Include photo numbers here or on a separate s	heet.)			1

Depth	Matrix		Redo	x Features					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks	
0 — 10	10YR 4/2		7.5YR 4/6	10	C	PL	silty clay loam		
_									
_									
_									
_									
		tion DM-I	Poducod Matrix, M	S-Maakad	Cond Cro		² Location: PL=Pore	Lipipa M-Matrix	
Hydric Soil II				5-IVIASKEU	Sanu Gra			or Problematic Hyd	tric Soils ³
Histosol (Dark Surface	(97)				ck (A10) (MLRA 1 4	
·	ipedon (A2)		Polyvalue Be		e (S8) (M	I RA 147		airie Redox (A16)	<i>''</i>)
Black His			Thin Dark Su					A 147, 148)	
	n Sulfide (A4)		Loamy Gleye	. ,		,,		it Floodplain Soils (F19)
	Layers (A5)		Depleted Ma		_/			A 136, 147)	,
	ck (A10) (LRR N)		Redox Dark	. ,	6)		Very Sha	allow Dark Surface	(TF12)
	Below Dark Surface	(A11)	Depleted Da	,	,			xplain in Remarks)	,
Thick Da	rk Surface (A12)		Redox Depre	essions (F8)				
🔲 Sandy M	ucky Mineral (S1) (LI	RR N,	Iron-Mangan	ese Masse	s (F12) (I	.RR N,			
MLRA	147, 148)		MLRA 13	6)					
Sandy GI	leyed Matrix (S4)		🔲 Umbric Surfa					of hydrophytic vege	
🔲 Sandy Re	edox (S5)		Piedmont Flo	oodplain So	ils (F19)	(MLRA 1	48) wetland h	ydrology must be p	resent,
	Matrix (S6)		Red Parent	Material (F2	1) (MLR	A 127, 14	7) unless dis	turbed or problema	tic.
Restrictive L	ayer (if observed):	No							
Typo									
i ype							Hydric Soil Preser	nt? Yes X	No
	:hes):								
Depth (inc	hes):						•		
Depth (inc Remarks:	hes): nt of Energy property	does not a	allow digging past 1	2"			·		
Depth (inc Remarks:		[,] does not a	allow digging past 1	2"			·		
Depth (inc Remarks:		does not a	llow digging past 1	2"					
Depth (inc Remarks:		does not a	allow digging past 1	2"					
Depth (inc Remarks:		does not a	allow digging past 1	2"					
Depth (inc Remarks:		does not a	allow digging past 1	2"					
Depth (inc Remarks:		does not a	allow digging past 1	2"					

Upland AS-008 WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Arboles Station and Transmission Lines Project	City/County: Pike County	Sam	pling Date:
Applicant/Owner: AEP		State: OH Sa	ampling Point: U-BAO-012221-02
Investigator(s): BAO, JFW	Section, Township, Range: _	S 7 T 4N R 22W	
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave, convex, n		Slope (%): <u>1</u>
Subregion (LRR or MLRA): LRR N Lat: 39.00835	Long:	-83.01239	Datum: WGS 84
Soil Map Unit Name: UoA: Urbanland-Omulga complex, 0 to 6 per	rcent slopes	NWI classification	N/A
Are climatic / hydrologic conditions on the site typical for this time	of year? Yes X No	(If no, explain in Remar	ks.)
Are Vegetation, Soil, or Hydrology signification	antly disturbed? Are "Norm	al Circumstances" preser	nt? Yes X No
Are Vegetation _, Soil _, or Hydrology naturall	y problematic? (If needed	, explain any answers in I	Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No <u>X</u> No <u>X</u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes	No
Remarks:					
Upland point associated with W-BAO-	012221-02				

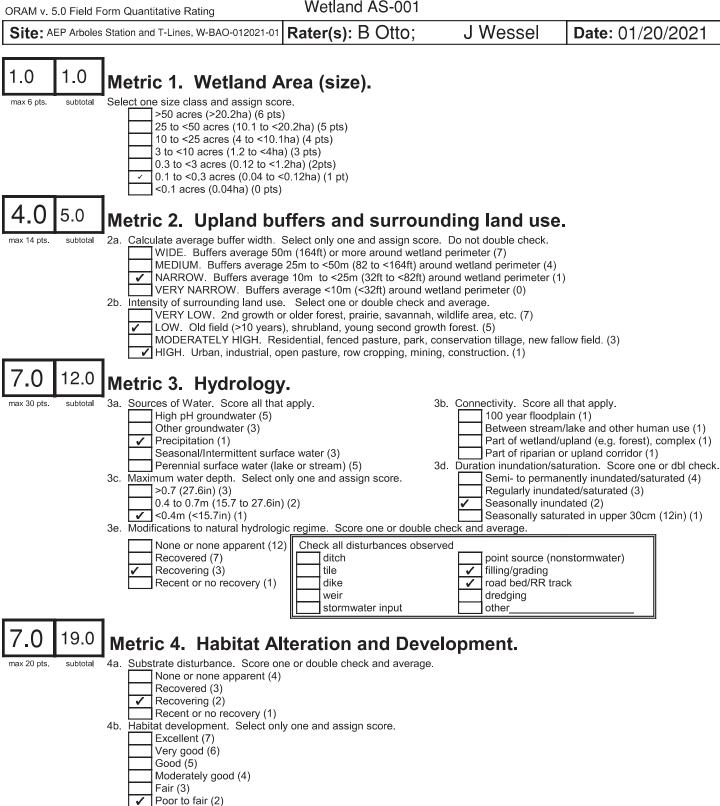
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	B14) Departure (B8)
High Water Table (A2)	or (C1) Drainage Patterns (B10)
Saturation (A3) Oxidized Rhizospher	es on Living Roots (C3) 🔲 Moss Trim Lines (B16)
Water Marks (B1)	d Iron (C4)
Sediment Deposits (B2)	n in Tilled Soils (C6) 🛛 🔲 Crayfish Burrows (C8)
Drift Deposits (B3)	C7) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) 📃 Other (Explain in Rel	marks)
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No _X _ Depth (inches):	
Water Table Present? Yes No X Depth (inches):	
Saturation Present? Yes No X Depth (inches):	
	Wetland Hydrology Present? Yes NoX
Saturation Present? Yes <u>No X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes NoX
Saturation Present? Yes <u>No X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes NoX
Saturation Present? Yes No X Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	Wetland Hydrology Present? Yes NoX
Saturation Present? Yes No X Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	Wetland Hydrology Present? Yes NoX
Saturation Present? Yes No X Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	Wetland Hydrology Present? Yes NoX
Saturation Present? Yes No X Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	Wetland Hydrology Present? Yes NoX
Saturation Present? Yes No X Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	Wetland Hydrology Present? Yes NoX
Saturation Present? Yes No X Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	Wetland Hydrology Present? Yes NoX
Saturation Present? Yes No X Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	Wetland Hydrology Present? Yes NoX
Saturation Present? Yes No X Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	Wetland Hydrology Present? Yes NoX
Saturation Present? Yes No X Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	Wetland Hydrology Present? Yes NoX
Saturation Present? Yes No X Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	Wetland Hydrology Present? Yes NoX

Sampling Point: U-BAO-012221-02

	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:30')	% Cover Species? Status	
I		Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
2		Total Number of Dominant
3		Species Across All Strata: 2 (B)
4		Percent of Dominant Species
5		That Are OBL, FACW, or FAC: 50.00 (A/B)
6		
	0 = Total Cover	Prevalence Index worksheet:
		Total % Cover of: Multiply by:
	20% of total cover:0	OBL species x 1 =0
Sapling Stratum (Plot size: 15')		FACW species 0 x 2 = 0
1		FAC species 60 x 3 = 180
2		
3		
		UPL species x 5 = 0
4		Column Totals: <u>110</u> (A) <u>380</u> (B)
5		2.45
6		Prevalence Index = B/A =3.45
	0 = Total Cover	Hydrophytic Vegetation Indicators:
50% of total cover 0	20% of total cover: 0	1 - Rapid Test for Hydrophytic Vegetation
		2 - Dominance Test is >50%
Shrub Stratum (Plot size: <u>15'</u>)		
1		3 - Prevalence Index is ≤3.0 ¹
2		4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
3		
4		Problematic Hydrophytic Vegetation ¹ (Explain)
5		
6		¹ Indicators of hydric soil and wetland hydrology must
··	0 = Total Cover	be present, unless disturbed or problematic.
		Definitions of Five Vegetation Strata:
	20% of total cover:0	Tree – Woody plants, excluding woody vines,
Herb Stratum (Plot size: 5')		approximately 20 ft (6 m) or more in height and 3 in.
1. Schedonorus arundinaceus	40 Y FACU	(7.6 cm) or larger in diameter at breast height (DBH).
2. Dichanthelium clandestinum		Carling Weady plants evaluating weady vince
- Sotaria numila		Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
· · · · · · · · · · · · · · · · · · ·		than 3 in. (7.6 cm) DBH.
4. Asclepias syriaca	<u>10 N</u> FACU	
5		Shrub – Woody plants, excluding woody vines,
6		approximately 3 to 20 ft (1 to 6 m) in height.
7		Herb – All herbaceous (non-woody) plants, including
8		herbaceous vines, regardless of size, and woody
9		plants, except woody vines, less than approximately 3
		ft (1 m) in height.
10		Woody vine – All woody vines, regardless of height.
11		, , , , , , , , , , , , , , , , , , ,
	<u>110</u> = Total Cover	
50% of total cover: 55	20% of total cover: 22	
Woody Vine Stratum (Plot size: 30')		
1		
2		
3		
4		
5		Hydrophytic
	0 = Total Cover	Vegetation
50% of total cover: 0	20% of total cover: 0	Present? Yes <u>No X</u>
Remarks: (Include photo numbers here or on a separate s	sneet.)	

Profile Desc	ription: (Describe to	o the dept				or confirm	m the absence of indicators.)
Depth (inches)	<u>Matrix</u> Color (moist)	%	Redo Color (moist)	<u>x Features</u> %	s Type ¹	Loc ²	Texture Remarks
0 — 10	10YR 4/3	70	10YR 5/6	30	<u> </u>	 M	Silty clay loam
	101K 4/3		1011 3/0				
_							
_							
_							
_							
¹ Type: C=Co	ncentration, D=Deple	etion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	² Location: PL=Pore Lining, M=Matrix.
Hydric Soil I	ndicators:						Indicators for Problematic Hydric Soils ³ :
Histosol	(A1)		Dark Surface				2 cm Muck (A10) (MLRA 147)
	ipedon (A2)		Polyvalue Be				7, 148) 🛛 🔲 Coast Prairie Redox (A16)
Black His	. ,		Thin Dark Su	. ,		47, 148)	(MLRA 147, 148)
	n Sulfide (A4)		Loamy Gleye		F2)		Piedmont Floodplain Soils (F19)
	Layers (A5)		Depleted Matrix (F3) (MLRA 136, 147)				
	ck (A10) (LRR N)	()	Redox Dark Surface (F6) Very Shallow Dark Surface (TF12)				
	Below Dark Surface	(A11)	Depleted Dark Surface (F7) Other (Explain in Remarks) Redox Depressions (F8)				
	rk Surface (A12)				,		
	ucky Mineral (S1) (L l . 147, 148)	KK N,	Iron-Mangan MLRA 13		es (F12) (1	_RR N,	
					ΜΙ ΡΔ 13	6 122)	³ Indicators of hydrophytic vegetation and
				, , , , ,			
	Matrix (S6)		Red Parent N	•	. ,		
	ayer (if observed):	No) (
_	3						
Depth (inc	hes):						Hydric Soil Present? Yes NoX
Remarks:							
	nt of Energy property	does not	allow digging past 1	2"			

Appendix C Ohio Rapid Assessment Method for Wetlands (ORAM) Forms



Check all disturbances observed

woody debris removal

shrub/sapling removal

nutrient enrichment

sedimentation

dredging

farming

herbaceous/aquatic bed removal

~

mowing

grazing

1

clearcutting

selective cutting

toxic pollutants

9.0

subtotal this page

Poor (1)

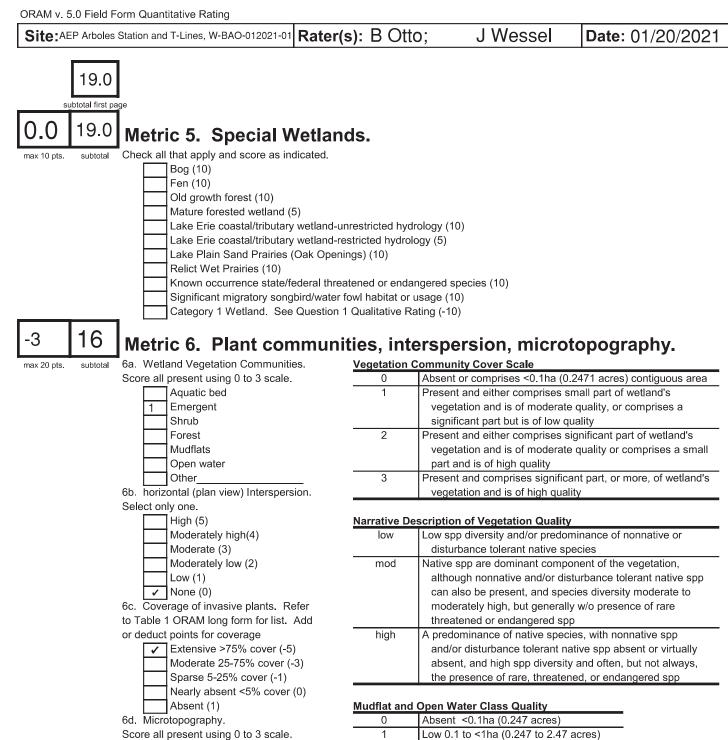
Recovered (6)

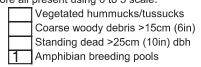
Recovering (3)

4c. Habitat alteration. Score one or double check and average.

None or none apparent (9)

Recent or no recovery (1)





Microtopography Cover Scale

2

3

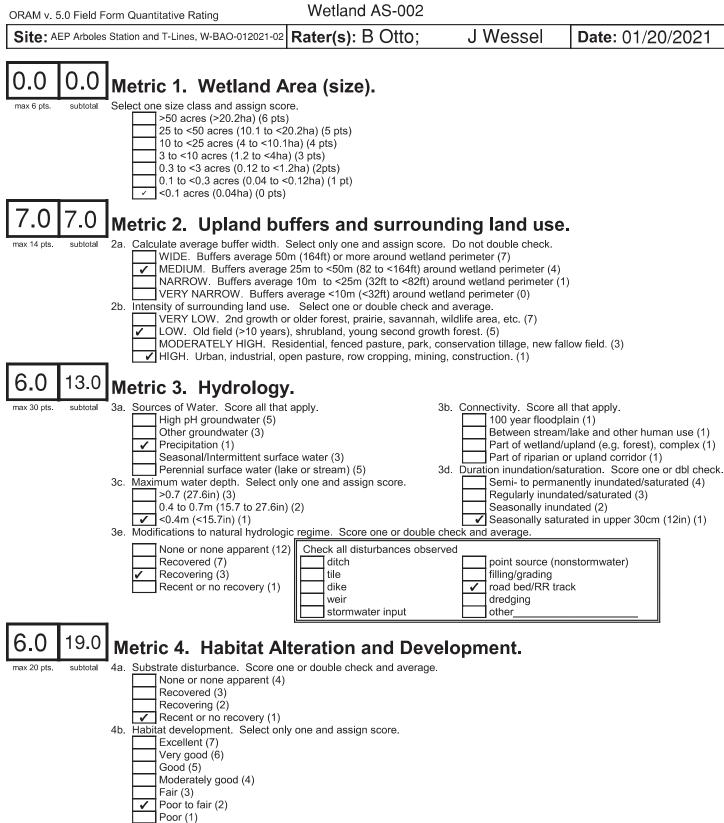
0	Absent
1	Present very small amounts or if more common
	of marginal quality
2	Present in moderate amounts, but not of highest
	quality or in small amounts of highest quality
3	Present in moderate or greater amounts
	and of highest quality

Moderate 1 to <4ha (2.47 to 9.88 acres)

High 4ha (9.88 acres) or more

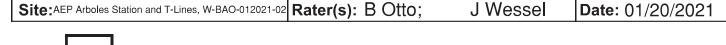
16 GRAND TOTAL (max 100 pts)

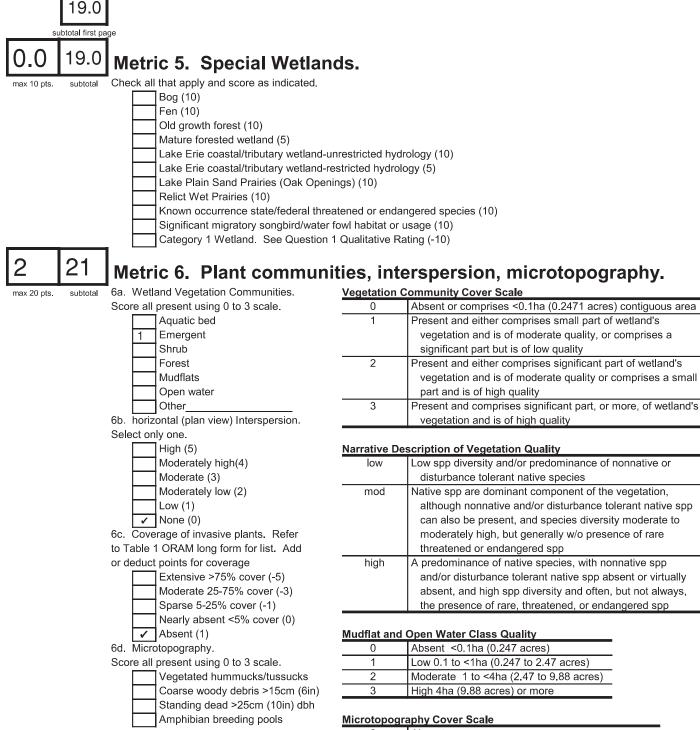
Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address: http://www.epa.state.oh.us/dsw/401/401.html last revised 1 February 2001 jim



4c. Habitat alteration. Score one or double check and average.







 0
 Absent

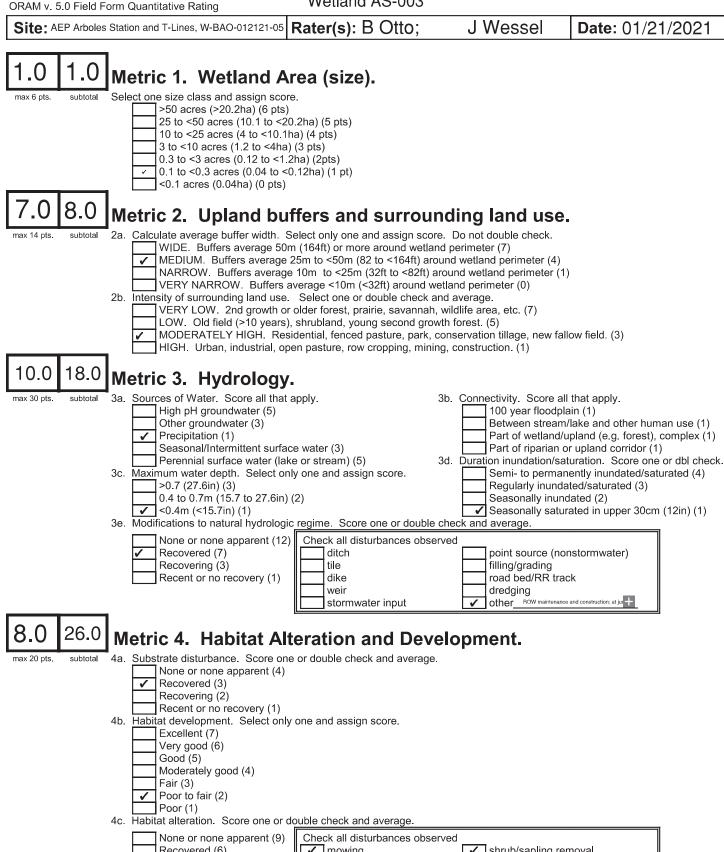
 1
 Present very small amounts or if more common of marginal quality

 2
 Present in moderate amounts, but not of highest quality or in small amounts of highest quality

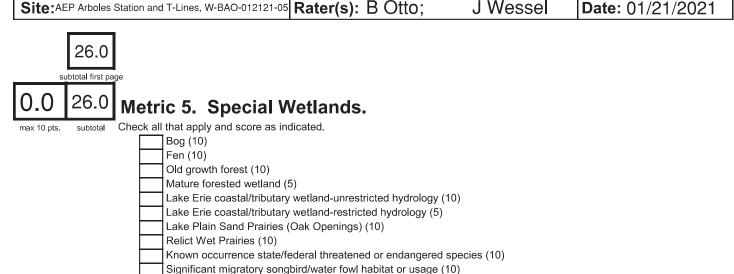
 3
 Present in moderate or greater amounts and of highest quality

21 GRAND TOTAL (max 100 pts)

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address: http://www.epa.state.oh.us/dsw/401/401.html last revised 1 February 2001 jim





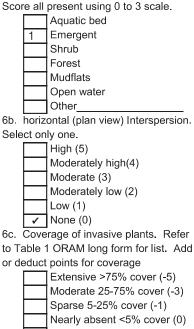


Category 1 Wetland. See Question 1 Qualitative Rating (-10)

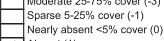


Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.

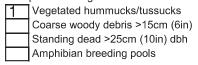


Extensive >75% cover (-5)



✓ Absent (1) 6d. Microtopography.

Score all present using 0 to 3 scale.



Vegetation Community Cover Scale Absent or comprises <0.1ha (0.2471 acres) contiguous area 0 Present and either comprises small part of wetland's 1 vegetation and is of moderate quality, or comprises a significant part but is of low quality 2 Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality 3 Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

	scription of vegetation addity
low	Low spp diversity and/or predominance of nonnative or
	disturbance tolerant native species
mod	Native spp are dominant component of the vegetation,
	although nonnative and/or disturbance tolerant native spp
	can also be present, and species diversity moderate to
	moderately high, but generally w/o presence of rare
	threatened or endangered spp
high	A predominance of native species, with nonnative spp
	and/or disturbance tolerant native spp absent or virtually
	absent, and high spp diversity and often, but not always,
	the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

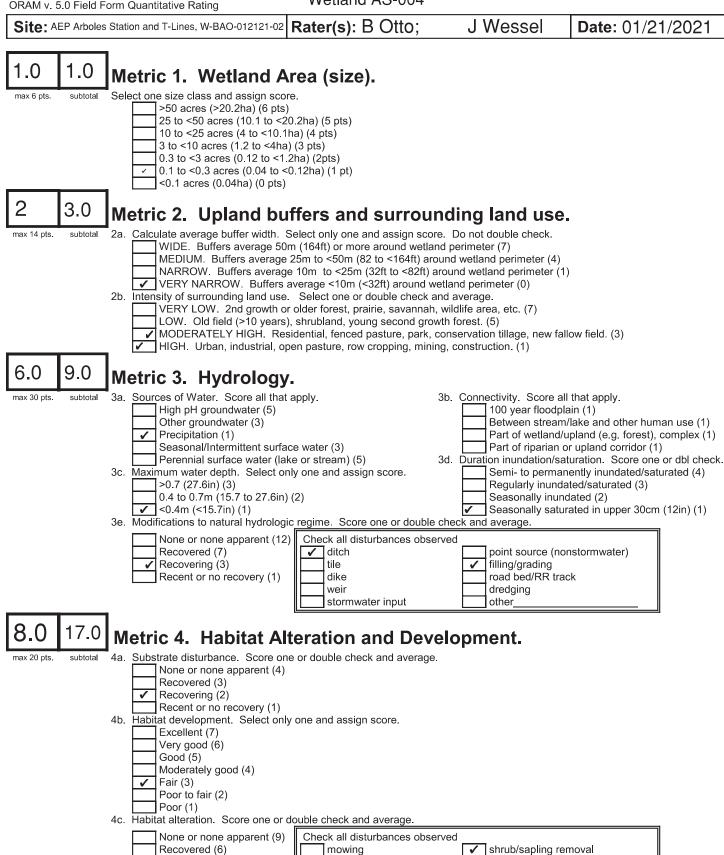
0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common
	of marginal quality
2	Present in moderate amounts, but not of highest
	quality or in small amounts of highest quality
3	Present in moderate or greater amounts
	and of highest quality

29 GRAND TOTAL (max 100 pts)

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address: http://www.epa.state.oh.us/dsw/401/401.html last revised 1 February 2001 jim



grazing

clearcutting

selective cutting

toxic pollutants

woody debris removal

1

✓

herbaceous/aquatic bed removal

sedimentation

nutrient enrichment

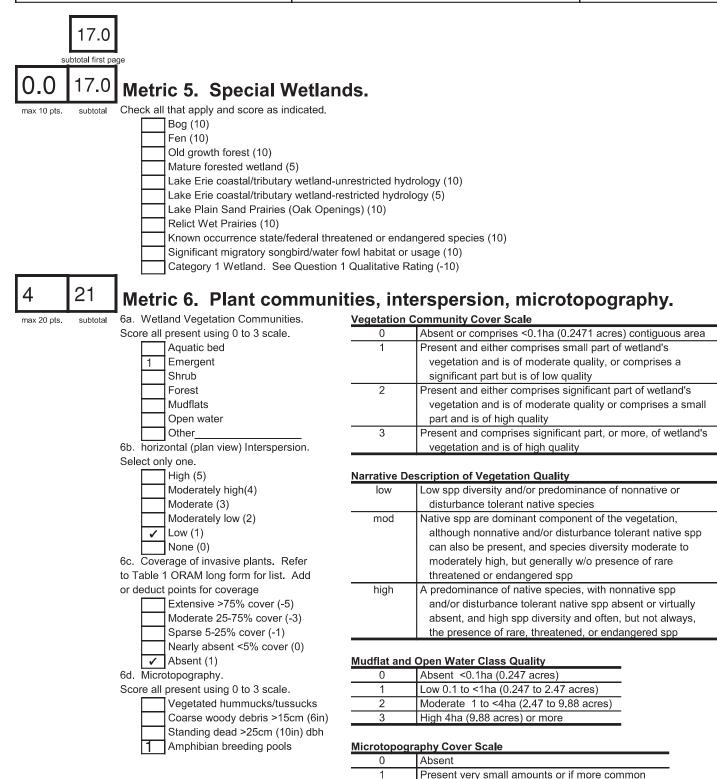
dredging

farming

Recovering (3)

Recent or no recovery (1)

Site: AEP Arboles Station and T-Lines, W-BAO-012121-02 Rater(s): B Otto; J Wessel Date: 01/21/2021



21 GRAND TOTAL (max 100 pts)

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address: http://www.epa.state.oh.us/dsw/401/401.html last revised 1 February 2001 jim

2

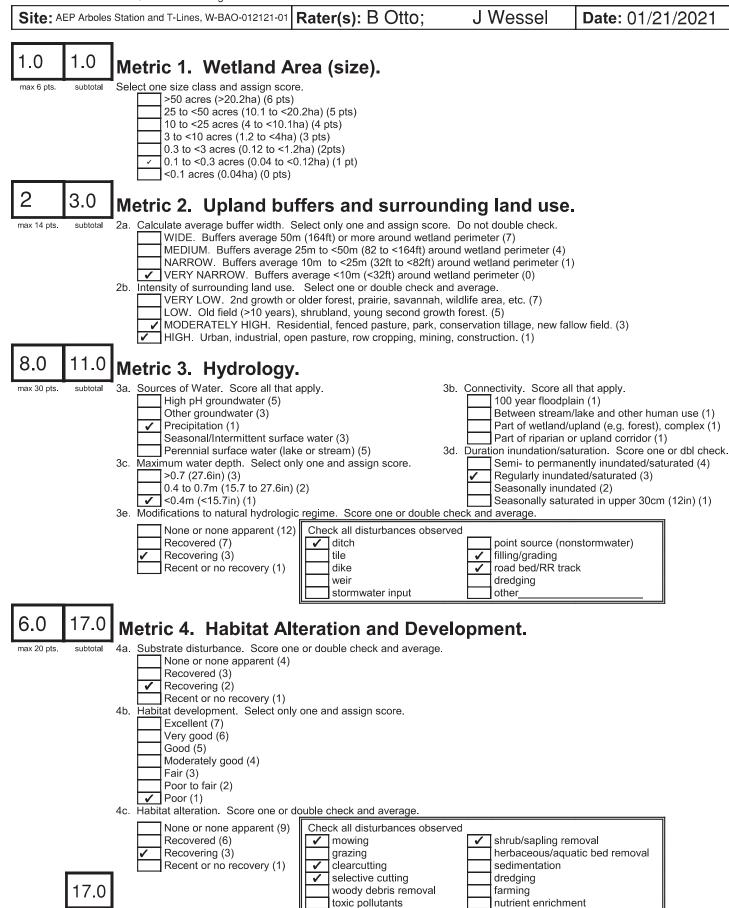
3

of marginal guality

and of highest quality

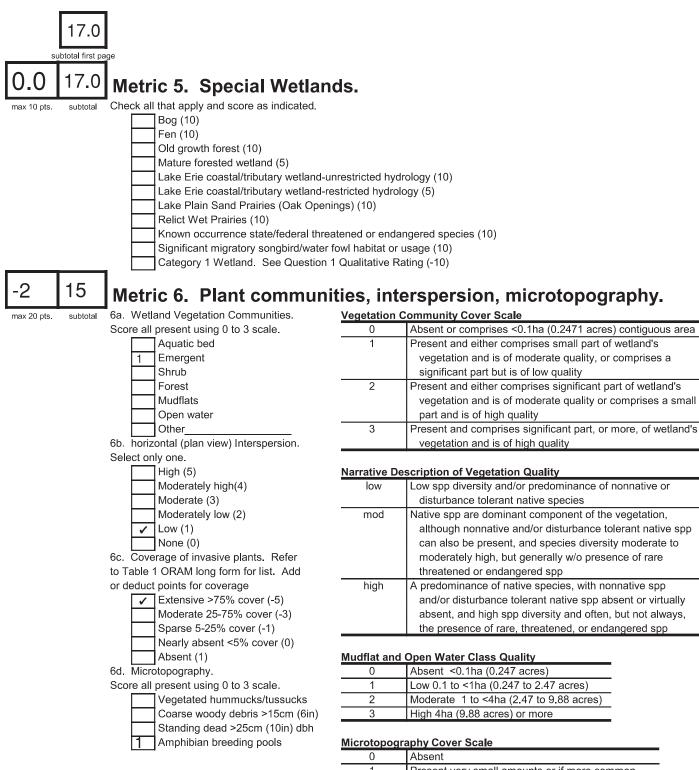
Present in moderate amounts, but not of highest guality or in small amounts of highest guality

Present in moderate or greater amounts



subtotal this page

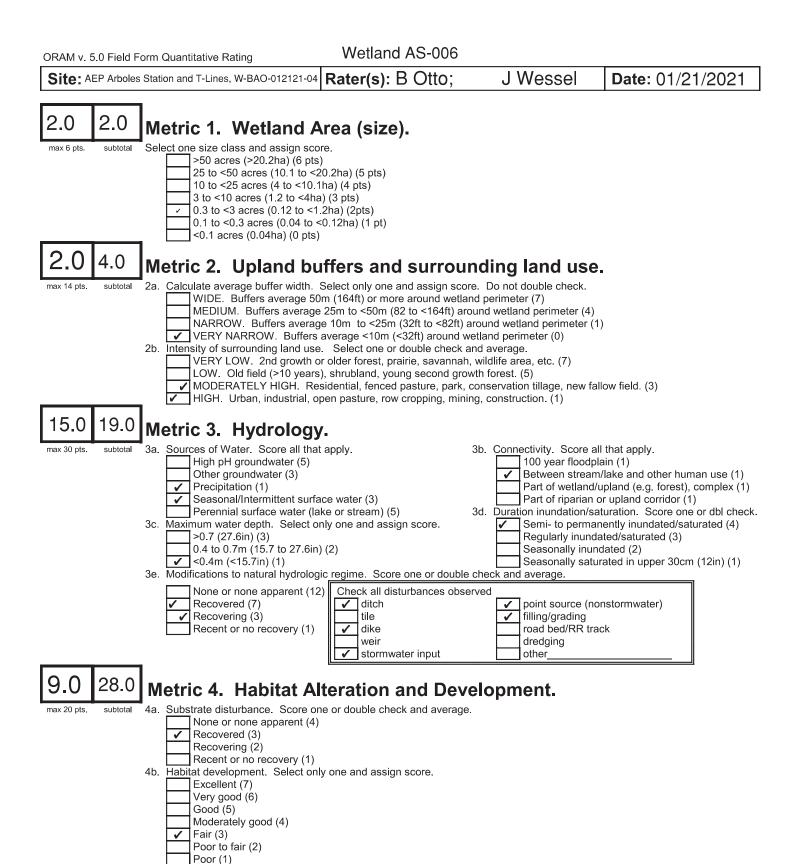




1	Present very small amounts or if more common
	of marginal quality
2	Present in moderate amounts, but not of highest
	quality or in small amounts of highest quality
3	Present in moderate or greater amounts
	and of highest quality

15 **GRAND TOTAL** (max 100 pts)

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address: http://www.epa.state.oh.us/dsw/401/401.html last revised 1 February 2001 jim



Check all disturbances observed

woody debris removal

shrub/sapling removal

nutrient enrichment

sedimentation

dredging

farming

herbaceous/aquatic bed removal

~

mowing

grazing

clearcutting

selective cutting

toxic pollutants

1

1

1

4c. Habitat alteration. Score one or double check and average.

None or none apparent (9)

Recent or no recovery (1)

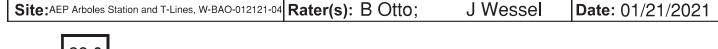
Recovered (6)

Recovering (3)



28.0

subtotal this page



28.0 subtotal first page 28.0 Metric 5. Special Wetlands. Check all that apply and score as indicated. subtota max 10 pts. Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland-unrestricted hydrology (10) Lake Erie coastal/tributary wetland-restricted hydrology (5) Lake Plain Sand Prairies (Oak Openings) (10) Relict Wet Prairies (10) Known occurrence state/federal threatened or endangered species (10) Significant migratory songbird/water fowl habitat or usage (10) Category 1 Wetland. See Question 1 Qualitative Rating (-10) 32 Metric 6. Plant communities, interspersion, microtopography. 6a. Wetland Vegetation Communities. Vegetation Community Cover Scale max 20 pts. subtotal Absent or comprises <0.1ha (0.2471 acres) contiguous area Score all present using 0 to 3 scale. 0 Aquatic bed Present and either comprises small part of wetland's 1 Emergent vegetation and is of moderate quality, or comprises a Shrub significant part but is of low quality 2 Forest Present and either comprises significant part of wetland's Mudflats vegetation and is of moderate quality or comprises a small Open water part and is of high quality Other 3 Present and comprises significant part, or more, of wetland's 6b. horizontal (plan view) Interspersion. vegetation and is of high quality Select only one. High (5) Narrative Description of Vegetation Quality Moderately high(4) Low spp diversity and/or predominance of nonnative or low Moderate (3) disturbance tolerant native species Moderately low (2) mod Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp Low (1) 1 None (0) can also be present, and species diversity moderate to 6c. Coverage of invasive plants. Refer moderately high, but generally w/o presence of rare to Table 1 ORAM long form for list. Add threatened or endangered spp or deduct points for coverage A predominance of native species, with nonnative spp high Extensive >75% cover (-5) and/or disturbance tolerant native spp absent or virtually Moderate 25-75% cover (-3) absent, and high spp diversity and often, but not always, Sparse 5-25% cover (-1) the presence of rare, threatened, or endangered spp ✓ Nearly absent <5% cover (0) Absent (1) Mudflat and Open Water Class Quality 6d. Microtopography. 0 Absent <0.1ha (0.247 acres) Score all present using 0 to 3 scale. Low 0.1 to <1ha (0.247 to 2.47 acres) 1 Vegetated hummucks/tussucks 2 Moderate 1 to <4ha (2.47 to 9.88 acres) Coarse woody debris >15cm (6in) 3 High 4ha (9.88 acres) or more Standing dead >25cm (10in) dbh Amphibian breeding pools Microtopography Cover Scale

 0
 Absent

 1
 Present very small amounts or if more common of marginal quality

 2
 Present in moderate amounts, but not of highest quality or in small amounts of highest quality

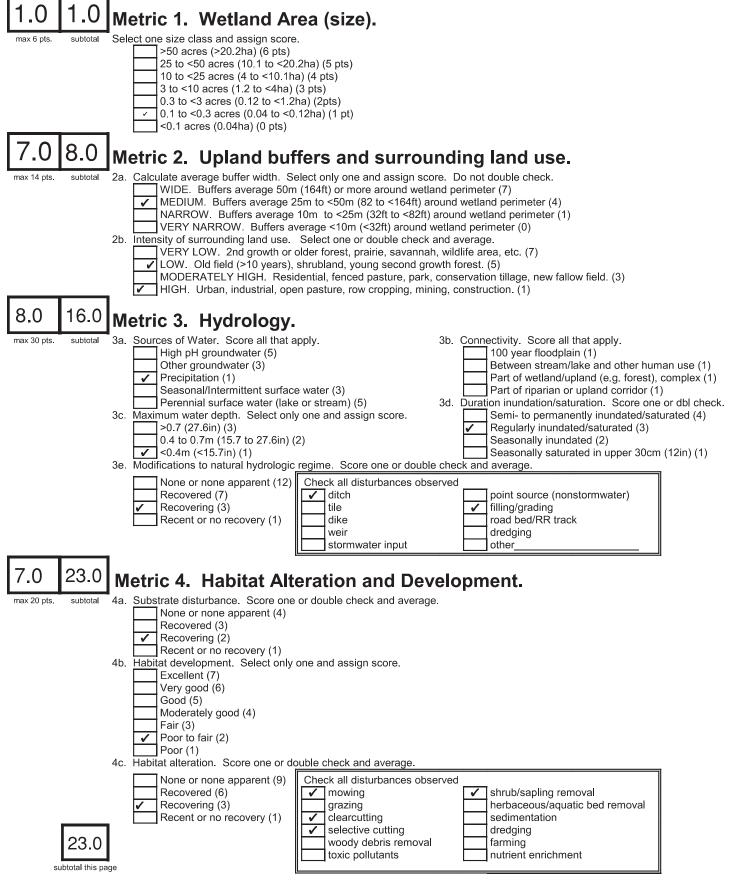
 3
 Present in moderate or greater amounts and of highest quality

32 GRAND TOTAL (max 100 pts)

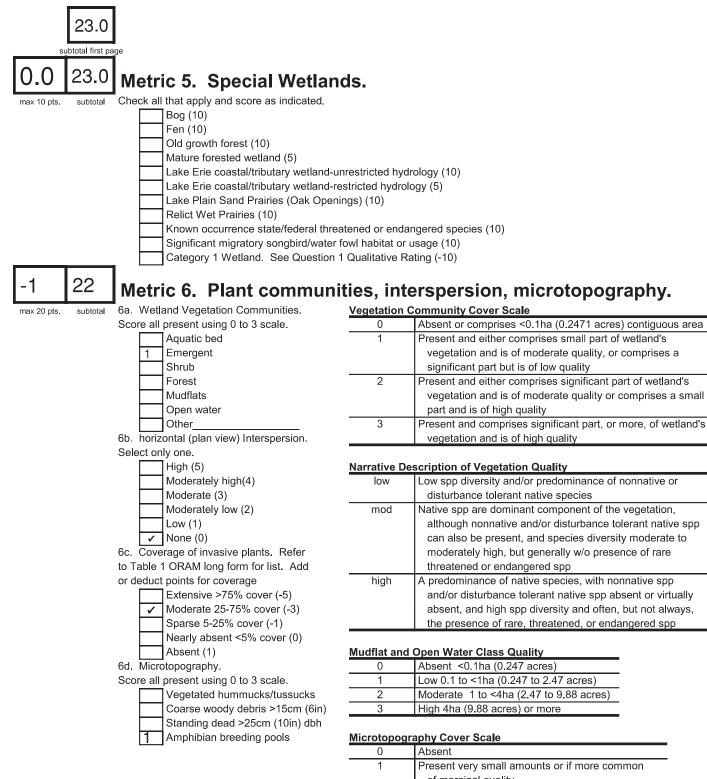
Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address: http://www.epa.state.oh.us/dsw/401/401.html last revised 1 February 2001 jim

Site: AEP Arboles Station and T-Lines, W-BAO-012221-01

 Rater(s): B Otto;
 J Wessel
 Date: 01/22/2021



Site: AEP Arboles Station and T-Lines, W-BAO-012221-01 Rater(s): B Otto;



	· · · · · · · · · · · · · · · · · ·
	of marginal quality
2	Present in moderate amounts, but not of highes
	quality or in small amounts of highest quality
3	Present in moderate or greater amounts
	and of highest quality

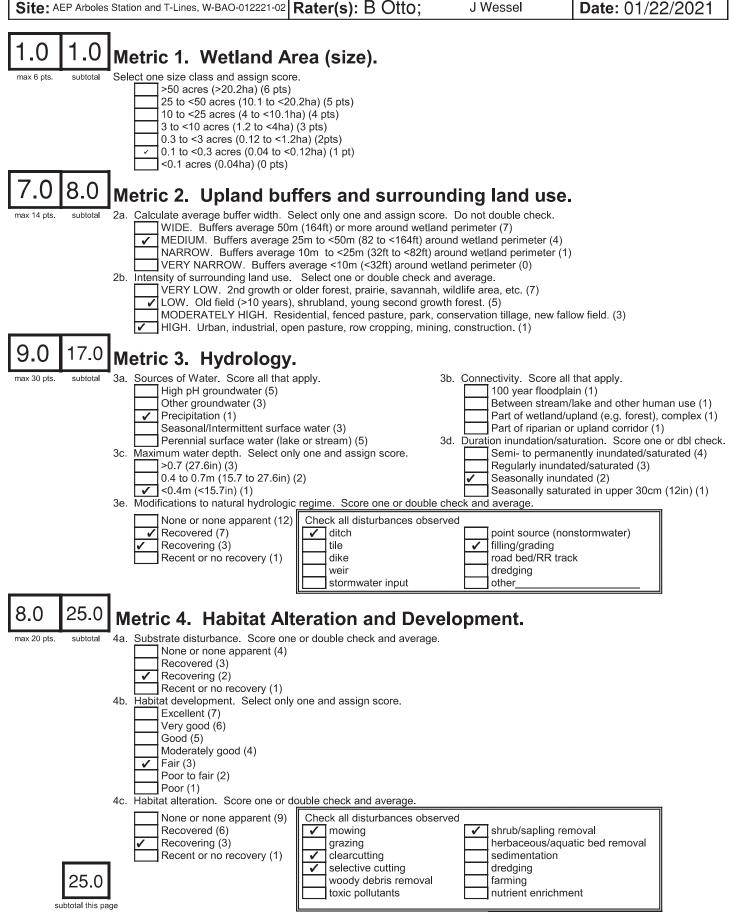
22 GRAND TOTAL (max 100 pts)

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address: http://www.epa.state.oh.us/dsw/401/401.html last revised 1 February 2001 jim

Site: AEP Arboles Station and T-Lines, W-BAO-012221-02

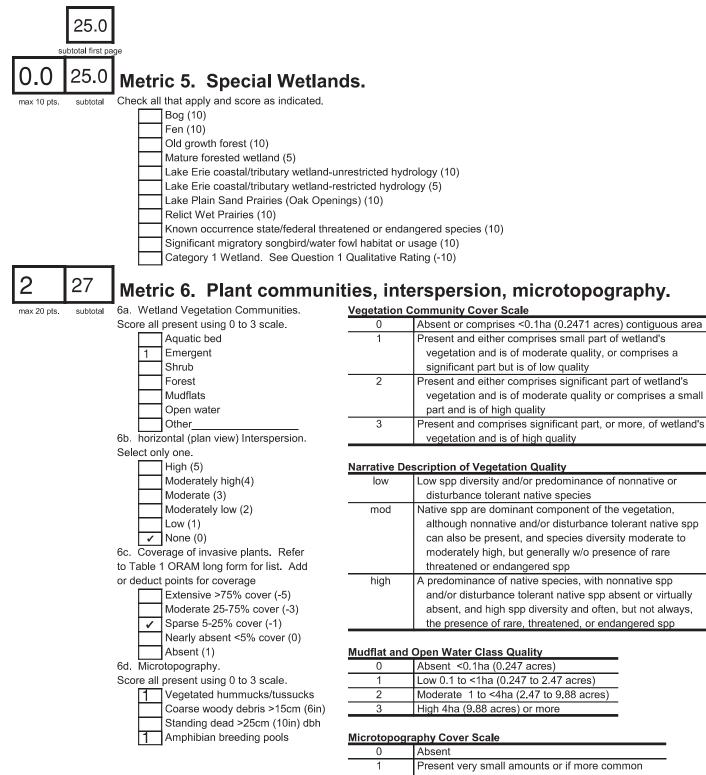
J Wessel

Date: 01/22/2021



last revised 1 February 2001 jjm

Site: AEP Arboles Station and T-Lines, W-BAO-012221-02 Rater(s): B Otto;



	of marginal quality
2	Present in moderate amounts, but not of highest
	quality or in small amounts of highest quality
3	Present in moderate or greater amounts
	and of highest quality

27 GRAND TOTAL (max 100 pts)

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address: http://www.epa.state.oh.us/dsw/401/401.html last revised 1 February 2001 jim

Appendix D Primary Headwater Habitat Evaluation Index (HHEI) Stream Data Forms

Field Methods for Evaluating Primary Headwater Streams in Ohio Ohio EPA, Division of Surface Water

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012021-01 SITE NUMBER
STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY May not have existed prior to modification. Substation drainage
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B HHEI Image: Description of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B HHEI Image: Description of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B HHEI Image: Description of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B HHEI Image: Description of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B HHEI Image: Description of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B HHEI Image: Description of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B HHEI Image: Description of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B HHEI Image: Description of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B HHEI Image: Description of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B HHEI Image: Description of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B HHEI Image: Description of significant substrate types found (Max of 8). Final metric score is su
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 6 TOTAL NUMBER OF SUBSTRATE TYPES: 1
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLYone box): Pool Depth (Max = 30 > 30 centimeters [20 pts] 5 cm - 10 cm [15 pts] Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLYone box): Pool Depth (Max = 30 > 30 centimeters [20 pts] 5 cm - 10 cm [15 pts] 5 cm - 10 cm [15 pts] > 10 - 22.5 cm [30 pts] V < 5 cm [5pts]
3.BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box):Bankfull \bigcirc > 4.0 meters (>13') [30 pts] \bigcirc > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]Width Max=30 \bigcirc > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] \checkmark < 1.0 m (< 3' 3") [5 pts]
COMMENTS AVERAGE BANKFULL WIDTH (feet)
This information mustalso be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream* RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) L R (Per Bank) L R Wide >10m Mature Forest, Wetland Conservation Tillage Moderate 5-10m Immature Forest, Shrub or Old Field Urban or Industrial Narrow <5m
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Moist Channel, isolated pools, no flow (intermittent) Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral) COMMENTS Ephemeral SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 0.5 1.5 2.5 >3
STREAM GRADIENT ESTIMATE
🔲 Flat (0.5 th 100 th) 🔲 Flat to Moderate 🔲 Moderate (2 th 100 th) 🛄 Moderate to Severe 💟 Severe (10 th 100 th)

and a start of the	DOWNSTREAM DESIGNATED USE(S)
	Name: Little Beaver Creek Distance from Evaluated Stream 0.80 mile
EWH	lame: Distance from Evaluated Stream
	MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.
JSGS QI	adrangle Name: Piketon, OH NRCS Soil Map Page: NRCS Soil Map Stream Order:
county:	
ounty.	
	MISCELLANEOUS
Base Flov	v Conditions? (Y/N): Date of last precipitation: 01/16/21 Quantity: 0.20
lhoto do	sumentation Notes:
4699 E E E E	1000/
levated?	Turbidity?(Y/N): Canopy (% open):100%
Vere sar	ples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
	sures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
s the sar	npling reach representative of the stream (Y/N) Y If not, explain:
	BIOLOGICAL OBSERVATIONS (Record all observations below)
	(Record all observations below) erved? (Y/N) N Species observed (if known):
Frogs or [•]	(Record all observations below) erved? (Y/N) N Species observed (if known): adpoles Observed? (Y/N) N Species observed (if known):
Frogs or Salamand	(Record all observations below) erved? (Y/N) N Species observed (if known): fadpoles Observed? (Y/N) N Species observed (if known): ers Observed? (Y/N) Species observed (if known):
Frogs or Salamand	(Record all observations below) erved? (Y/N) N Species observed (if known): adpoles Observed? (Y/N) N Species observed (if known):
Frogs or Salamand Aquatic M	(Record all observations below) erved? (Y/N) N Species observed (if known): fadpoles Observed? (Y/N) N Species observed (if known): ers Observed? (Y/N) Species observed (if known):
Frogs or Salamand Aquatic N	(Record all observations below) erved? (Y/N) N Species observed (if known): adpoles Observed? (Y/N) N Species observed (if known): ers Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) N Species observed (if known):
Frogs or Salamand Aquatic N	(Record all observations below) erved? (Y/N) N Species observed (if known): adpoles Observed? (Y/N) N Species observed (if known): ers Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) N Species observed (if known):
Frogs or Salamand Aquatic N	(Record all observations below) erved? (Y/N) N Species observed (if known): adpoles Observed? (Y/N) N Species observed (if known): ers Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) Species observed (if known): acroinvertebrates Observed? (Y/N) Species observed (if known): BRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)
rogs or Salamand Aquatic M	(Record all observations below) erved? (Y/N) N Species observed (if known): adpoles Observed? (Y/N) N Species observed (if known): ers Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) N Species observed (if known):
Frogs or Salamand Aquatic M	(Record all observations below) erved? (Y/N) N Species observed (if known): adpoles Observed? (Y/N) N Species observed (if known): ers Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) Species observed (if known): acroinvertebrates Observed? (Y/N) Species observed (if known): BRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)
Frogs or Salamand Aquatic N	(Record all observations below) erved? (Y/N) N Species observed (if known): 'adpoles Observed? (Y/N) N Species observed (if known): ers Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) Species observed (if known): acroinvertebrates Observed? (Y/N) Species observed (if known): Bagarding Biology: Species observed (if known): DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location
Frogs or Salamand Aquatic M	(Record all observations below) erved? (Y/N) N Species observed (if known): adpoles Observed? (Y/N) N Species observed (if known): ers Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) Species observed Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location substation
rogs or Salamand Aquatic M	(Record all observations below) erved? (Y/N) N Species observed (if known): 'adpoles Observed? (Y/N) N Species observed (if known): ers Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) Species observed (if known): acroinvertebrates Observed? (Y/N) Species observed (if known): Bagarding Biology: Species observed (if known): DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location
Frogs or ⁻ Salamand Aquatic N Comment	(Record all observations below) arved? (Y/N) N Species observed (if known):
Frogs or Salamand Aquatic N	(Record all observations below) erved? (Y/N) N Species observed (if known): 'adpoles Observed? (Y/N) N Species observed (if known): ers Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) N Species observed (if known): acroinvertebrates Observed? (Y/N) N Species observed (if known): Species observed (if known): acroinvertebrates Observed? (Y/N) N Species observed Species observed (if known): Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location substation Substation Species observed (if known)
Frogs or Salamand Aquatic N Comment	(Record all observations below) erved? (Y/N) Species observed (if known): Tadpoles Observed? (Y/N) Species observed (if known): ers Observed? (Y/N) Species observed (if known): acroinvertebrates Observed? (Y/N) Species observed (if known): substation Substation Substation Substation
Frogs or Galamand Aquatic N Comment	(Record all observations below) arved? (Y/N) N Species observed (if known):
Frogs or Galamand Aquatic N Comment	(Record all observations below) erved? (Y/N) Species observed (if known): Tadpoles Observed? (Y/N) Species observed (if known): ers Observed? (Y/N) Species observed (if known): acroinvertebrates Observed? (Y/N) Species observed (if known): substation Substation Substation Substation
Frogs or Galamand Aquatic N Comment	(Record all observations below) erved? (Y/N) Species observed (if known): Tadpoles Observed? (Y/N) Species observed (if known): ers Observed? (Y/N) Species observed (if known): acroinvertebrates Observed? (Y/N) Species observed (if known): substation Substation Substation Substation

Field Methods for Evaluating Primary Headwater Streams in Ohio Ohio EPA, Division of Surface Water

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3) 27	
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012021-02 SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mi²) 0.010 LENGTH OF STREAM REACH (ft) 129 LAT 39.02164 LONG -83.01314 RIVER MILE DATE 01/20/2021 SCORER BAO COMMENTS Ephemeral NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions	
STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECOVERING RECOVERING	r
1. SUBSTRATE (Estimate percent of every type present). Check ONL Ytwo predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B HHEI TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] 0% SILT [3 pt] 30% BOULDER (>256 mm) [16 pts] 0% LEAF PACK/WOODY DEBRIS [3 pts] 0% COBBLE (65-256 mm) [12 pts] 0% CLAY or HARDPAN [0 pt] 5% GRAVEL (2-64 mm) [9 pts] 0% MUCK [0 pts] 0% MUCK [0 pts] 0% ARTIFICIAL [3 pts] 0% Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock 25% (A) 12 TOTAL NUMBER OF SUBSTRATE TYPEs: 5	11 (2010) 20
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Pool Depth (Max = 30 > 30 centimeters [20 pts] 5 cm - 10 cm [15 pts] Max = 5 cm [5pts] > 22.5 - 30 cm [30 pts] < 5 cm [5pts]	n i
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): Bankfull → 4.0 meters (>13') [30 pts] → 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Width → 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] ✓ 1.0 m (< 3' 3") [5 pts]	28 29
This information must also be completed	2
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream* RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) L R (Per Bank) L R Wide >10m Mature Forest, Wetland Conservation Tillage Moderate 5-10m Immature Forest, Shrub or Old Field Urban or Industrial Narrow <5m	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Moist Channel, isolated pools, no flow (intermittent) Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral) COMMENTS Ephemeral SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0	
□ 0.5 □ 1.5 □ 2.5 □ >3 STREAM GRADIENT ESTIMATE □ Flat (0.5 th 100 th) □ Flat to Moderate □ Moderate (2 th 100 th) □ Moderate to Severe □ Severe (10 th 100 th)	

ADDITIONAL	STREAM INFORMATION (This Information Mu	st Also be Completed):	
QHEI PERFORMED?	Yes 🖓 No QHEI Score	(If Yes, A	tach Completed QHEI form)	
DOWNSTREAM DESIGNA				
WWH Name: Little Beaver Cree			Distance from Evaluated Stream	0.82 mile
CWH Name:			Distance from Evaluated Stream	
EWH Name:			Distance from Evaluated Stream	
St			REA. CLEARLY MARK THE SITE LOC	ATION
JSGS Quadrangle Name: Piketon,		NRCS Soil Map Page:		Order:
County: Pike	To	wnship/City: Scioto T	ownsnip	
MISCELLANEOUS	7			
Base Flow Conditions? (Y/N):	Date of last precipitatio	01/16/21	Quantity: 0.20	
Photo-documentation Notes:		E09/		
Elevated Turbidity?(Y/N):	Canopy (% open):	50%		_
Vere samples collected for water c	hemistry?(Y/N): N	Lab Sample # or ID	(attach results):	
10000	Dissolved Oxygen (mg/l)	pH (S.U.)	Conductivity (umhos/c	n)
53 833		200 N	sense of ny familiario	
s the sampling reach representativ	e of the stream (Y/N)	If not, explain:		
Fish Observed? (Y/N) N Sp Frogs or Tadpoles Observed? (Y/N Galamanders Observed? (Y/N) N Aquatic Macroinvertebrates Observ) N Species observed Species observed (if kn	(if known): own):		
Comments Regarding Biology:	·····			
Security Divides				
				62. 64
			I REACH (This <u>must</u> be co	
Include important landma	rks and other features of inte	rest for site evaluation a	nd a narrative description of the strea	m's location
1				
\sim		/	X	- 1
(\mathcal{V})	У.	 upland scrub 	-shrub ROW	N
-				IN
		V		11
<u>.ow</u>	13/	1		\varkappa
\mathbf{A}	$\not\vdash$			-
(1)		1		- lij
		14	V	4
3.U. 1			+	

Field Methods for Evaluating Primary Headwater Streams in Ohio Ohio EPA, Division of Surface Water

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3) 39
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012021-03 SITE NUMBER RIVER BASIN 05060002 RIVER DASIN 05060002 RIVER CODE DRAINAGE AREA (mP) 0.020 LENGTH OF STREAM REACH (ft) 200 LAT 39.02134 DATE 01/20/2021 SCORER BAO COMMENTS Intermittent
STREAM CHANNEL MODIFICATIONS: NONE/NATURAL CHANNEL RECOVERED RECOVERING RECEIPT OR NO RECOVERY Culverted and riparian cleared
1. SUBSTRATE (Estimate percent of every type present). Check ONL Y two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B HHEI
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Pool Depth (Max = 30 > 30 centimeters [20 pts] S cm [50 pts] S cm [50 pts] 15 > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] 15 COMMENTS MAXIMUM POOL DEPTH (inches) 3.00 3.00
3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box): Bankfull □ > 4.0 meters (> 13') [30 pts] □ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Width □ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] □ > 1.0 m (≤ 3' 3") [5 pts] Width □ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] □ > 1.0 m (≤ 3' 3") [5 pts] 5 COMMENTS
This information <u>must</u> also be completed
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream* RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) L R (Per Bank) L R Wide >10m Mature Forest, Wetland Conservation Tillage Moderate 5-10m Immature Forest, Shrub or Old Field Urban or Industrial Narrow <5m
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Moist Channel, isolated pools, no flow (intermittent) Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral) COMMENTS
STREAM GRADIENT ESTIMATE

CWH Name: Dista Dista Dista Dista MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. USGS Quadrangle Name: Piketon, OH NRCS Soil Map Page: County: Pike County: Pike MISCELLANEOUS Base Flow Conditions? (Y/N): Y Date of last precipitation: 01/16/21 Photo-documentation Notes: 01/16/21 Photo-documentation Notes: 80% Elevated Turbidity?(Y/N): N Canopy (% open): 80% Were samples collected for water chemistry?(Y/N): N Lab Sample # or ID (attac Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) V	NRCS Soil Map Stream Order: hip Quantity:0.20
EWH Name: Dista MAPPING: ATTACH_COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. Dista USGS Quadrangle Name: Piketon, OH NRCS Soil Map Page: County: Pike Township/City: Scioto Townsi MISCELLANEOUS MISCELLANEOUS 01/16/21 Photo-documentation Notes: Date of last precipitation: 01/16/21 Elevated Turbidity?(Y/N): N Canopy (% open): 80% Were samples collected for water chemistry?(Y/N): N Lab Sample # or ID (attac Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.)	ance fromEvaluated Stream CLEARLY MARK THE SITE LOCATION. NRCS Soil Map Stream Order: hip Quantity:0.20
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. USGS Quadrangle Name: Piketon, OH NRCS Soil Map Page; County: Pike Township/City: Scioto Townsi MISCELLANEOUS Township/City: Scioto Townsi Base Flow Conditions? (Y/N): Pate of last precipitation: 01/16/21 Photo-documentation Notes:	CLEARLY MARK THE SITE LOCATION. NRCS Soil Map Stream Order: ship Quantity:
USGS Quadrangle Name: Piketon, OH NRCS Soil Map Page: County: Pike Township/City: Scioto Townsi MISCELLANEOUS Base Flow Conditions? (Y/N): Y Date of last precipitation: 01/16/21 Photo-documentation Notes: Photo-documentation Notes: Elevated Turbidity?(Y/N): N Canopy (% open): 80% Were samples collected for water chemistry?(Y/N): N Lab Sample # or ID (attact Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.)	NRCS Soil Map Stream Order: hip Quantity:0.20
County: Pike Township/City: Scioto Township/City: MISCELLANEOUS MISCELLANEOUS 01/16/21 Base Flow Conditions? (Y/N): Y Date of last precipitation: 01/16/21 Photo-documentation Notes:	Quantity: 0.20
MISCELLANEOUS Base Flow Conditions? (Y/N): Y Date of last precipitation: 01/16/21 Photo-documentation Notes: Elevated Turbidity?(Y/N): N Canopy (% open): 80% Were samples collected for water chemistry?(Y/N): N Lab Sample # or ID (attaction Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.)	Quantity: 0.20
MISCELLANEOUS Base Flow Conditions? (Y/N): Date of last precipitation: 01/16/21 Dhoto-documentation Notes: Elevated Turbidity?(Y/N): N Canopy (% open): 80% Were samples collected for water chemistry? (Y/N): Lab Sample # or ID (attaction Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.)	
Base Flow Conditions? (Y/N): Y Date of last precipitation: 01/16/21 Photo-documentation Notes: Photo-d	
Photo-documentation Notes: Elevated Turbidity?(Y/N): N Canopy (% open): 80% Were samples collected for water chemistry?(Y/N): N Lab Sample # or ID (attac Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.)	
Elevated Turbidity?(Y/N): N Canopy (% open): 80% Were samples collected for water chemistry? (Y/N): Lab Sample # or ID (attaction Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.)	ch results):
Vere samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attac ield Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.)	ch results):
Vere samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attac Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.)	ch results):
ield Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.)	ch results):
s the sampling reach representative of the stream (Y/N) Y If not, explain:	Conductivity (umhos/cm)
the samping reaching reaching of the stream (Thit) in her, explain.	245 2500 AT
ish Observed? (Y/N) N Species observed (if known): rogs or Tadpoles Observed? (Y/N) N Species observed (if known): alamanders Observed? (Y/N) N Species observed (if known): Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known):	
Comments Regarding Biology:	
DRAMING AND MADDATINE REACONDING OF STREET	ACU (TL)
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REA	
Include important landmarks and other features of interest for site evaluation and a na	arrauve description of the stream's location
	$\gamma \sim N$
	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~
ow a v v	
ow y +	
and the second s	

Field Methods for Evaluating Primary Headwater Streams in Ohio Ohio EPA, Division of Surface Water

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	7
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012021-04 SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mP) 0.00 LENGTH OF STREAM REACH (ft) 200 LAT 39.02073 LONG -83.01389 RIVER MILE DATE 01/20/2021 SCORER BAO, JFW COMMENTS Intermittent NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instru	
STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO R	
TYPE PERCENT TYPE PERCENT TYPE PERCENT TYPE PERCENT TYPE PERCENT PERCENT TYPE PERCENT TYPE PERCENT PERCENT TYPE PERCENT PERCENT TYPE PERCENT PERCENT PERCENT PERCENT PERCENT PERCENT TYPE PERCENT TYPE PERCENT SULT [3 pt] D% 0 BOULDER (>256 mm) [16 pts] 0% ILEAF PACKWOODY DEBRIS [3 pts] 0% M 0 BEDROCK [16 pts] 0% ILEAF PACKWOODY DEBRIS [3 pts] 0% M 0 COBBLE (65-256 mm) [12 pts] 0% ILEAF PACKWOODY HARDPAN [0 pt] 40% M 0 GRAVEL (2-64 mm) [9 pts] 0% MUCK [0 pts] 0% 0% I 0 SAND (<2 mm) [6 pts]	IHEI letric oints ubstrate ax = 40 7
Bidr Slabs, Boulder, Cobble, Bedrock 078 (A) SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3 TOTAL NUMBER OF SUBSTRATE TYPES: 4 2. Maximum Pool Depth (<i>Measure the maximum pool depth within the 61 meter (200 feet)</i> evaluation reach at the Po	A + B ol Depth ax = 30
> 30 Centimeters [co pts] > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5pts]	5
> 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	ankfull Vidth Iax=30
COMMENTS AVERAGE BANKFULL WIDTH (feet) 2.00	
This information <u>must</u> also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*	
RIPARIAN_WIDTH FLOODPLAIN_QUALITY (Most Predominant per Bank) L R (Per Bank) L R L R Image: Im	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Moist Channel, isolated pools, no flow (intermittent) Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral) COMMENTS Intermittent	
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 0.5 1.5 2.5 >3 STREAM GRADIENT ESTIMATE Flat (0.5 %100 %) Flat to Moderate Moderate (2 %100 %) Moderate to Severe Severe (10 %100 %)	

WWH Name: Little Bea	DESIGNATED USE(S)		Distance from Evaluated Stream	0.88 mile
CWH Name:			Distance from Evaluated Stream	
EWH Name:			Distance fromEvaluated Stream	
MAPPING: ATTA	CH COPIES OF MAPS, INCLUDING	G THE ENTIRE WATER SHED	AREA. CLEARLY MARK THE SITE LOC	ATION.
ISGS Quadrangle Name:	Piketon, OH	NRCS Soil Map Page:	NRCS Soil Map Stream	Order:
ounty: Pike		Township/City: Scioto		
MISCELLANEO		01/16/21		
lase Flow Conditions? (Y	/N) Date of last precipi	itation: 01/16/21	Quantity: 0.20	
hoto-documentation Note	:s:			
levated Turbidity?(Y/N):	N Canopy (% open):	60%		
	pr water chemistry? (Y/N):	Lab Sample # or ID) (attach repute):	
	International In			
ield Measures:Temp (°C)		5.00 Store (0	Conductivity (umhos/cr	m)
the sampling reach repr	esentative of the stream (Y/N) Y	If not, explain:		
	cription of pollution impacts: BIOLOGIC.	AL OBSERVATIONS		
ish Observed? (Y/N) N rogs or Tadpoles Observed? (Pription of pollution impacts:	AL OBSERVATIONS all observations below) vn): rved (if known): (if known);		
ish Observed? (Y/N) N rogs or Tadpoles Observed? (Pription of pollution impacts:	AL OBSERVATIONS all observations below) vn): rved (if known): (if known);		
Additional comments/desc Fish Observed? (Y/N) N Frogs or Tadpoles Observ Galamanders Observed? (Aquatic Macroinvertebrate	Pription of pollution impacts:	AL OBSERVATIONS all observations below) vn): rved (if known): (if known);		
Additional comments/desc Fish Observed? (Y/N) N Frogs or Tadpoles Observ Galamanders Observed? (Aquatic Macroinvertebrate	Pription of pollution impacts:	AL OBSERVATIONS all observations below) vn): rved (if known): (if known);		
Additional comments/desc ish Observed? (Y/N) N rogs or Tadpoles Observ alamanders Observed? (Aquatic Macroinvertebrate comments Regarding Biol	Pription of pollution impacts:	AL OBSERVATIONS all observations below) rn): rved (if known): (if known): ies observed (if known):		
dditional comments/desc ish Observed? (Y/N) N rogs or Tadpoles Observ alamanders Observed? (Aquatic Macroinvertebrate omments Regarding Biol DRAWING	Pription of pollution impacts:	AL OBSERVATIONS Ill observations below) rrved (if known): (if known): ies observed (if known): RIPTION OF STREAI	M REACH (This <u>must</u> be co	mpleted)
Additional comments/desc ish Observed? (Y/N) N rogs or Tadpoles Observ alamanders Observed? (Aquatic Macroinvertebrate comments Regarding Biol DRAWING	BIOLOGIC. (Record a Species observed (if know ved? (Y/N) N Species observed (if know Y/N) N Species observed? Y/N) N Species observed? Ogy: AND NARRATIVE DESCF ant landmarks and other features of	AL OBSERVATIONS Ill observations below) rrved (if known): (if known): ies observed (if known): RIPTION OF STREAI		mpleted)
Additional comments/desc rish Observed? (Y/N) N rogs or Tadpoles Observ alamanders Observed? (Aquatic Macroinvertebrate comments Regarding Biol DRAWING	Pription of pollution impacts:	AL OBSERVATIONS Ill observations below) rrved (if known): (if known): ies observed (if known): RIPTION OF STREAI	M REACH (This <u>must</u> be co	mpleted)
Additional comments/desc rish Observed? (Y/N) N rogs or Tadpoles Observ alamanders Observed? (Aquatic Macroinvertebrate comments Regarding Biol DRAWING	BIOLOGIC. (Record a Species observed (if know ved? (Y/N) N Species observed (if know Y/N) N Species observed? Y/N) N Species observed? Ogy: AND NARRATIVE DESCF ant landmarks and other features of	AL OBSERVATIONS Ill observations below) rrved (if known): (if known): ies observed (if known): RIPTION OF STREAI	M REACH (This <u>must</u> be co	mpleted)
Additional comments/desc rish Observed? (Y/N) N rogs or Tadpoles Observ alamanders Observed? (Aquatic Macroinvertebrate comments Regarding Biol DRAWING	Pription of pollution impacts: BIOLOGIC. (Record a Species observed (if know ved? (Y/N) N Species observed (if know ogy:	AL OBSERVATIONS Ill observations below) rrved (if known): (if known): ies observed (if known): RIPTION OF STREAI	M REACH (This <u>must</u> be co	mpleted)
Additional comments/desc ish Observed? (Y/N) N rogs or Tadpoles Observ alamanders Observed? (Aquatic Macroinvertebrate comments Regarding Biol DRAWING	Pription of pollution impacts: BIOLOGIC. (Record a Species observed (if know ved? (Y/N) N Species observed (if know ogy:	AL OBSERVATIONS all observations below) /n): rved (if known): (if known): (if known): ales observed (if known): RIPTION OF STREAL interest for site evaluation a	M REACH (This <u>must</u> be co	mpleted)
Additional comments/desc ish Observed? (Y/N) N rogs or Tadpoles Observ alamanders Observed? (Aquatic Macroinvertebrate comments Regarding Biol DRAWING	Pription of pollution impacts: BIOLOGIC. (Record a Species observed (if know ved? (Y/N) N Species observed (if know ogy:	AL OBSERVATIONS all observations below) /n): rved (if known): (if known): (if known): ales observed (if known): RIPTION OF STREAL interest for site evaluation a	M REACH (This <u>must</u> be co	mpleted)
Additional comments/desc ish Observed? (Y/N) N rogs or Tadpoles Observ alamanders Observed? (Aquatic Macroinvertebrate comments Regarding Biol DRAWING	Pription of pollution impacts: BIOLOGIC. (Record a Species observed (if know ved? (Y/N) N Species observed (if know ogy:	AL OBSERVATIONS all observations below) /n): rved (if known): (if known): (if known): ales observed (if known): RIPTION OF STREAL interest for site evaluation a	M REACH (This <u>must</u> be co	mpleted)
Additional comments/desc ish Observed? (Y/N) N rogs or Tadpoles Observ alamanders Observed? (Aquatic Macroinvertebrate comments Regarding Biol DRAWING	Pription of pollution impacts: BIOLOGIC. (Record a Species observed (if know ved? (Y/N) N Species observed (if know ogy:	AL OBSERVATIONS all observations below) /n): rved (if known): (if known): (if known): ales observed (if known): RIPTION OF STREAL interest for site evaluation a	M REACH (This <u>must</u> be co	mpleted)

Field Methods for Evaluating Primary Headwater Streams in Ohio Ohio EPA, Division of Surface Water

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012021-05 SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mi ²) 0.067 LENGTH OF STREAM REACH (ft) 77 LAT 39.01782 LONG -83.02038 RIVER MILE DATE 01/20/2021 SCORER BAO COMMENTS Intermittent NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruct	
STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECUIVERT; 4wheel trails	COVERY
TYPE BLDR SLABS [16 pts] PERCENT TYPE PERCENT 30% BUDR SLABS [16 pts] 0% I LEAF PACK/WOODY DEBRIS [3 pts] 0% Su BEDROCK [16 pts] 0% I LEAF PACK/WOODY DEBRIS [3 pts] 0% Su COBBLE (5256 mm) [12 pts] 20% CLAY or HARDPAN [0 pt] 0% Mu GRAVEL (2-64 mm) [9 pts] 10% MUCK [0 pts] 0% 1 Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 20% (A) 12 (B) 4 A	HEI etric bints bstrate ax = 40 6 + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): > 30 centimeters [20 pts] 5 cm - 10 cm [15 pts]	ol Depth ax = 30
> 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] ✓ ≤1.0 m (≤ 3' 3") [5 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] ✓ ≤1.0 m (≤ 3' 3") [5 pts]	inkfull /idth ax=30 5
COMMENTS AVERAGE BANKFULL WIDTH (feet)	
Inits information integration be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream* RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) L R (Per Bank) L R Wide >10m Mature Forest, Wetland Conservation Tillage Moderate 5-10m Immature Forest, Shrub or Old Field Urban or Industrial Narrow <5m	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Moist Channel, isolated pools, no flow (intermittent) Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral) COMMENTS Intermittent as confirmed by NHD SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): 3.0 None 1.5 2.5 3.0	
STREAM GRADIENT ESTIMATE	

WWH Name: Scioto River WWH Name:	ge:NRCS Soil Map Stream Order: to Township 1Quantity: or ID (attach results):
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHE USGS Quadrangle Name: Piketon, OH NRCS Soil Map Page County: Pike Township/City: Sciot MISCELLANEOUS Base Flow Conditions? (Y/N): Y Date of last precipitation: 01/16/21 Photo-documentation Notes: Elevated Turbidity?(Y/N): N Canopy (% open): 80% Were samples collected for water chemistry?(Y/N): N Lab Sample # o Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.	ED AREA. CLEARLY MARK THE SITE LOCATION. ge:NRCS Soil Map Stream Order: to Township 1Quantity: 0.20 or ID (attach results):
USGS Quadrangle Name: Piketon, OH NRCS Soil Map Pag County: Pike Township/City: Sciot MISCELLANEOUS Base Flow Conditions? (Y/N): Y Date of last precipitation: 01/16/21 Photo-documentation Notes: Elevated Turbidity?(Y/N): N Canopy (% open): 80% Were samples collected for water chemistry?(Y/N): N Lab Sample # o Field Measures:Temp (*C) Dissolved Oxygen (mg/l) pH (S:	ge:NRCS Soil Map Stream Order: to Township 1Quantity: or ID (attach results):
Pike Township/City: Sciot MISCELLANEOUS Asse Flow Conditions? (Y/N): Y Date of last precipitation: 01/16/21 Photo-documentation Notes:	to Township 1 Quantity: 0.20 or ID (attach results):
Pike Township/City: Sciot MISCELLANEOUS Asse Flow Conditions? (Y/N): Y Date of last precipitation: 01/16/21 whoto-documentation Notes:	to Township 1 Quantity: 0.20 or ID (attach results):
MISCELLANEOUS ase Flow Conditions? (Y/N): Date of last precipitation:01/16/21 hoto-documentation Notes: levated Turbidity?(Y/N): Canopy (% open):80% //ere samples collected for water chemistry?(Y/N): Lab Sample # of ield Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.	1 Quantity: 0.20
Base Flow Conditions? (Y/N): Y Date of last precipitation: 01/16/21 Photo-documentation Notes:	or ID (attach results):
Photo-documentation Notes: Elevated Turbidity?(Y/N): N Canopy (% open): 80% Were samples collected for water chemistry?(Y/N): N Lab Sample # of Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.	or ID (attach results):
Canopy (% open): 80% Canopy (% open): 80% Vere samples collected for water chemistry? (Y/N): N Lab Sample # of Tield Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.	
Vere samples collected for water chemistry? (Y/N): N Lab Sample # o ield Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.	
Vere samples collected for water chemistry? (Y/N): N Lab Sample # or Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.	
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.	
	.U.) Conductivity (umhos/cm)
s the sampling reach representative of the stream (Y/N) Y If not, explain:	
(Record all observations below) ish Observed? (Y/N) N Species observed (if known):	
N	
Aquatic Macroinvertebrates Observed? (Y/N) <u>N</u> Species observed (if known)) <u>.</u>
omments Regarding Biology:	
DRAWING AND NARRATIVE DESCRIPTION OF STRE	
Include important landmarks and other features of interest for site evaluatio	on and a narrative description of the stream's location
upland herb	14
upranu nero	scrub-shrub
	F
undefined drainage	
OW from pond	
	/ Y Y
	· · ·

Field Methods for Evaluating Primary Headwater Streams in Ohio Ohio EPA, Division of Surface Water

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3) 16
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012021-06 SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mP) 0.020 LENGTH OF STREAM REACH (ft) 200 LAT 39.01786 DATE 01/20/2021 SCORER BAO, JFW COMMENTS Ephemeral NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions
STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVER
1. SUBSTRATE (Estimate percent of every type present). Check ONL Y two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B HHEI TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] 0% SILT [3 pt] 0% BOULDER (>256 mm) [16 pts] 0% EILEAF PACK/WOODY DEBRIS [3 pts] 0% COBBLE (65-256 mm) [12 pts] 0% EILAY or HARDPAN [0 pt] 70% GRAVEL (2-64 mm) [9 pts] 5% MUCK [0 pts] 0% 6
Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock 0% (A) SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3 TOTAL NUMBER OF SUBSTRATE TYPES: 3
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max = 30 > 30 centimeters [20 pts] 5 cm - 10 cm [15 pts] (S cm [5pts]) 5 cm - 10 cm [15 pts] 5 cm - 10
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): Bankfull □ > 4.0 meters (> 13') [30 pts] □ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Width □ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] □ > 1.0 m (≤ 3' 3") [5 pts] Max=30 □ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] □ ≤ 1.0 m (≤ 3' 3") [5 pts] 5
COMMENTS AVERAGE BANKFULL WIDTH (feet)
This information must also be completed
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream* RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) L R (Per Bank) L R Wide >10m Image: Conservation Tillage Moderate 5-10m Immature Forest, Wetland Conservation Tillage Narrow <5m
Stream Flowing Moist Channel, isolated pools, no flow (intermittent) Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral) COMMENTS Ephemeral
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 0.5 1.5 2.5 >3 STREAM GRADIENT ESTIMATE 2.5 >3
Flat (0.5 th 100 th) Flat to Moderate (2 th 100 th) Version (10 th 100 th)

DOWNSTREAM DESIGNATED USE(S) WWH Name: Scioto River CWH Name: EWH Name: MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE V	Distance from Evaluated Stream >2 miles Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
3 <u>.</u>	
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE V	Distance from Evaluated Stream
(F)	NATERSHED AREA. CLEARLY MARK THE SITE LOCATION.
- 가슴을 알고 있었다. 2017년 1월 2017년 1	il Map Page: NRCS Soil Map Stream Order:
County: Pike Township/C	City: Scioto Township
MISCELLANEOUS Base Flow Conditions? (Y/N): Date of last precipitation:	01/16/21 Quantity: 0.20
Photo-documentation Notes:	
ilevated Turbidity?(Y/N): N Canopy (% open): 90%	
N Contraction of the second	ample # or ID (attach results):
ANNOUNCE LINE AND DESCRIPTION OF DATA	
s the sampling reach representative of the stream (Y/N) Y If not, ex	xplain:
N	n):
comments Regarding Biology:	
DRAWING AND NARRATIVE DESCRIPTION O	F STREAM REACH (This must be completed)
Include important landmarks and other features of interest for sit	
V \ m	
	vooded Dody
	herb to scrub-shrub ROW
ow V V	herb to scrub-shrub ROW
	herb to scrub-shrub ROW
	P herb to scrub-shrub ROW

Field Methods for Evaluating Primary Headwater Streams in Ohio Ohio EPA, Division of Surface Water

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3) 17	
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012121-05 SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mP) 0.001 LENGTH OF STREAM REACH (ft) 49 LAT 39.01606 LONG -83.01361 RIVER MILE DATE 01/21/2021 SCORER BAO COMMENTS Ephemeral but portion underground NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction]
STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECENT OR	ERY
1. SUBSTRATE (Estimate percent of every type present). Check ONL Y two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B HHE TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] 0% SILT [3 pt] 30% BUDR SLABS [16 pts] 0% LEAF PACK/WOODY DEBRIS [3 pts] 10% BEDROCK [16 pts] 0% FINE DETRITUS [3 pts] 0% COBBLE (65-256 mm) [12 pts] 0% CLAY or HARDPAN [0 pt] 40% GRAVEL (2-64 mm) [9 pts] 0% ARTIFICIAL [3 pts] 0% 7 Total of Percentages of 0% 0% 0% 7	C S ate
Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock 0% (A) 3 (B) A + B SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3 TOTAL NUMBER OF SUBSTRATE TYPES: 4 A + B 2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the the substrate the maximum pool depth within the 51 meter (200 feet) evaluation reach at the Pool Depth	
time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): > 30 centimeters [20 pts] 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5pts]	30
3.BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] \square > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]Bankfi \square > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]Bankfi \square > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]Bankfi \square > 1.0 m - 1.5 m (> 3' 3") [5 pts]Bankfi Width Max=3	
COMMENTS AVERAGE BANKFULL WIDTH (feet)	
This information mustalso be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*	
RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) L R (Per Bank) L R Wide >10m Mature Forest, Wetland Conservation Tillage Moderate 5-10m Immature Forest, Shrub or Old Field Urban or Industrial Narrow <5m	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Moist Channel, isolated pools, no flow (intermittent) Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral) COMMENTS Ephemeral with interstitial portion	
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 0.5 1.5 2.5 >3 STREAM GRADIENT ESTIMATE	
📙 Flat (0.5 \$100 \$) 🔲 Flat to Moderate 🗹 Moderate (2 \$100 \$) 🛄 Moderate to Severe 📋 Severe (10 \$100 \$)	Ē.

	nformation Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score	(If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name: Scioto River	Distance from Evaluated Stream >2 miles
CWH Name:	Distance fromEvaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIR	
그는 것 같은 것 같은 것 같아요. 요구는 것이 같이 물 것 같아요. 그는 그는 것 ? 그는 그는 것 ? 그는 그는 것 ? 그는	Soil Map Page: NRCS Soil Map Stream Order:
County: Pike Townsh	ip/City: Scioto Township
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation:	01/16/21 Quantity: 0.20
Base Flow Conductors? (17N) Date of last precipitation	duantity
Photo-documentation Notes:	
Elevated Turbidity?(Y/N): N Canopy (% open): 60%	
N	Sample # or ID (attach results):
10100000	20-2225-22 U.S. 22 4205-25 57 52 4
Field Measures:Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y If not	explain:
Fish Observed? (Y/N) N Species observed (if known):	
Frogs or Tadpoles Observed? (Y/N) N Species observed (if kno	wn):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if kno Salamanders Observed? (Y/N) Species observed (if known): Aquatic Macroinvertebrates Observed? (Y/N) Species observed	wn):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if kno Salamanders Observed? (Y/N) N Species observed (if known): Aquatic Macroinvertebrates Observed? (Y/N) N Species observe Comments Regarding Biology:	wn):ed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if kno Salamanders Observed? (Y/N) N Species observed (if known): Aquatic Macroinvertebrates Observed? (Y/N) N Species observe Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION	wn):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if kno Salamanders Observed? (Y/N) N Species observed (if known): Aquatic Macroinvertebrates Observed? (Y/N) N Species observe Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION	wn):ed (if known): ed (if known): OF STREAM REACH (This must be completed) site evaluation and a narrative description of the stream's location
Frogs or Tadpoles Observed? (Y/N) N Species observed (if kno Salamanders Observed? (Y/N) N Species observed (if known): Aquatic Macroinvertebrates Observed? (Y/N) N Species observed Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION	wn):ed (if known): OF STREAM REACH (This must be completed)
Frogs or Tadpoles Observed? (Y/N) N Species observed (if kno Salamanders Observed? (Y/N) N Species observed (if known): Aquatic Macroinvertebrates Observed? (Y/N) N Species observed Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION	wn): ed (if known): OF STREAM REACH (This must be completed) site evaluation and a narrative description of the stream's location
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): Salamanders Observed? (Y/N) N Species observed (if known): Aquatic Macroinvertebrates Observed? (Y/N) N Species observe Comments Regarding Biology: Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION Include important landmarks and other features of interest for	wn): ed (if known): OF STREAM REACH (This <u>must</u> be completed) site evaluation and a narrative description of the stream's location
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): Salamanders Observed? (Y/N) N Species observed (if known): Aquatic Macroinvertebrates Observed? (Y/N) N Species observe Comments Regarding Biology: Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION Include important landmarks and other features of interest for	wn): ed (if known): OF STREAM REACH (This must be completed) site evaluation and a narrative description of the stream's location
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): Salamanders Observed? (Y/N) N Species observed (if known): Aquatic Macroinvertebrates Observed? (Y/N) N Species observe Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION Include important landmarks and other features of interest for	wn): ed (if known): OF STREAM REACH (This must be completed) site evaluation and a narrative description of the stream's location
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): Salamanders Observed? (Y/N) N Species observed (if known): Aquatic Macroinvertebrates Observed? (Y/N) N Species observed Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION Include important landmarks and other features of interest for	wn): ed (if known): OF STREAM REACH (This must be completed) site evaluation and a narrative description of the stream's location
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): Salamanders Observed? (Y/N) N Species observed (if known): Aquatic Macroinvertebrates Observed? (Y/N) N Species observed Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION Include important landmarks and other features of interest for	wn): ed (if known): OF STREAM REACH (This must be completed) site evaluation and a narrative description of the stream's location
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): Salamanders Observed? (Y/N) N Species observed (if known): Aquatic Macroinvertebrates Observed? (Y/N) N Species observe Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION Include important landmarks and other features of interest for	wn): ed (if known): OF STREAM REACH (This must be completed) site evaluation and a narrative description of the stream's location
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): Salamanders Observed? (Y/N) N Species observed (if known): Aquatic Macroinvertebrates Observed? (Y/N) N Species observed Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION Include important landmarks and other features of interest for	wn): ed (if known): OF STREAM REACH (This must be completed) site evaluation and a narrative description of the stream's location

Field Methods for Evaluating Primary Headwater Streams in Ohio Ohio EPA, Division of Surface Water

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	20
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012121-02 SITE NUMBER	
STREAM CHANNEL MODIFICATIONS: NONE/NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO Upper riparian mowed	RECOVERY
BLDR SLABS [16 pts] 0% I SILT [3 pt] 30% BOULDER (>256 mm) [16 pts] 0% I LEAF PACKWOODY DEBRIS [3 pts] 60% BEDROCK [16 pts] 0% I DEBRIC [3 pts] 0%	HHEI Metric Points Substrate Max = 40 10
score of two Most Predominate Substrate types: 6 TOTAL NUMBER OF SUBSTRATE TYPES: 4 2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the F	Pool Depth Max = 30
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): □ > 4.0 meters (> 13') [30 pts] □ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] □ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] □ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] □ AVERAGE BANKFULL WIDTH (feet) [1.00]	Bankfull Width Max=30 5
This information <u>must</u> also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream* RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) L R (Per Bank) L R Wide >10m Mature Forest, Wetland Conservation Tillage Moderate 5-10m Mature Forest, Shrub or Old Field Urban or Industrial Narrow <5m	
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 0.5 1.5 STREAM GRADIENT ESTIMATE Flat (0.5 m100 m) Flat to Moderate	王)

QHE				294.000000000000000000000000000000000000	ormation Must A	· · · · · · · · · · · · · · · · · · ·	<u></u>	
	I PERFORMED	? □Yes ☑!	No QHEI Score		_ (If Yes, Attac	h Completed Q	HEI form)	
DOM	VNSTREAM DE	and the second second second second						
WWH Nam	20.4	SIGNATED US	E(3)		D	stance from Ev	aluated Stream	>2 miles
CWH Name	898 						aluated Stream	
EWH Name	:				Di	stance fromEv	aluated Stream	
MAR	PPING: ATTACH	COPIES OF MAP	S. INCLUDING	THEENTIRE	VATER SHED ARE	A. CLEARLY MA	RK THE SITE LOC	ATION.
	ingle Name: Pik			- <u>19</u>			Soil Map Stream	
		,		2010/06/06/06/07/16P/0	90.000 00.000 000000000		son map su cam	
County: Pike				Township/0	City:			
MIS	CELLANEOUS					_		
Base Flow Co	nditions? (Y/N);	P Date	of last precipit	ation:	01/16/21	Quantity:	0.20	
Photo-docume	entation Notes:		17.1 17.1					
	NI N		(0/)	50%		22		
	dity?(Y/N):		opy (% open):					
Were samples	collected for w	ater chemistry	?(Y/N):	Lab S	ample # or ID (a	tach results):		
Field Measure	s:Temp (°C)	Dissolv	ed Oxygen (mg	µ/l)	pH (S.U.)	Condu	uctivity (umhos/ci	m)
le the earnhing	g reach represe	intative of the s	Y (V/N)	If not, ex	(nlain)			A.C
	g reach oprese	induce of the s		11 1101, 03	(piùii).			
				L OBSERVA	100 State (100 State (100 State)			
	oles Observed?	(Y/N) N	erved (if know Species obser	ved (if knowr	0:			
Frogs or Tadp Salamanders (oles Observed? Observed? (Y/N	(Y/N) N) N Spec	erved (if know Species obser ies observed (i	n) <u>:</u> ved (if knowi f known) <u>:</u>)):			
Frogs or Tadp Salamanders (Aquatic Macro	oles Observed? Observed? (Y/N vinvertebrates O	(Y/N) N) N Spec bserved? (Y/N	erved (if know Species obser ies observed (i	n) <u>:</u> ved (if knowr)):			
Frogs or Tadp Salamanders (Aquatic Macro	oles Observed? Observed? (Y/N	(Y/N) N) N Spec bserved? (Y/N	erved (if know Species obser ies observed (i	n) <u>:</u> ved (if knowi f known) <u>:</u>)):			
Frogs or Tadp Salamanders (Aquatic Macro	oles Observed? Observed? (Y/N vinvertebrates O	(Y/N) N) N Spec bserved? (Y/N	erved (if know Species obser ies observed (i	n) <u>:</u> ved (if knowi f known) <u>:</u>)):			
Frogs or Tadp Salamanders (Aquatic Macro Comments Re	oles Observed? Observed? (Y/N vinvertebrates O garding Biology	(Y/N) N) N Spec bserved? (Y/N	erved (if know Species obser ies observed (i)N Speci	n): ved (if known f known): es observed	(if known):			
Frogs or Tadp Salamanders (Aquatic Macro Comments Re	oles Observed? (Y/N oinvertebrates O garding Biology RAWING AN	(Y/N) N Spec	erved (if know Species obser ies observed (i)N Speci	n): ved (if known f known): es observed IPTION O	1): (if known): F STREAM F	REACH (This	853	mpleted)
Frogs or Tadp Salamanders (Aquatic Macro Comments Re D	oles Observed? (Y/N oinvertebrates O garding Biology RAWING AN	(Y/N) N Spec	erved (if know Species obser ies observed (i)N Speci	n): ved (if known f known): es observed IPTION O	1): (if known): F STREAM F	REACH (This	s <u>must</u> be co	mpleted)
Frogs or Tadp Salamanders (Aquatic Macro Comments Re D	oles Observed? (Y/N oinvertebrates O garding Biology RAWING AN	(Y/N) N N Spec bserved? (Y/N D NARRAT andmarks and of	erved (if know Species obser ies observed (i)N Speci	n): ved (if known f known): es observed IPTION O interest for sit	1): (if known): F STREAM F	REACH (This	s <u>must</u> be co	mpleted)
Frogs or Tadp Salamanders (Aquatic Macro Comments Re D	oles Observed? (Y/N oinvertebrates O garding Biology RAWING AN	(Y/N) N N Spec bserved? (Y/N D NARRAT andmarks and of	erved (if know Species obser ies observed (i)N Speci	n): ved (if known f known): es observed IPTION O interest for sit	(if known): F STREAM F e evaluation and	REACH (This	s <u>must</u> be co	mpleted)
Frogs or Tadp Salamanders (Aquatic Macro Comments Re D	oles Observed? (Y/N oinvertebrates O garding Biology RAWING AN	(Y/N) N N Spec bserved? (Y/N D NARRAT andmarks and of	erved (if know Species obser ies observed (i)N Speci	n): ved (if known f known): es observed IPTION O interest for sit	(if known): F STREAM F e evaluation and	REACH (This	s <u>must</u> be co	mpleted)
Frogs or Tadp Salamanders (Aquatic Macro Comments Re D Inv (oles Observed? (Y/N observed? (Y/N onvertebrates O garding Biology RAWING AN clude important l	(Y/N) N N Spec bserved? (Y/N D NARRAT andmarks and of	erved (if know Species obser ies observed (i)N Speci	n): ved (if known f known): es observed IPTION O interest for sit	(if known): F STREAM F e evaluation and	REACH (This	s <u>must</u> be co	mpleted)
Frogs or Tadp Salamanders (Aquatic Macro Comments Re	oles Observed? (Y/N observed? (Y/N onvertebrates O garding Biology RAWING AN clude important l	P (Y/N) N) N Spec bserved? (Y/N i iD NARRAT andmarks and of V V	erved (if know Species obser ies observed (i)N Speci	n): ved (if known f known): es observed IPTION O interest for sit	(if known): F STREAM F e evaluation and	REACH (This	s <u>must</u> be co	mpleted)
Frogs or Tadp Salamanders (Aquatic Macro Comments Re D Ins	oles Observed? (Y/N observed? (Y/N onvertebrates O garding Biology RAWING AN clude important l	P (Y/N) N) N Spec bserved? (Y/N i iD NARRAT andmarks and of V V	erved (if know Species obser ies observed (i)N Speci	n): ved (if known f known): es observed IPTION O interest for sit	(if known): F STREAM F e evaluation and	REACH (This	s <u>must</u> be co	mpleted)
Frogs or Tadp Salamanders (Aquatic Macro Comments Re D Inv Inv	oles Observed? (Y/N observed? (Y/N onvertebrates O garding Biology RAWING AN clude important l	P (Y/N) N) N Spec bserved? (Y/N i iD NARRAT andmarks and of V V	erved (if know Species obser ies observed (i)N Speci	n): ved (if known f known): es observed IPTION O interest for sit	(if known): F STREAM F e evaluation and	REACH (This	s <u>must</u> be co	mpleted)
Frogs or Tadp Salamanders (Aquatic Macro Comments Re D Inv Inv	oles Observed? (Y/N observed? (Y/N onvertebrates O garding Biology RAWING AN clude important l	P (Y/N) N) N Spec bserved? (Y/N i iD NARRAT andmarks and of V V	erved (if know Species obser ies observed (i)N Speci	n): ved (if known f known): es observed IPTION O interest for sit	(if known): F STREAM F e evaluation and	REACH (This	s <u>must</u> be co	mpleted)

Field Methods for Evaluating Primary Headwater Streams in Ohio Ohio EPA, Division of Surface Water

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	39
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012121-03 SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (m²) 0.0 LENGTH OF STREAM REACH (ft) 200 LAT 39.01578 LONG -83.00876 RIVER MILE DATE 01/21/2021 SCORER BAO COMMENTS Intermittent NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Inst	
STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO	RECOVERY
	HHEI Metric Points Substrate Max = 40 19 A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): > 30 centimeters [20 pts] 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5pts]	Pool Depth Max = 30
3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box): □ > 4.0 meters (> 13') [30 pts] □ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] □ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	Bankfull Width Max=30
COMMENTS AVERAGE BANKFULL WIDTH (feet) 3.00 This information must also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream* RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) L R (Per Bank) L R Wide >10m Mature Forest, Wetland Conservation Tillage Moderate 5-10m Immature Forest, Shrub or Old Field Urban or Industrial Narrow <5m	
Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral) COMMENTS	R)

USGS Quadrangle Name: Piketon, OH NRC County: Pike Town MISCELLANEOUS Base Flow Conditions? (Y/N): Y Date of last precipitation: Photo-documentation Notes: Elevated Turbidity?(Y/N): N Canopy (% open): 209 Were samples collected for water chemistry?(Y/N): N I Field Measures:Temp (°C) Dissolved Oxygen (mg/l)	Distance from Evaluated Stream >2 miles Distance from Evaluated Stream
EWH Name: MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE EN USGS Quadrangle Name: Piketon, OH NRC County: Pike Town MISCELLANEOUS Base Flow Conditions? (Y/N): Y Date of last precipitation: Photo-documentation Notes: Elevated Turbidity?(Y/N): N Canopy (% open): 209 Were samples collected for water chemistry?(Y/N): N Field Measures:Temp (°C) Dissolved Oxygen (mg/l)	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE EN USGS Quadrangle Name: Piketon, OH NRC County: Pike Town MISCELLANEOUS Base Flow Conditions? (Y/N): Y Date of last precipitation: Photo-documentation Notes: Photo-documentation Notes: Elevated Turbidity?(Y/N): N Canopy (% open): 209 Were samples collected for water chemistry? (Y/N): N I Field Measures:Temp (°C) Dissolved Oxygen (mg/l)	TIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION. CS Soil Map Page:
USGS Quadrangle Name: Piketon, OH NRC County: Pike Town MISCELLANEOUS Base Flow Conditions? (Y/N): Y Date of last precipitation: Photo-documentation Notes: Elevated Turbidity?(Y/N): N Canopy (% open): 209 Were samples collected for water chemistry? (Y/N): N I Field Measures:Temp (°C) Dissolved Oxygen (mg/l)	CS Soil Map Page: NRCS Soil Map Stream Order: Iship/City: Scioto Township 01/16/21 Quantity: 0.20 % Lab Sample # or ID (attach results): pH (S.U.) Conductivity (umhos/cm)
County: Pike Town MISCELLANEOUS Base Flow Conditions? (Y/N): Y Date of last precipitation: Photo-documentation Notes: Elevated Turbidity?(Y/N): N Canopy (% open): 209 Were samples collected for water chemistry? (Y/N): N Field Measures:Temp (°C) Dissolved Oxygen (mg/l)	Scioto Township 01/16/21 Quantity: 0.20 %
MISCELLANEOUS Base Flow Conditions? (Y/N): Y Date of last precipitation: Photo-documentation Notes: Elevated Turbidity?(Y/N): N Canopy (% open): 209 Were samples collected for water chemistry? (Y/N): N Field Measures:Temp (°C) Dissolved Oxygen (mg/l)	01/16/21 Quantity: 0.20 %
MISCELLANEOUS Base Flow Conditions? (Y/N): Y Date of last precipitation: Photo-documentation Notes: Elevated Turbidity?(Y/N): N Canopy (% open): 209 Were samples collected for water chemistry? (Y/N): N Field Measures:Temp (°C) Dissolved Oxygen (mg/l)	Lab Sample # or ID (attach results):
Elevated Turbidity?(Y/N): N Canopy (% open): 20% Were samples collected for water chemistry?(Y/N): N Field Measures:Temp (°C) Dissolved Oxygen (mg/l)	Lab Sample # or ID (attach results):
Elevated fundation((*//(N))) Canopy (% open)) Were samples collected for water chemistry? (Y/N): N Field Measures:Temp (*C) Dissolved Oxygen (mg/l)	Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y If r	not, explain:
Frogs or Tadpoles Observed? (Y/N) N Species observed (if) Salamanders Observed? (Y/N) Species observed (if known	
Comments Regarding Biology:	
DRAWING AND NARRATIVE DESCRIPTIO	N OF STREAM REACH (This must be completed)
	for site evaluation and a narrative description of the stream's location
190 (
S-BAO-012121-04	
1 7 2	A A Co
ow I	4-4-22 (i) V
× ×	
Y C	JS Ori
	S-BAO-012121-01

Field Methods for Evaluating Primary Headwater Streams in Ohio Ohio EPA, Division of Surface Water

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	8
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012121-04 SITE NUMBER RIVER BASIN 05060002 RIVER ODE DRAINAGE AREA (m²) 0.00 LENGTH OF STREAM REACH (ft) 190 LAT 39.01578 LONG -83.00865 RIVER MILE DATE 01/21/2021 SCORER NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instru-	
STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO R	ECOVERY
TYPE PERCENT TYPE PERCENT TYPE PERCENT PERCENT PERCENT SILT [3 pt] 30% BOULDER (>256 mm) [16 pts] 0% LEAF PACK/WOODY DEBRIS [3 pts] 10% SILT [3 pt] 0% SILT [3 pt] SIL	HHEI Aetric Points ubstrate Aax = 40 18 A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the	bol Depth Max = 30
> 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] ✓ ≤ 1.0 m (≤ 3' 3") [5 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] ✓ ≤ 1.0 m (≤ 3' 3") [5 pts]	Bankfull Width Max=30 5
COMMENTS AVERAGE BANKFULL WIDTH (feet)	
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream* RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) L R (Per Bank) L R Wide >10m Mature Forest, Wetland Conservation Tillage Moderate 5-10m Immature Forest, Shrub or Old Field Urban or Industrial Narrow <5m	
COMMENTS Ephemeral SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 0.5 1.5 2.5 >3 STREAM GRADIENT ESTIMATE Flat (0.5 1010 m) Flat to Moderate Moderate (2 10100 m) Moderate to Severe Severe (10 10100 m)	5

	DESIGNATED USE(S)		2000-002-002-002-002-00-00	
WWH Name: Big Run CWH Name:			Distance from Evaluated Stream Distance from Evaluated Stream	>2 miles
EWH Name:			Distance from Evaluated Stream	
54		÷.	55 25	
		3 THE ENTIRE WATERSHED AF	REA. CLEARLY MARK THE SITE LOC	ATION.
JSGS Quadrangle Name:	Piketon, OH	NRCS Soil Map Page:	NRCS Soil Map Stream	Order:
County: Pike		Township/City: Scioto To	ownship	
MISCELLANEO Base Flow Conditions? (Y	/N): Date of last precipi	itation: 01/16/21	Quantity: 0.20	
Photo-documentation Note	5 C C	0000/		
Elevated Turbidity?(Y/N):	Canopy (% open):	20%		
Were samples collected for	or water chemistry? (Y/N): N	Lab Sample # or ID	(attach results):	
Field Measures:Temp (°C	A State AL Editor and	g/l) pH (S.U.)	Conductivity (umhos/cr	m)
38 E38				
s the sampling reach repr	resentative of the stream (Y/N) \underline{Y}	If not, explain:		
		AL OBSERVATIONS all observations below)		
Frogs or Tadpoles Observ Salamanders Observed? (Aquatic Macroinvertebrate	(Record a Species observed (if know ved? (Y/N) N Species obse (Y/N) N Species observed (es Observed? (Y/N) N Spec	all observations below) /n): rved (if known):		
Fish Observed? (Y/N) N Frogs or Tadpoles Observ Salamanders Observed? (Aquatic Macroinvertebrate Comments Regarding Biol	(Record a Species observed (if know ved? (Y/N) N Species obse (Y/N) N Species observed (es Observed? (Y/N) N Spec	all observations below) /n): rved (if known): (if known):		
rogs or Tadpoles Observ Galamanders Observed? (Aquatic Macroinvertebrate	(Record a Species observed (if know ved? (Y/N) N Species obse (Y/N) N Species observed (es Observed? (Y/N) N Spec	all observations below) /n): rved (if known): (if known):		
rogs or Tadpoles Observ alamanders Observed? (Aquatic Macroinvertebrate comments Regarding Biol	(Record a Species observed (if know ved? (Y/N) N Species observed (Y/N) N Species observed (es Observed? (Y/N) N Spec ogy:	ill observations below) rn): rved (if known): (if known): ies observed (if known):		
Frogs or Tadpoles Observed? (Aquatic Macroinvertebrate Comments Regarding Biol DRAWING	(Record a Species observed (if know ved? (Y/N) N Species observed (Y/N) Species observed (es Observed? (Y/N) N Spec ogy: AND NARRATIVE DESCE	ill observations below) rved (if known): (if known): ies observed (if known): RIPTION OF STREAM		mpleted)
Frogs or Tadpoles Observed? (Aquatic Macroinvertebrate Comments Regarding Biol DRAWING	(Record a Species observed (if know ved? (Y/N) N Species observed (es Observed? (Y/N) N Species ogy: AND NARRATIVE DESCH ant landmarks and other features of	ill observations below) rved (if known): (if known): ies observed (if known): RIPTION OF STREAM	REACH (This <u>must</u> be co	mpleted)
rogs or Tadpoles Observed? (alamanders Observed? (Aquatic Macroinvertebrate comments Regarding Biol DRAWING	(Record a Species observed (if know ved? (Y/N) N Species observed (Y/N) Species observed (es Observed? (Y/N) N Spec ogy: AND NARRATIVE DESCE	ill observations below) rved (if known): (if known): ies observed (if known): RIPTION OF STREAM	REACH (This <u>must</u> be co	mpleted)
rogs or Tadpoles Observed? (Aquatic Macroinvertebrate comments Regarding Biol DRAWING Include import	(Record a Species observed (if know ved? (Y/N) N Species observed (es Observed? (Y/N) N Species ogy: AND NARRATIVE DESCH ant landmarks and other features of	ill observations below) rved (if known): (if known): ies observed (if known): RIPTION OF STREAM	REACH (This <u>must</u> be co	mpleted)
rogs or Tadpoles Observed? (alamanders Observed? (Aquatic Macroinvertebrate comments Regarding Biol DRAWING	(Record a Species observed (if know ved? (Y/N) N Species observed (es Observed? (Y/N) N Species ogy: AND NARRATIVE DESCH ant landmarks and other features of	ill observations below) rved (if known): (if known): ies observed (if known): RIPTION OF STREAM	REACH (This <u>must</u> be co	mpleted)

Field Methods for Evaluating Primary Headwater Streams in Ohio Ohio EPA, Division of Surface Water

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3) 54	
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012121-01 SITE NUMBER	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECOVERING	
STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECENT OR NO RECOVERING RECENT OR NO RECENT OR N	:RY
1. SUBSTRATE (Estimate percent of every type present). Check ONL Y two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B HHE TYPE PERCENT TYPE PERCENT PER	C S ate
Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock 0% (A) 6 SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 6 TOTAL NUMBER OF SUBSTRATE TYPES: 3	
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Pool De Max = 3 > 30 centimeters [20 pts] 5 cm - 10 cm [15 pts] Additional culverts of storm water pipes) Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) Check ONLY one box): Max = 3 > 30 centimeters [20 pts] 5 cm - 10 cm [15 pts] S cm - 5 cm [5 pts] 25 > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts] 25 COMMENTS Culvert plunge pools throughout were not considered MAXIMUM POOL DEPTH (inches) 4.00	C5-011
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): Bankfu □ > 4.0 meters (>13') [30 pts] □ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Width □ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] □ > 1.0 m (< 3' 3") [5 pts]	
COMMENTS AVERAGE BANKFULL WIDTH (feet)	
This information mustalso be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream* RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank)	
L R L R L R Wide >10m Mature Forest, Wetland Conservation Tillage Moderate 5-10m Immature Forest, Shrub or Old Field Urban or Industrial Narrow <5m	
COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Subsurface flow with isolated pools (interstitial) COMMENTS COMMENTS	
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 0.5 1.5 2.5 >3 STREAM GRADIENT ESTIMATE 3.0 3.0	
Flat (0.5 th 100 th) 🔽 Flat to Moderate 🔲 Moderate (2 th 100 th) 🔲 Moderate to Severe 🗌 Severe (10 th 100 th)	t

WWH Name: Scioto River CWH Name:	
	Distance from Evaluated Stream >2 miles
Lawn mane.	Distance fromEvaluated Stream Distance fromEvaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLU	IDING THE ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION.
SGS Quadrangle Name: Piketon, OH	NRCS Soil Map Page: NRCS Soil Map Stream Order:
ounty: Pike	Township/City: Scioto Township
	an another was a financial at the
MISCELLANEOUS	01/16/01
ase Flow Conditions? (Y/N): Date of last pr	recipitation: 01/16/21 Quantity: 0.20
hoto-documentation Notes:	
levated Turbidity?(Y/N): Canopy (% op	40%
/ere samples collected for water chemistry? (Y/N):	Lab Sample # or ID (attach results):
eld Measures:Temp (°C) Dissolved Oxyge	en (mg/l) pH (S.U.) Conductivity (umhos/cm)
the sampling reach representative of the stream (Y/	N) Y If not, explain:
the sampling reach operacitative of the stream (17	
rogs or Tadpoles Observed? (Y/N) N Species (known): observed (if known): ved (if known):
N.	Species observed (if known):
	Species observed (if known):
quatic Macroinvertebrates Observed? (Y/N) N	Species observed (if known):
quatic Macroinvertebrates Observed? (Y/N) N	
quatic Macroinvertebrates Observed? (Y/N) N	SCRIPTION OF STREAM REACH (This must be completed)
quatic Macroinvertebrates Observed? (Y/N) N	
quatic Macroinvertebrates Observed? (Y/N) N	SCRIPTION OF STREAM REACH (This must be completed)
quatic Macroinvertebrates Observed? (Y/N) N	SCRIPTION OF STREAM REACH (This <u>must</u> be completed) res of interest for site evaluation and a narrative description of the stream's location
quatic Macroinvertebrates Observed? (Y/N) N	SCRIPTION OF STREAM REACH (This <u>must</u> be completed) res of interest for site evaluation and a narrative description of the stream's location
quatic Macroinvertebrates Observed? (Y/N) N Somments Regarding Biology: DRAWING AND NARRATIVE DE Include important landmarks and other featur S-BAO-012121-	SCRIPTION OF STREAM REACH (This <u>must</u> be completed) res of interest for site evaluation and a narrative description of the stream's location
quatic Macroinvertebrates Observed? (Y/N) N	SCRIPTION OF STREAM REACH (This <u>must</u> be completed) res of interest for site evaluation and a narrative description of the stream's location
quatic Macroinvertebrates Observed? (Y/N) N Somments Regarding Biology: DRAWING AND NARRATIVE DE Include important landmarks and other featur S-BAO-012121-	SCRIPTION OF STREAM REACH (This <u>must</u> be completed) res of interest for site evaluation and a narrative description of the stream's location
quatic Macroinvertebrates Observed? (Y/N) N Somments Regarding Biology: DRAWING AND NARRATIVE DE Include important landmarks and other featur S-BAO-012121-	SCRIPTION OF STREAM REACH (This <u>must</u> be completed) res of interest for site evaluation and a narrative description of the stream's location

Field Methods for Evaluating Primary Headwater Streams in Ohio Ohio EPA, Division of Surface Water

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	1
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012221-01 SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mi²) 0.020 LENGTH OF STREAM REACH (ft) 200 LAT 39.01444 LONG -83.01204 RIVER MILE DATE 01/22/2021 SCORER BAO COMMENTS Ephemeral; high gradient NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instru	
STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RE Stream begins definition at culvert; high gradient	ECOVERY
TYPE PERCENT TYPE PERCENT PERCENT PERCENT M Image: Description of the state state state stypes for books and the state stypes for the state stypes for the state state stypes for the state state stypes for the state stypes for the state state stypes for the state stypes for the state state stypes for the state state stypes for the state stypes for the state state stypes for the state stypes for the state state stypes for the state stypes for the state state stypes for the state state stypes for the state stypes for the state state stypes for the state state stypes for the stypes for the stypes for the state stypes for the stype for the stypes for the stype for	HEI letric oints ubstrate ax = 40 31
Score of two Most PREDOMINATE SUBSTRATE TYPES: 25 TOTAL NUMBER OF SUBSTRATE TYPES: 6 2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): M > 30 centimeters [20 pts] 5 cm - 10 cm [15 pts] 5 cm - 10 cm [15 pts]	ol Depth ax = 30 25
COMMENTS MAXIMUM POOL DEPTH (inches) 5.00	96
$ \begin{vmatrix} > 4.0 \text{ meters } (> 13') \ [30 \text{ pts}] \\ > 3.0 \text{ m} - 4.0 \text{ m} \ (> 9' 7'' - 13') \ [25 \text{ pts}] \\ > 1.5 \text{ m} - 3.0 \text{ m} \ (> 4' 8'' - 9' 7'') \ [20 \text{ pts}] \end{vmatrix} $	ankfull Nidth lax=30
COMMENTS AVERAGE BANKFULL WIDTH (feet)	
This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream* RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) L R (Per Bank) L R Vide >10m Mature Forest, Wetland Conservation Tillage Moderate 5-10m Immature Forest, Shrub or Old Field Urban or Industrial Narrow <5m	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Image: Stream Flow intermittent) Subsurface flow with isolated pools (interstitial) Dry channel, isolated pools, no flow (intermittent) COMMENTS Ephemeral SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 0.5 1.5 2.5 >3	
STREAM GRADIENT ESTIMATE	

	DOWNSTREAM DES	GNATED USE(S))			2000000			
	Name: Scioto River						fromEvaluated Si fromEvaluated Si	9400.044 	>2 miles
CWH EWH						CONTRACTOR OF	fromEvaluated St		
5-660.3	di -					40		31	
	MAPPING: ATTACH C		NCLUDINGT	HE ENTIRE	WATERSHED A	AREA. CLE	ARLY MARK THE SI	ITE LOCAT	TION.
JSGS QI	uadrangle Name: Pike	ton, OH		NRCS So	oil Map Page:		NRCS Soil Map S	Stream Or	rder:
County:	Pike		B	Township	City: Scioto 1	Township			
	MISCELLANEOUS								
	29: M-00 - 640-3762468	Y		152	01/16/21	2/45	0.20		
Base Flor	w Conditions? (Y/N):	Date of la	ast precipita	tion:	01/10/21	Qu	antity: 0.20	- 31	
hoto-do	cumentation Notes:								
levated	Turbidity?(Y/N): N	Canopy ((% open):	10%					
		08A (0511)-666/A/0663		1.14.92.000					
Vere sar	mples collected for wa	ter chemistry? (Y/	N):	_ Lab S	Sample # or ID) (attach r	esults):		_
ield Mea	asures:Temp (°C)	Dissolved O)xygen (mg/l	I)	pH (S.U.)		Conductivity (un	nhos/cm)	
o tha ear			Y						
	molino reach renregen	tative at the streak	m (V(M))	If not a					
Additiona	al comments/descriptio	n of pollution impa <u>B</u>	acts: BIOLOGICAI (Record all o	observations	ATIONS below)				
Additiona Fish Obs Frogs or Galamanc		n of pollution impa B Species observe (Y/N) N Spe N Species o	Acts: BIOLOGICAI (Record all o ed (if known) ccies observ observed (if	L OBSERV. observations): ed (if know known);	ATIONS s below)				
Additiona Fish Obs Frogs or Galamanc Aquatic N	al comments/descriptio erved? (Y/N) N Tadpoles Observed? (Y/N) ders Observed? (Y/N)	n of pollution impa B Species observe (Y/N) N Spe N Species o	Acts: BIOLOGICAI (Record all o ed (if known) ccies observ observed (if	L OBSERV. observations): ed (if know known);	ATIONS below)				
Additiona Fish Obs Frogs or Salamanc	al comments/descriptio erved? (Y/N) N Tadpoles Observed? (Y/N) ders Observed? (Y/N) Macroinvertebrates Ob	n of pollution impa B Species observe (Y/N) N Spe N Species o	Acts: BIOLOGICAI (Record all o ed (if known) ccies observ observed (if	L OBSERV. observations): ed (if know known);	ATIONS below)				
ish Obs rogs or alamanc	al comments/descriptio erved? (Y/N) N Tadpoles Observed? (Y/N) ders Observed? (Y/N) Macroinvertebrates Ob ts Regarding Biology:_	n of pollution impa Species observe (Y/N) N Spe N Species o iserved? (Y/N) N	acts: (Record all of ed (if known) ecies observ observed (if Species	L OBSERV. observations): ed (if know known): s observed	ATIONS v below) n): I (if known):				
ish Obs rogs or alamanc	al comments/descriptio erved? (Y/N) N Tadpoles Observed? (ders Observed? (Y/N) Macroinvertebrates Ob ts Regarding Biology:	n of pollution impa	Acts: (Record all of ed (if known) cies observed observed (if Species	L OBSERV. observations ed (if know known): s observed PTION C	ATIONS below) n): I (if known): DF STREAM	M REAC	H (This <u>must</u> l	be com	pleted)
Additiona Fish Obs Frogs or Galamanc Aquatic N	al comments/descriptio erved? (Y/N) N Tadpoles Observed? (Y/N) ders Observed? (Y/N) Macroinvertebrates Ob ts Regarding Biology:_	n of pollution impa	Acts: (Record all of ed (if known) cies observed observed (if Species	L OBSERV. observations ed (if know known): s observed PTION C	ATIONS below) n): I (if known): DF STREAM	M REAC	H (This <u>must</u> l	be com	pleted)
Additiona Fish Obs Frogs or Salamanc	al comments/descriptio erved? (Y/N) N Tadpoles Observed? (ders Observed? (Y/N) Macroinvertebrates Ob ts Regarding Biology:	n of pollution impa	Acts: (Record all of ed (if known) cies observed observed (if Species	L OBSERV. observations ed (if know known): s observed PTION C	ATIONS below) n): I (if known): DF STREAM	M REAC	H (This <u>must</u> l	be com	pleted)
dditiona ish Obs rogs or alamanc squatic N	al comments/descriptio	n of pollution impa	Acts: (Record all of ed (if known) cies observed observed (if Species	L OBSERV. observations ed (if know known): s observed PTION C	ATIONS below) n): I (if known): DF STREAM	M REAC	H (This <u>must</u> I tive description of th	be com	pleted)

-

Field Methods for Evaluating Primary Headwater Streams in Ohio Ohio EPA, Division of Surface Water

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3) 77]
SITE NAME/LOCATION AEP Arboles Station and Transmission Lines Project, S-BAO-012221-02 SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mP) 0.590 LENGTH OF STREAM REACH (ft) 200 LAT 39.01359 LONG -83.01251 RIVER MILE DATE 01/22/2021 SCORER BAO, JFW COMMENTS Perennial	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruct	
STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO REC Culverted at head	OVERY
Image: BebRock (repts) 0% Image: File Delratios (spis) 0% Image: Complete (65-256 mm) [12 pts] 30% Image: CLAY or HARDPAN [0 pt] 0% Image: Complete (65-256 mm) [12 pts] 30% Image: CLAY or HARDPAN [0 pt] 0% 0% Image: Complete (65-256 mm) [12 pts] 30% Image: CLAY or HARDPAN [0 pt] 0% 0% Image: Complete (65-256 mm) [12 pts] 30% Image: CLAY or HARDPAN [0 pt] 0% 0% Image: Complete (65-256 mm) [12 pts] 30% Image: CLAY or HARDPAN [0 pt] 0% 0% Image: Complete (7) 30% Image: Clay or HARDPAN [0 pt] 0% 0% 0% 27 Image: Complete (7) 10% Image: Clay or HARDPAN [0 pts] 0% 0% 27	tric nts strate = 40
Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock <u>50%</u> (A) SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 21 TOTAL NUMBER OF SUBSTRATE TYPES: 6	в
	Depth = 30
$ \begin{array}{ c c c c c c } \hline &> 4.0 \mbox{ meters } (> 13') \ [30 \mbox{ pts}] \\ \hline &> 3.0 \mbox{ m} - 4.0 \mbox{ m} (> 9' \ 7'' - 13') \ [25 \mbox{ pts}] \\ \hline &> 1.5 \mbox{ m} - 3.0 \mbox{ m} (> 4' \ 8'' - 9' \ 7'') \ [20 \mbox{ pts}] \\ \hline & \hline$	=30
COMMENTS AVERAGE BANKFULL WIDTH (feet) 15	
This information <u>must</u> also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*	
RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) L R (Per Bank) L R V Wide >10m V Mature Forest, Wetland Conservation Tillage Moderate 5-10m Immature Forest, Shrub or Old Field Urban or Industrial Narrow <5m	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Moist Channel, isolated pools, no flow (intermittent) Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):	
None 1.0 2.0 3.0 0.5 1.5 2.5 >3	
STREAM GRADIENT ESTIMATE	
☐ Flat (0.5 th 100 th)	

WWH Name CWH Name:		IATED USE(S)			10~50 상업이 있으면 이 것이 가격하는 것 같아요~ 50 mm	
CVVH Name.					ance from Evaluated Stream	>2 miles
EWH Name:				- 2013	ance fromEvaluated Stream	i
_ LVVII Name.	<u>.</u>			Dist	ance noninevaluated Stream	-
MAP	PING: ATTACH COP	PIES OF MAPS, INCLUDING	THE ENTIRE V	VATERSHED AREA.	CLEARLY MARK THE SITE LOC	ATION.
ISGS Quadrar	ngle Name: Piketor	n, OH	NRCS So	I Map Page:	NRCS Soil Map Stream	Order:
county: Pike			Township/0	Scioto Towns	hip	
MISC	ELLANEOUS					
lase Flow Con	ditions? (Y/N):	Date of last precipi	tation:	01/16/21	Quantity: 0.20	
hoto-documer	ntation Notes:					
	N N		10%			
	itty?(Y/N):	Canopy (% open):		8		_
/ere samples	collected for water	chemistry?(Y/N): N	Lab S	ample # or ID (atta	ch results):	
ield Measures	s:Temp (°C)	Dissolved Oxygen (m	a/l)	pH (S.U.)	Conductivity (umhos/cr	n)
	53 E333			201 - 1920 -		
s the sampling	reach representat	ive of the stream (Y/N) \underline{Y}	If not, ex	cplain:		
					~ ~ ~	
		(Record a	Il observations			
ish Observed		nanian observed /if know	1.1			
		pecies observed (if know				- R
rogs or Tadpo	les Observed? (Y/	N) N Species obser	rved (if knowr	1):		
rogs or Tadpo alamanders O	bles Observed? (Y/ bserved? (Y/N) N	N) N Species observed (rved (if knowr	1):		
rogs or Tadpo alamanders O	les Observed? (Y/	N) N Species observed (rved (if knowr	ı):		
rogs or Tadpo alamanders O quatic Macroi	bles Observed? (Y/ bserved? (Y/N) N	N) N Species observed (rved (if knowr if known) <u>:</u>	ı):		
rogs or Tadpo alamanders O xquatic Macroi	bles Observed? (Y/ bserved? (Y/N) N nvertebrates Obse	N) N Species observed (rved (if knowr if known) <u>:</u>	ı):		
rogs or Tadpo alamanders O quatic Macroi	bles Observed? (Y/ bserved? (Y/N) N nvertebrates Obse	N) N Species observed (rved (if knowr if known) <u>:</u>	ı):		
rogs or Tadpo alamanders O Aquatic Macroi omments Reg	oles Observed? (Y/ Ibserved? (Y/N) N Invertebrates Obse parding Biology:	N) N Species observed (rved? (Y/N) N Spec	rved (if knowr if known): ies observed	1): (if known) <u>:</u>		
rogs or Tadpo alamanders O Aquatic Macroi omments Reg DF	Nes Observed? (Y/N) Noserved?	N) N Species observed (Species observed (rved? (Y/N) N Spec NARRATIVE DESCR	rved (if knowr if known): ies observed RIPTION O	i): (if known): F STREAM RE		mpleted)
rogs or Tadpo alamanders O quatic Macroi omments Reg DR	Nes Observed? (Y/N) Notes Observed? (Y/N) No	N) N Species observed (Species observed (rved? (Y/N) N Spec NARRATIVE DESCR	rved (if knowr if known): ies observed RIPTION O	i): (if known): F STREAM RE	ACH (This <u>must</u> be co	mpleted)
rogs or Tadpo alamanders O Aquatic Macroi omments Reg DF	Nes Observed? (Y/N) Notes Observed? (Y/N) No	N) N Species observed (Species observed (rved? (Y/N) N Spec NARRATIVE DESCR	rved (if knowr if known): ies observed RIPTION O	i): (if known): F STREAM RE	ACH (This <u>must</u> be co	mpleted)
rogs or Tadpo alamanders O Aquatic Macroi omments Reg DF	Nes Observed? (Y/N) Noserved?	N) N Species observed (Species observed (rved? (Y/N) N Spec NARRATIVE DESCR	rved (if knowr if known): ies observed RIPTION O	i): (if known): F STREAM RE	ACH (This <u>must</u> be co	mpleted)
rogs or Tadpo alamanders O quatic Macroi omments Reg DR	Nes Observed? (Y/N) Notes Observed? (Y/N) No	N) N Species observed (rved? (Y/N) N Spec NARRATIVE DESCE narks and other features of	rved (if knowr if known): ies observed RIPTION O interest for sit	i): (if known): F STREAM RE	ACH (This <u>must</u> be co	mpleted)
rogs or Tadpo alamanders O quatic Macroi omments Reg DR Incl	Nes Observed? (Y/N) Notes Observed? (Y/N) No	N) N Species observed (rved? (Y/N) N Spec NARRATIVE DESCE narks and other features of	rved (if knowr if known): ies observed RIPTION O	i): (if known): F STREAM RE	ACH (This <u>must</u> be co	mpleted)
rogs or Tadpo alamanders O quatic Macroi omments Reg DR Incl	Nes Observed? (Y/N) Notes Observed? (Y/N) No	N) N Species observed (rved? (Y/N) N Spec NARRATIVE DESCE narks and other features of	rved (if knowr if known): ies observed RIPTION O interest for sit	i): (if known): F STREAM RE	ACH (This <u>must</u> be co	mpleted)
rogs or Tadpo alamanders O quatic Macroi omments Reg DR Incl	Nes Observed? (Y/N) Notes Observed? (Y/N) No	N) N Species observed (rved? (Y/N) N Spec NARRATIVE DESCR narks and other features of State of the sector of	rved (if knowr if known): ies observed RIPTION O interest for sit	i): (if known): F STREAM RE	ACH (This <u>must</u> be co	mpleted)
rogs or Tadpo alamanders O Aquatic Macroi comments Reg DR Incl	Nes Observed? (Y/N) Notes Observed? (Y/N) No	N) N Species observed (rved? (Y/N) N Spec NARRATIVE DESCR narks and other features of State of the sector of	rved (if knowr if known): ies observed RIPTION O interest for sit	i): (if known): F STREAM RE	ACH (This <u>must</u> be co	mpleted)
alamanders O Aquatic Macroi comments Reg DF	Nes Observed? (Y/N) Notes Observed? (Y/N) No	N) N Species observed (rved? (Y/N) N Spec NARRATIVE DESCR narks and other features of State of the sector of	rved (if knowr if known): ies observed RIPTION O interest for sit	i): (if known): F STREAM RE	ACH (This <u>must</u> be co	mpleted)
rogs or Tadpo alamanders O outic Macroi omments Reg DR Incl	Nes Observed? (Y/N) Notes Observed? (Y/N) No	N) N Species observed (rved? (Y/N) N Spec NARRATIVE DESCE narks and other features of	rved (if knowr if known): ies observed RIPTION O interest for sit	i): (if known): F STREAM RE	ACH (This <u>must</u> be co	mpleted)

Field Methods for Evaluating Primary Headwater Streams in Ohio Ohio EPA, Division of Surface Water

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3) 76	
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012221-03 SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mi²) 0.220 LENGTH OF STREAM REACH (ft) 200 LAT 39.01161 LONG -83.01267 RIVER MILE DATE 01/22/2021 SCORER JFW COMMENTS Intermittent NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction]]]s
STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOV	ERY
1. SUBSTRATE (Estimate percent of every type present). Check ONL Y two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B HHE YPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] 0% 0% 10% BOULDER (>256 mm) [16 pts] 25% LEAF PACK/WOODY DEBRIS [3 pts] 0% COBBLE (65-256 mm) [12 pts] 15% CLAY or HARDPAN [0 pt] 0% GRAVEL (2-64 mm) [9 pts] 25% MUCK [0 pts] 0% MUCK [0 pts] 0% 0% 31 Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock 50% (A) 25 TOTAL NUMBER OF SUBSTRATE TYPEs: 6	iC S ate
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Pool Demonstrate the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Pool Demonstrate the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Pool Demonstrate the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Pool Demonstrate the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Pool Demonstrate the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Pool Demonstrate the maximum pool depth within the 61 meter (200 feet) evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Pool Demonstrate the maximum pool depth within the 61 meter (200 feet) evaluation. Avoid plunge pools for the maximum pool depth within the 61 meter (200 feet) evaluation. Avoid plunge pools for the maximum pool to the formattion. Avoid plunge pools for the maximum pool depth within the 61 meter (200 feet) evaluation. Avoid plunge pools for the maximum pool depth within the 61 meter (200 feet) evaluation. Avoid plunge pools for the maximum pool depth within the 61 meter (200 feet) evaluation. Avoid plunge pools for the maximum	
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): $\Rightarrow 4.0 \text{ meters } (>13') [30 \text{ pts}]$ $\Rightarrow 3.0 \text{ m} - 4.0 \text{ m} (>9'7"-13') [25 \text{ pts}]$ $\Rightarrow 1.5 \text{ m} - 3.0 \text{ m} (>4'8"-9'7") [20 \text{ pts}]$ COMMENTS $\Rightarrow 0.0 \text{ m} (>3'3") [5 \text{ pts}]$ $\Rightarrow 0.0 \text{ m} (>3'3") [5 \text{ pts}]$	1
COMMENTS AVERAGE BANKFULL WIDTH (feet)	4
Inits information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream* RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) L R (Per Bank) L R L Q Wide >10m Mature Forest, Wetland Conservation Tillage Moderate 5-10m Immature Forest, Shrub or Old Field Urban or Industrial Narrow <5m	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Moist Channel, isolated pools, no flow (intermittent) Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral) COMMENTS Intermittent SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): 3.0 None 1.0 2.0 3.0 0.5 1.5 2.5 >3	
STREAM GRADIENT ESTIMATE	E

DOWNSTREAM DESIGNATED USE(S) WWH Name: Scioto River	Distance from Evaluated Stream >2 miles
CWH Name:	Distance fromEvaluated Stream
EWH Name:	Distance from Evaluated Stream
di -	
	UDING THE ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Piketon, OH	NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Pike	Township/City: Scioto Township
MISCELLANEOUS	01/40/04
Base Flow Conditions? (Y/N): Date of last p	precipitation: 01/16/21 Quantity: 0.20
Photo-documentation Notes:	
N N	30%
Elevated Turbidity?(Y/N): Canopy (% o	ppen):
Were samples collected for water chemistry? (Y/N):	N Lab Sample # or ID (attach results):
1000 00 100 1000 000 000 000 0000	
Field Measures:Temp (°C) Dissolved Oxyg	
Is the sampling reach representative of the stream (Y	(/N) Y If not, explain:
Additional comments/description of pollution impacts: Orange film on substrate	
Additional comments/description of pollution impacts: Orange film on substrate	
Additional comments/description of pollution impacts: Orange film on substrate <u>BIOL</u>	
Additional comments/description of pollution impacts: Orange film on substrate <u>BIOL</u> (Re	OGICAL OBSERVATIONS ecord all observations below)
Additional comments/description of pollution impacts: Orange film on substrate <u>BIOL</u> (Re Fish Observed? (Y/N) N Species observed (if	OGICAL OBSERVATIONS ecord all observations below) fknown):
Additional comments/description of pollution impacts: Orange film on substrate BIOL (Re Fish Observed? (Y/N) N Species observed (if Frogs or Tadpoles Observed? (Y/N) Y Species	OGICAL OBSERVATIONS ecord all observations below) fknown):
Additional comments/description of pollution impacts: Orange film on substrate BIOL (Re Fish Observed? (Y/N) N Species observed (if Frogs or Tadpoles Observed? (Y/N) Y Species	OGICAL OBSERVATIONS ecord all observations below) fknown):
Additional comments/description of pollution impacts: Orange film on substrate BIOL (Re Fish Observed? (Y/N) N Species observed (if Frogs or Tadpoles Observed? (Y/N) Y Species observed Salamanders Observed? (Y/N) N Species observed	OGICAL OBSERVATIONS ecord all observations below) fknown):
Additional comments/description of pollution impacts: Orange film on substrate BIOL (Re Fish Observed? (Y/N) N Species observed (iff Frogs or Tadpoles Observed? (Y/N) Y Species Salamanders Observed? (Y/N) N Species obse Aquatic Macroinvertebrates Observed? (Y/N) N	OGICAL OBSERVATIONS ecord all observations below) f known):
Additional comments/description of pollution impacts: Orange film on substrate BIOL (Re Fish Observed? (Y/N) N Species observed (if Frogs or Tadpoles Observed? (Y/N) Y Species observed? (Y/N) N Salamanders Observed? (Y/N) N Species observed? (Y/N) N	OGICAL OBSERVATIONS ecord all observations below) f known):
Additional comments/description of pollution impacts: Orange film on substrate BIOL (Re Fish Observed? (Y/N) N Species observed (iff Frogs or Tadpoles Observed? (Y/N) Y Species Salamanders Observed? (Y/N) Species obse Aquatic Macroinvertebrates Observed? (Y/N) N	OGICAL OBSERVATIONS ecord all observations below) f known):
Additional comments/description of pollution impacts: Orange film on substrate BIOL (Re Fish Observed? (Y/N) N Species observed (if Frogs or Tadpoles Observed? (Y/N) Y Species observed? (Y/N) N Comments Regarding Biology: One gray spotted frog observed	OGICAL OBSERVATIONS ecord all observations below) fknown):
Additional comments/description of pollution impacts: Orange film on substrate BIOL (Re Fish Observed? (Y/N) N Species observed (if Frogs or Tadpoles Observed? (Y/N) Y Salamanders Observed? (Y/N) N Species observed? (Y/N) N Solar Tadpoles Observed? (Y/N) N Species observed? (Y/N) N Species observed? (Y/N) N Comments Regarding Biology: One gray spotted frog observed DRAWING AND NARRATIVE DE	OGICAL OBSERVATIONS ecord all observations below) f known):

FLOW

riffle

Boulder

S-BAO-012221-03

S

slope

Field Methods for Evaluating Primary Headwater Streams in Ohio Ohio EPA, Division of Surface Water

SITE NAMELOCATION Arboles Station and Transmission Lines Project, S-BAO-012221-04 SITE NUMBER RIVER ROBE RIVER TASM, 05060002 INVER TODE DATE 01/22/2021 SCORER JFW COMMENTS INTER MARCH (HARNEL MODIFICATIONS: INTER AND CHANNEL MODIFICAT	Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3) 61
Channelization from historic roadway construction 1. SUBSTRATE (Estimate percent of every type present). Check ONL Ybug predominant substrate TYPE boxes. (Max of 22). Addition number of significant substrate bypes from d (Max of 8). Final metric score is sum of boxes A & B PERCENT HHEI Metric PERCENT 1. PERCENT PERCENT PERCENT 1. Stat 3 pt] PERCENT PERCENT 1. PERCENT PERCENT PERCENT 1. PERC	SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mi ²) 0.062 LENGTH OF STREAM REACH (ft) 72 LAT 39.01096 LONG -83.01204 RIVER MILE DATE 01/22/2021 SCORER JFW COMMENTS Intermittent NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions
(Max of 32), Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B FIFTEI TYPE BUDR SLABS (16 pts) 0% 5% 0%	
2. Maximum Pool Depth (<i>Measure the maximum pool depth within the 61 meter (200 feet)</i> evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check <i>ONL</i> Y one box): > 30 centimeters [20 pts] > 22.5 . 30 cm [30 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] 3.00 BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check <i>ONL</i> Y one box): > 4.0 meters (> 13) [30 pts] > 1.0 m - 1.5 m (> 3' 3' - 4' 6'') [15 pts] > 3.0 m - 4.0 m (> 9' 7' - 13) [25 pts] > 1.5 m - 3.0 m (> 4' 8' - 9' 7') [20 pts] > 1.5 m - 3.0 m (> 4' 8' - 9' 7') [20 pts] > 1.5 m - 3.0 m (> 4' 8' - 9' 7') [20 pts] This information mustals be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream* RIPARIAN WOTH FLOODPLAIN QUALITY (Most Predominant per Bank) R (Per Bank) R (Per Bank) Mature Forest, Wetland Moderate 5-10m Immature Forest, Shrub or Old Field Open Pasture, Row Crop None Residential, Park, New Field Open Pasture, Row Crop Mining or Construction Moderate 5-10m Stream Flowing	(Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B HHEI TYPE PERCENT TYPE PERCENT BUDR SLABS [16 pts] 0% SILT [3 pt] 5% BOULDER (>256 mm) [16 pts] 5% LEAF PACK/WOODY DEBRIS [3 pts] 0% COBBLE (65-256 mm) [12 pts] 5% CLAY or HARDPAN [0 pt] 0% GRAVEL (2-64 mm) [9 pts] 30% MUCK [0 pts] 0% Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock 60% (A) 25 (B) c A+B
→ 4.0 meters (>13') [30 pts] → 1.0 m - 1.5 m (> 3' 3' - 4' 8') [15 pts] Width → 3.0 m (> 4' 8' - 9' 7') [20 pts] → 1.0 m (< 3' 3') [5 pts]	2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Pool Depth (Max = 30 Check ONLY one box): > 30 centimeters [20 pts] S cm - 10 cm [15 pts] As the time of evaluation reach at the time of evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Pool Depth (Max = 30 Check ONLY one box): > 30 centimeters [20 pts] S cm - 10 cm [15 pts] S cm [5 pts] Image: Some store the time of evaluation reach at the time of evaluation reach at the time of evaluation. > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts] Image: Some store time of evaluation. COMMENTS MAXIMUM POOL DEPTH (inches) Image: Some store time of evaluation.
This information mustalso be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream* RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) L R L R Image: Conservation Tillage L R Image: Conservation Tillage Urban or Industrial Image: Conservation Tillage Open Pasture, Row Crop None Image: Conservation Image: Conservation Conservation Sinuo Sity	$ \begin{array}{ c c c c c c } &> 4.0 \ meters \ (> 13') \ [30 \ pts] \\ &> 3.0 \ m - 4.0 \ m \ (> 9' \ 7'' - 13') \ [25 \ pts] \\ &> 1.5 \ m - 3.0 \ m \ (> 4' \ 8'' - 9' \ 7'') \ [20 \ pts] \end{array} \end{array} \begin{array}{ c c c c c } & $\swarrow \ > 1.0 \ m \ (> 3' \ 3'' \ -4' \ 8'') \ [15 \ pts] \\ &\le 1.0 \ m \ (\le 3' \ 3'') \ [5 \ pts] \end{array} \end{array} \begin{array}{ c c c } & Width \\ & Max=30 \\ & 1.5 \ m \ -3.0 \ m \ (> 4' \ 8'' - 9' \ 7'') \ [20 \ pts] \end{array}$
RIPARIAN WIDTH (Per Bank) ELOODPLAIN_QUALITY (Most Predominant per Bank) Image: Residential conservation Image: Residential conservation	
Stream Flowing Moist Channel, isolated pools, no flow (intermittent) Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral) COMMENTS Intermittent SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 0.5 1.5 STREAM GRADIENT ESTIMATE	RIPARIAN WIDTH FLOODPLAIN_QUALITY (Most Predominant per Bank) L R L R L R Image: State of the state
STREAM GRADIENT ESTIMATE	FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Moist Channel, isolated pools, no flow (intermittent) Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral) COMMENTS Intermittent SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0
	STREAM GRADIENT ESTIMATE

DOWNSTREAM DESIGNATED USE(S)	core (If Yes, Attach Completed QHEI form)	
WWH Name: Scioto River	Distance from Evaluated Stream	>2 miles
_ CWH Name:	Distance from Evaluated Stream	
EWH Name:	Distance fromEvaluated Stream	
MAPPING: ATTACH COPIES OF MAPS, INCLUDI	NG THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOC	ATION.
JSGS Quadrangle Name: Piketon, OH	NRCS Soil Map Page: NRCS Soil Map Stream (Order:
County: Pike	Township/City: Scioto Township	
MISCELLANEOUS Base Flow Conditions? (Y/N): Date of last prec	sipitation: 01/16/21 Quantity: 0.20	
Photo-documentation Notes:		
Elevated Turbidity?(Y/N): Canopy (% oper	1):50%	
Nere samples collected for water chemistry?(Y/N): N	Lab Sample # or ID (attach results):	
Field Measures:Temp (°C) Dissolved Oxygen	(mg/l) pH (S.U.) Conductivity (umhos/cn	n)
· 1200		
s the sampling reach representative of the stream (Y/N)	If not, explain:	
BIOLOG (Recor	ICAL OBSERVATIONS d all observations below)	
(Recon Fish Observed? (Y/N) N Species observed (if kno Frogs or Tadpoles Observed? (Y/N) N Species observe Galamanders Observed? (Y/N) N Species observe Aquatic Macroinvertebrates Observed? (Y/N) N Sp	d all observations below) own): served (if known): d (if known):	
BIOLOG (Recor Fish Observed? (Y/N) N Species observed (if kno Frogs or Tadpoles Observed? (Y/N) N Species observe Galamanders Observed? (Y/N) N Species observe	d all observations below) own): served (if known): d (if known):	
BIOLOG (Record Fish Observed? (Y/N) N Species observed (if know Frogs or Tadpoles Observed? (Y/N) N Species observed Galamanders Observed? (Y/N) N Species observed Aquatic Macroinvertebrates Observed? (Y/N) N Sp Comments Regarding Biology:	d all observations below) pwn):served (if known): d (if known): ecies observed (if known):	
BIOLOG (Recom Fish Observed? (Y/N) N Species observed (if knd Frogs or Tadpoles Observed? (Y/N) N Species observe Galamanders Observed? (Y/N) N Species observe Aquatic Macroinvertebrates Observed? (Y/N) N Sp Comments Regarding Biology: DRAWING AND NARRATIVE DESC	d all observations below) pwn):	npleted)
BIOLOG (Recon Fish Observed? (Y/N) N Species observed (if kno Frogs or Tadpoles Observed? (Y/N) N Species observe Galamanders Observed? (Y/N) N Species observe Aquatic Macroinvertebrates Observed? (Y/N) Species observe Aquatic Macroinvertebrates Observed? (Y/N) Species observe Comments Regarding Biology: DRAWING AND NARRATIVE DESC Include important landmarks and other features	d all observations below) bwn): served (if known): d (if known): ecles observed (if known): CRIPTION OF STREAM REACH (This must be cor of interest for site evaluation and a narrative description of the strear	npleted)
BIOLOG (Recon Fish Observed? (Y/N) N Species observed (if kno Frogs or Tadpoles Observed? (Y/N) N Species observe Galamanders Observed? (Y/N) N Species observe Aquatic Macroinvertebrates Observed? (Y/N) Species observe Aquatic Macroinvertebrates Observed? (Y/N) Species observe Comments Regarding Biology: DRAWING AND NARRATIVE DESC Include important landmarks and other features	d all observations below) pwn):	npleted)

Field Methods for Evaluating Primary Headwater Streams in Ohio Ohio EPA, Division of Surface Water

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3) 29	
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012221-05 SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mi ²) 0.038 LENGTH OF STREAM REACH (ft) 199 LAT 39.00896 LONG -83.01198 RIVER MILE DATE 01/22/2021 SCORER BAO COMMENTS Intermittent NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction]]]
STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OF NO RECE	ERY
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B HHE Image: type block of type block of type break to the type found (Max of 8). Final metric score is sum of boxes A & B HHE Image: type block of type b	ic ts rate 40
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONL Y one box): Max = (Check ONL Y one box): 30 centimeters [20 pts] 5 cm - 10 cm [15 pts] (Check ONL Y one box): Max = (Check ONL Y one box): > 30 centimeters [20 pts] 3 cm (5 cm [5 pts]) (Check ONL Y one box): Max = (Check ONL Y one box): > 22.5 - 30 cm [30 pts] 3 cm (5 cm [5 pts]) (Check ONL Y one box): 5 cm (5 cm [5 pts]) > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts] 5 COMMENTS MAXIMUM POOL DEPTH (inches): 1.50	100001
3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box): Bankt □ > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] □ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] □ > 1.0 m (≤ 3' 3") [5 pts] □ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] □ > 1.0 m (≤ 3' 3") [5 pts] COMMENTS	h
This information must also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream* RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) L R (Per Bank) L R Wide >10m Mature Forest, Wetland Conservation Tillage Moderate 5-10m Immature Forest, Shrub or Old Field Urban or Industrial More Preced Pasture Open Pasture, Row Crop None Fenced Pasture Mining or Construction COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box):	
Stream Flowing Moist Channel, isolated pools, no flow (intermittent) Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral) COMMENTS Intermittent SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 0.5 1.5 2.5 >3	
STREAM GRADIENT ESTIMATE Flat (0.5 ft 100 ft) Flat to Moderate Moderate (2 ft 100 ft) Moderate to Severe Severe (10 ft 100 ft)	

CWH Name: Distance from Evaluated Stream DEVH Name: Distance from Evaluated Stream DEVH Name: Distance from Evaluated Stream DSG Quadrangle Name: Piketon, OH NRCS Soll Map Page:		Scioto River	TED USE(S)		, in the second s	istance from Evaluated Stream	>2 miles
EWH Name: Distance from Evaluated Stream MAPPING: ATTACH_COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA_CLEARLY MARK THE SITE LOCATION. SGS Quadrangle Name: Piketon, OH NRCCS Soil Map Page: NRCS Soil Map Stream Order punty: Pike MISCELLANEOUS Township/Cay. SGS Quadrangle Name: Piketon, OH NRCCS Soil Map Page: NRCS Soil Map Stream Order punty: Pike Township/Cay. Sciolo Township MISCELLANEOUS Township/Cay. sase Flow Conditions? (V/N): N cvated Turbidity?(V/N): N Lab Sample # or D (attach results):					, 2014년 1월 2017년 1월 2018년 1월 2 1월 2019년 1월 2019년 1월 2019년 1월 2019년 1월 2019년 1월 2018년 1월 2	22 miles	
SGS Quadrangle Name: Piketon, OH NRCS Soil Map Page: NRCS Soil Map Stream Order punty: Pike Township/Cty: Scioto Township MISCELLANEOUS asse Flow Conditions? (V/N): V Date of last precipitation: 01/16/21 Quantity: 0.20 asse Flow Conditions? (V/N): N Canopy (% open): 20% (% open): 0.20 iere samples collected for water chemistry? (V/N): N Lab Sample # or ID (attach results): (% open): (%	EWH Name:			[) istance from Evaluated Stream		
SGS Quadrangle Name: Piketon, OH NRCS Soil Map Page: NRCS Soil Map Stream Order punty: Pike Township/Cty: Scioto Township MISCELLANEOUS asse Flow Conditions? (V/N): V Date of last precipitation: 01/16/21 Quantity: 0.20 asse Flow Conditions? (V/N): N Canopy (% open): 20% (% open): 0.20 iere samples collected for water chemistry? (V/N): N Lab Sample # or ID (attach results): (% open): (%	MAPE	PING ATTACH COPIES	OF MAPS INCLUDING	THEENTIRE	WATERSHED AR	FA CLEARLY MARK THE SITE LOC	ATION
Durty: Pike Township/City: Scioto Township MISCELLANEOUS asse Flow Conditions? (Y/N): Date of last precipitation: 01/16/21 Quantity: 0.20 noto-documentation Notes:				4 <u>6 - 6</u> 3			
MSCELLANEOUS ase Flow Conditions? (Y/N) Date of last precipitation: 01/16/21 Quantity: 0.20 boto-documentation Notes: evated Turblidty?(Y/N): N Canopy (% open): 20% fere samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): eld Measures: Temp (*C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm) the sampling reach representative of the stream (Y/N) Y if not, explain: dditional comments/description of pollution impacts: BIOLOGICAL OBSERVATIONS (Record all observations below) sh Observed? (Y/N) N Species observed (if known): rogs or Tadpoles Observed? (Y/N) N Species observed (if known): guatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): anametrs Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location path Upland fallow field;	HERE AND						
ase Flow Conditions? (Y/N) Date of last precipitation: 01/16/21 Quantity: 0.20 noto-documentation Notes: evated Turbidity?(Y/N): Canopy (% open): 20% fere samples collected for water chemistry?(Y/N): Lab Sample # or D (attach results): ed Measures: Temp (*C) Dissolved Oxygen (mg/t) pH (S.U.) Conductivity (umhos/cm) et a sampling reach representative of the stream (Y/N) If not, explain: BIOLOGICAL OBSERVATIONS (Record all observations below) sh Observed? (Y/N) Species observed (if known): rogs or Tadpoles Observed? (Y/N) Species observed (if known): attamanders Observed? (Y/N) Species observed (if known): guatic Macroinvertebrates Observed? (Y/N) Species observed (if known): ments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location path	ounty: Pike			Township/	City:	msnip	
	MISC	ELLANEOUS					
noto-documentation Notes: evated Turbidity?(Y/R): N Canopy (% open): 20% fere samples collected for water chemistry?(Y/R): N Lab Sample # or ID (attach results):	lace Flow Conv	ditions? (V/N):	Data of last pracinits	ation.	01/16/21	Quantity: 0.20	
evated Turbidity?(Y/R): N Canopy (% open): 20% fere samples collected for water chemistry?(Y/R): N Lab Sample # or ID (attach results): eld Measures:Temp (*C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm) the sampling reach representative of the stream (Y/R) V If not, explain: dditional comments/description of pollution impacts: BIOLOGICAL OBSERVATIONS (Record all observations below) sh Observed? (Y/R) N Species observed (if known): rogs or Tadpoles Observed? (Y/R) N Species observed (if known): guatic Macroinvertebrates Observed? (Y/R) N Species observed (if known): alamanders Observed? (Y/R) N Species observed (if known): alamanders Observed? (Y/R) N Species observed (if known): mments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location path Culvert Upland fallow field; Upland fallow field;							
Value (Virbidity ((YN)). Caliby (v & gben); Lab Sample # or ID (attach results):	hoto-documen				1		
eld Measures:Temp (*C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm) the sampling reach representative of the stream (Y/N) if not, explain: dditional comments/description of pollution impacts: BIOLOGICAL OBSERVATIONS (Record all observations below) sh Observed? (Y/N) Species observed (if known); rogs or Tadpoles Observed? (Y/N) Species observed (if known); guatic Macroinvertebrates Observed? (Y/N) Species observed (if known); proments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location path Culvert Diagonal fallow field;	levated Turbidi	ity?(Y/N):	Canopy (% open):	20%			
eld Measures:Temp (*C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm) the sampling reach representative of the stream (Y/N) If not, explain: dditional comments/description of pollution impacts: BIOLOGICAL OBSERVATIONS (Record all observations below) sh Observed? (Y/N) Species observed (if known); rogs or Tadpoles Observed? (Y/N) Species observed (if known); guatic Macroinvertebrates Observed? (Y/N) Species observed (if known); proments Regarding Biology; DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location path Culvert Dypland fallow field;	√ere samples o	collected for water ch	emistry?(Y/N): N	Lab S	ample # or ID (attach results):	
the sampling reach representative of the stream (Y/N) I If not, explain: dditional comments/description of pollution impacts: BIOLOGICAL OBSERVATIONS (Record all observations below) sh Observed? (Y/N) Species observed (if known): rogs or Tadpoles Observed? (Y/N) Species observed (if known): guatic Macroinvertebrates Observed? (Y/N) Species observed (if known): guatic Macroinvertebrates Observed? (Y/N) Species observed (if known): proments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location path Culvert Upland fallow field;		10 0.00 D				Alexandra Astronomican San Are	
dditional comments/description of pollution impacts: BIOLOGICAL OBSERVATIONS (Record all observations below) sh Observed? (Y/N) N Species observed (if known): rogs or Tadpoles Observed? (Y/N) N Species observed (if known): guatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): guatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): opments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location		3 2 M	1845 I		pH (S.U.)	Conductivity (umhos/ci	m)
BIOLOGICAL OBSERVATIONS (Record all observations below) Species observed (if known): 	the sampling	reach representative	of the stream (Y/N)	If not, e	xplain:		
BIOLOGICAL OBSERVATIONS (Record all observations below) Species observed (if known): 							
guatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): parments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location path Culvert Upland fallow field;				이야기 요즘 아파가 가지 않는	0.0000000000000000000000000000000000000		
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location path Culvert Upland fallow field;	rogs or Tadpol	les Observed? (Y/N)	(Record all cies observed (if known N Species observ	observations 1): ved (if know	below)		
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This <u>must</u> be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location path Culvert Upland fallow field;	rogs or Tadpol alamanders Ol	les Observed? (Y/N) bserved? (Y/N) N	(Record all cies observed (if known N Species observ Species observed (if	l observations 1): ved (if know f known):	below)		
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location path Culvert Upland fallow field;	rogs or Tadpol alamanders Ol	les Observed? (Y/N) bserved? (Y/N) N	(Record all cies observed (if known N Species observ Species observed (if	l observations 1): ved (if know f known):	below)		
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location path Culvert Upland fallow field;	Frogs or Tadpol Galamanders Ol Aquatic Macroir	les Observed? (Y/N) bserved? (Y/N) N	(Record all cies observed (if known N Species observ Species observed (if	l observations 1): ved (if know f known):	below)		
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location path Culvert Upland fallow field;	Frogs or Tadpol Galamanders Ol Aquatic Macroir	les Observed? (Y/N) bserved? (Y/N) N	(Record all cies observed (if known N Species observ Species observed (if	l observations 1): ved (if know f known):	below)		
Difference of the second secon	rogs or Tadpol alamanders Ol Aquatic Macroir Comments Regi	les Observed? (Y/N) bserved? (Y/N) N ivertebrates Observe arding Biology:	(Record all cies observed (if known N Species observ Species observed (if ed? (Y/N) N Specie	observations 1): ved (if know f known): es observed	below) n): (if known):		
Upland fallow field;	Frogs or Tadpol Galamanders Ol Aquatic Macroir Comments Regi	les Observed? (Y/N) bserved? (Y/N) N ivertebrates Observe arding Biology: AWING AND NA	(Record all cies observed (if known N Species observed Species observed (if ed? (Y/N) N Species RRATIVE DESCR	observations 1): ved (if know f known): es observed IPTION C	oelow) n): (if known): DF STREAM	REACH (This <u>must</u> be co	mpleted)
Upland fallow field;	rogs or Tadpol alamanders Ol Aquatic Macroir Comments Regi DR	les Observed? (Y/N) bserved? (Y/N) N ivertebrates Observe arding Biology: AWING AND NA	(Record all cies observed (if known N Species observed Species observed (if ed? (Y/N) N Species RRATIVE DESCR	observations 1): ved (if know f known): es observed IPTION C	oelow) n): (if known): DF STREAM	REACH (This <u>must</u> be co	mpleted)
Upland fallow field;	rogs or Tadpol alamanders Ol Aquatic Macroir comments Regi	les Observed? (Y/N) bserved? (Y/N) N ivertebrates Observe arding Biology: AWING AND NA	(Record all cies observed (if known N Species observed Species observed (if ed? (Y/N) N Species RRATIVE DESCR	observations 1): ved (if know f known): es observed IPTION C	oelow) n): (if known): DF STREAM	REACH (This <u>must</u> be co	mpleted)
Upland fallow field;	rogs or Tadpol alamanders Ol Aquatic Macroir Comments Regi DR	les Observed? (Y/N) bserved? (Y/N) N ivertebrates Observe arding Biology: AWING AND NA	(Record all cies observed (if known N Species observed Species observed (if ed? (Y/N) N Species RRATIVE DESCR	observations 1): ved (if know f known): ts observed IPTION C nterest for si	oelow) n): (if known): DF STREAM	REACH (This <u>must</u> be co	mpleted)
Upland fallow field;	rogs or Tadpol alamanders Ol Aquatic Macroir comments Regi	les Observed? (Y/N) bserved? (Y/N) N ivertebrates Observe arding Biology: AWING AND NA ude important landmar	(Record all cies observed (if known N Species observed (if Species observed (if sd? (Y/N) N Species RRATIVE DESCRI ks and other features of i	observations 1): ved (if know f known): ts observed IPTION C nterest for si	oelow) n): (if known): DF STREAM	REACH (This <u>must</u> be co	mpleted)
	rogs or Tadpol alamanders Ol Aquatic Macroir comments Regi	les Observed? (Y/N) bserved? (Y/N) N ivertebrates Observe arding Biology: AWING AND NA ude important landmar	(Record all cies observed (if known N Species observed (if Species observed (if sd? (Y/N) N Species RRATIVE DESCRI ks and other features of i	observations 1): ved (if know f known): ts observed IPTION C nterest for si	oelow) n): (if known): DF STREAM	REACH (This <u>must</u> be co I a narrative description of the strea	mpleted)
	rogs or Tadpol alamanders Ol Aquatic Macroir comments Reg DR Inch	les Observed? (Y/N) bserved? (Y/N) N ivertebrates Observe arding Biology: AWING AND NA ude important landmar	(Record all cies observed (if known N Species observed (if Species observed (if sd? (Y/N) N Species RRATIVE DESCRI ks and other features of i	observations 1): ved (if know f known): ts observed IPTION C nterest for si	oelow) n): (if known): DF STREAM	REACH (This <u>must</u> be co I a narrative description of the strea	mpleted)
Maintained HOW TO TO	rogs or Tadpol alamanders Ol Aquatic Macroir comments Reg DR Inch	les Observed? (Y/N) bserved? (Y/N) N ivertebrates Observe arding Biology: AWING AND NA ude important landmar	(Record all cies observed (if known N Species observed (if Species observed (if sd? (Y/N) N Species RRATIVE DESCRI ks and other features of i	observations 1): ved (if know f known): ts observed IPTION C nterest for si	oelow) n): (if known): DF STREAM	REACH (This <u>must</u> be co I a narrative description of the strea	mpleted)
	Frogs or Tadpol Galamanders Ol Aquatic Macroir Comments Reg Comments Reg DR Incli	les Observed? (Y/N) bserved? (Y/N) N ivertebrates Observe arding Biology: AWING AND NA ude important landmar	(Record all cies observed (if known N Species observed (if species observed (if cies observed (if species	observations 1): ved (if know f known): es observed IPTION C nterest for si path d fallow fiel	below) n): (if known): DF STREAM te evaluation and	REACH (This <u>must</u> be co I a narrative description of the strea	mpleted)
	rogs or Tadpol alamanders Ol Aquatic Macroir comments Reg DR Inch	les Observed? (Y/N) bserved? (Y/N) N ivertebrates Observe arding Biology: AWING AND NA ude important landmar	(Record all cies observed (if known N Species observed (if species observed (if cies observed (if species	observations 1): ved (if know f known): es observed IPTION C nterest for si path d fallow fiel	below) n): (if known): DF STREAM te evaluation and	REACH (This <u>must</u> be co I a narrative description of the strea	mpleted)
	Frogs or Tadpol Galamanders Ol Aquatic Macroir Comments Reg: DR Incli	les Observed? (Y/N) bserved? (Y/N) N ivertebrates Observe arding Biology: AWING AND NA ude important landmar	(Record all cies observed (if known N Species observed (if species observed (if cies observed (if species	observations 1): ved (if know f known): es observed IPTION C nterest for si path d fallow fiel	below) n): (if known): DF STREAM te evaluation and	REACH (This <u>must</u> be co I a narrative description of the strea	mpleted)
	Frogs or Tadpol Salamanders Ol Aquatic Macroir Comments Regi	les Observed? (Y/N) bserved? (Y/N) N ivertebrates Observe arding Biology: AWING AND NA ude important landmar	(Record all cies observed (if known N Species observed (if species observed (if cies observed (if species	observations 1): ved (if know f known): es observed IPTION C nterest for si path d fallow fiel	below) n): (if known): DF STREAM te evaluation and	REACH (This <u>must</u> be co I a narrative description of the strea	mpleted)

-

Appendix E Jacobs Open Water/Pond Data Forms

<u>Jacobs</u>

POND DATA SHEET								
Pond AS- Feature ID: (P-BAO-0		Wetland AS-006 (W-BAO-012121-04), Associated Features: Stream AS-011 (S-BAO-012121-01),						
SURVEY TYPE: Wetland and waterbodies delineationStream AS-013 (S-BAO-012221-02								
Date: 01/21/2021	CLIENT/PROJECT NAME	AEP Arboles Station and Transmission Lines						
Investigators: Ben Otto/Jen V	Vessel	ROUTE: Existing Centerline						
STATE/COUNTY: Ohio/Pike (County		IS THIS A MAPPED NWI FEATURE?: No					
WATERBODY CHARACTERISTICS								
WATERBODY TYPE: Pond								
AVG. DEPTH:	24"							
AVG. WIDTH (WATER SURFACE):	100'							
APPROXIMATE SIZE:	0.21 acres in surv	ey corridor, e	xtends beyond western boundary of survey corridor.					
QUALITATIVE ATTRIBUTES								
AVERAGE WATER APPEARANCE: Cloudy brown-green		en						
PRIMARY SUBSTRATE (IF OBSERVED):	Silt							
POTENTIAL HABITAT FOR: Amphibians								
SURROUNDING LAND USE:	Mowed commerci	al lawn						
WETLAND FRINGE (IF PRESENT):	N/A							
COMMENTS								
Retention pond fed by Wetland AS-006 and Stream AS-011. Monk overflow outlet leads to culvert at head of Stream AS-013.								

Appendix F Representative Photographs



Upstream

Downstream





Upstream

Downstream





Upstream

Downstream





Upstream

Downstream





Upstream

Downstream





Upstream

Downstream





Upstream

Downstream





Upstream

Downstream





Upstream

Downstream





Downstream

Upstream





Upstream

Downstream





Downstream

Substrate



Upstream



Upstream

Downstream





Upstream

Downstream





Upstream

Substrate



Downstream



Upstream

Downstream



Ν

S

Soil



W

Wetland AS-002



Ν

S

Soil



W

S





Soil



Ν

S

Soil



W

S



S





Soil

S



Site Photos



Soil

S



Site Photos

Wetland AS-008



Soil



W

Ν



Soil

Ν



Е



Soil

Ν



Е



Soil

Ν



S





S





Ν

Appendix G Documentation for State- and Federally Listed Species

Otto, Ben/CIN

From:	Ohio, FW3 <ohio@fws.gov></ohio@fws.gov>
Sent:	Monday, March 22, 2021 10:43 AM
То:	Otto, Ben/CIN; Grant S Stuller
Cc:	nathan.reardon@dnr.state.oh.us; Parsons, Kate
Subject:	[EXTERNAL] AEP - Arboles Station Transmission Lines Project in Scioto Township, Pike
	County, Ohio



UNITED STATES DEPARTMENT OF THE INTERIOR U.S. Fish and Wildlife Service Ecological Services Office 4625 Morse Road, Suite 104 Columbus, Ohio 43230 (614) 416-8993 / Fax (614) 416-8994



TAILS# 03E15000-2021-TA-1017

Dear Mr. Otto,

The U.S Fish and Wildlife Service (Service) has received your recent correspondence requesting information about the subject proposal. We offer the following comments and recommendations to assist you in minimizing and avoiding adverse impacts to threatened and endangered species pursuant to the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq), as amended (ESA).

<u>Federally Threatened and Endangered Species</u>: The endangered Indiana bat (*Myotis sodalis*) and threatened northern long-eared bat (*Myotis septentrionalis*) occur throughout the State of Ohio. The Indiana bat and northern long-eared bat may be found wherever suitable habitat occurs unless a presence/absence survey has been performed to document absence. Suitable summer habitat for Indiana bats and northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and breed that may also include adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, woodlots, fallow fields, and pastures. Roost trees for both species include live and standing dead trees ≥ 3 inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities. These roost trees may be located in forested habitats as well as linear features such as fencerows, riparian forests, and other wooded corridors. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet of other forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat. In the winter, Indiana bats and northern long-eared bats hibernate in caves, rock crevices and abandoned mines.

Seasonal Tree Clearing for Federally Listed Bat Species: Should the proposed project site contain trees \geq 3 inches dbh, we recommend avoiding tree removal wherever possible. If any caves or abandoned mines may be disturbed, further coordination with this office is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and trees \geq 3 inches dbh cannot be avoided, we recommend removal of any trees \geq 3 inches dbh only occur between October 1 and March 31. Seasonal clearing is recommended to avoid adverse effects to Indiana bats and northern long-eared bats. While incidental take of northern long-eared bats from most tree clearing is exempted by a 4(d) rule (see http://www.fws.gov/midwest/endangered/mammals/nleb/index.html), incidental take of Indiana bats as still prohibited without a project-specific exemption. Thus, seasonal clearing is recommended where Indiana bats are assumed present.

If implementation of this seasonal tree cutting recommendation is not possible, a summer presence/absence survey may be conducted for Indiana bats. If Indiana bats are not detected during the survey, then tree clearing may occur at any time of the year. Surveys must be conducted by an approved surveyor and be designed and conducted in coordination with the Ohio Field Office. Surveyors must have a valid federal permit. Please note that in Ohio summer mist net surveys may only be conducted between June 1 and August 15.

<u>Section 7 Coordination</u>: If there is a federal nexus for the project (e.g., federal funding provided, federal permits required to construct), then no tree clearing should occur on any portion of the project area until consultation under section 7 of the ESA, between the Service and the federal action agency, is completed. We recommend the federal action agency submit a determination of effects to this office, relative to the Indiana bat and northern long-eared bat, for our review and concurrence. This letter provides technical assistance only and does not serve as a completed section 7 consultation document.

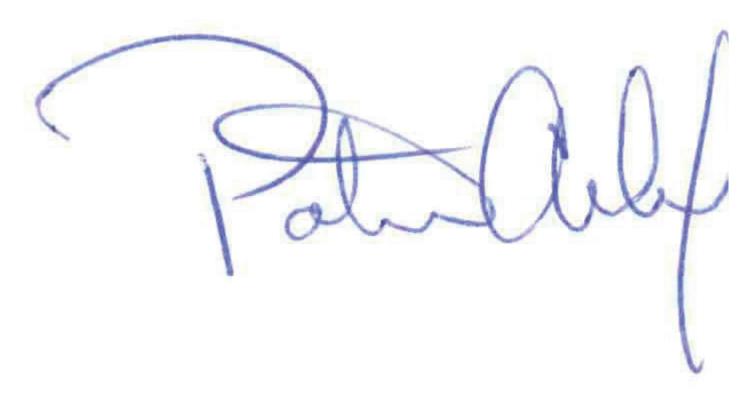
<u>Stream and Wetland Avoidance</u>: Over 90% of the wetlands in Ohio have been drained, filled, or modified by human activities, thus is it important to conserve the functions and values of the remaining wetlands in Ohio (<u>https://epa.ohio.gov/portals/47/facts/ohio_wetlands.pdf</u>). We recommend avoiding and minimizing project impacts to all wetland habitats (e.g., forests, streams, vernal pools) to the maximum extent possible in order to benefit water quality and fish and wildlife habitat. Additionally, natural buffers around streams and wetlands should be preserved to enhance beneficial functions. If streams or wetlands will be impacted, the U.S. Army Corps of Engineers should be contacted to determine whether a Clean Water Act section 404 permit is required. Best management practices should be used to minimize erosion, especially on slopes. Disturbed areas should be mulched and revegetated with native plant species. In addition, prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats.

Due to the project type, size, and location, we do not anticipate adverse effects to any other federally endangered, threatened, or proposed species, or proposed or designated critical habitat. Should the project design change, or additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, coordination with the Service should be initiated to assess any potential impacts.

Thank you for your efforts to conserve listed species and sensitive habitats in Ohio. We recommend coordinating with the Ohio Department of Natural Resources due to the potential for the proposed project to affect state listed species and/or state lands. Contact Mike Pettegrew, Acting Environmental Services Administrator, at (614) 265-6387 or at mike.pettegrew@dnr.state.oh.us.

If you have questions, or if we can be of further assistance in this matter, please contact our office at (614) 416-8993 or <u>ohio@fws.gov</u>.

Sincerely,



Patrice Ashfield Field Office Supervisor

cc: Nathan Reardon, ODNR-DOW Kate Parsons, ODNR-DOW

Ohio Department of Natural Resources



MIKE DEWINE, GOVERNOR

MARY MERTZ, DIRECTOR

Office of Real Estate John Kessler, Chief 2045 Morse Road – Bldg. E-2 Columbus, OH 43229 Phone: (614) 265-6621 Fax: (614) 267-4764

May 6, 2021

Ben Otto 2 Crowne Point Court Suite 100 Cincinnati, Ohio 45241

Re: 21-0342; AEP Arboles Station and Associated Transmission Lines Project

Project: The proposed project includes the construction of five 138 kilovolt (kV) transmission lines, the removal of approximately 0.8-mile of existing 100-foot 138 kV transmission line right-of-way (ROW,) rebuilding approximately 0.4- mile of existing 100-foot 138 kV line ROW, and the construction of the Arboles substation.

Location: The proposed project is located in Scioto Township, Pike County Ohio.

The Ohio Department of Natural Resources (ODNR) has completed a review of the above referenced project. These comments were generated by an inter-disciplinary review within the Department. These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the National Environmental Policy Act, the Coastal Zone Management Act, Ohio Revised Code and other applicable laws and regulations. These comments are also based on ODNR's experience as the state natural resource management agency and do not supersede or replace the regulatory authority of any local, state or federal agency nor relieve the applicant of the obligation to comply with any local, state or federal laws or regulations.

Natural Heritage Database: The Natural Heritage Database has no records at or within a onemile radius of the project area.

A review of the Ohio Natural Heritage Database indicates there are no other records of state endangered or threatened plants or animals within the project area. There are also no records of state potentially threatened plants, special interest or species of concern animals, or any federally listed species. In addition, we are unaware of any unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, state nature preserves, state or national parks, state or national forests, national wildlife refuges, or other protected natural areas within the project area. The review was performed on the project area you specified in your request as well as an additional one-mile radius. Records searched date from 1980.

Please note that Ohio has not been completely surveyed and we rely on receiving information from many sources. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Although all types of plant communities have been surveyed, we only maintain records on the highest quality areas.

Fish and Wildlife: The Division of Wildlife (DOW) has the following comments.

The DOW recommends that impacts to streams, wetlands and other water resources be avoided and minimized to the fullest extent possible, and that best management practices be utilized to minimize erosion and sedimentation.

The entire state of Ohio is within the range of the Indiana bat (Myotis sodalis), a state endangered and federally endangered species, the northern long-eared bat (Myotis septentrionalis), a state endangered and federally threatened species, the little brown bat (Myotis lucifugus), a state endangered species, and the tricolored bat (Perimyotis subflavus), a state endangered species. During the spring and summer (April 1 through September 30), these species of bats predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. However, these species are also dependent on the forest structure surrounding roost trees. If trees are present within the project area, and trees must be cut, the DOW recommends cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with $DBH \ge 20$ if possible. If trees are present within the project area, and trees must be cut during the summer months, the DOW recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. Mist net and acoustic surveys should be conducted in accordance with the most recent version of the "OHIO DIVISION OF WILDLIFE GUIDANCE FOR BAT SURVEYS AND TREE CLEARING". https://ohiodnr.gov/static/documents/wildlife/wildlifemanagement/Bat+Survey+Guidelines.pdf

If state listed bats are documented, DOW recommends cutting only occur from October 1 through March 31, however, limited summer tree cutting may be acceptable after consultation with DOW (contact Sarah Stankavich, <u>sarah.stankavich@dnr.state.oh</u>.

The DOW also recommends that a desktop habitat assessment, followed by a field assessment if needed, is conducted to determine if there are potential hibernaculum(a) present within the project area. Information about how to conduct habitat assessments can be found in the current USFWS *"Range-wide Indiana Bat Survey Guidelines."* If a habitat assessment finds that potential hibernacula are present within 0.25 miles of the project area, please send this information to Sarah Stankavich, <u>sarah.stankavich@dnr.state.oh.us</u> for project recommendations. If a potential or known hibernaculum is found, the DOW recommends a 0.25-mile tree cutting and subsurface disturbance buffer around the hibernaculum entrance, however, limited summer or winter tree cutting may be acceptable after consultation with DOW. If no tree cutting or subsurface impacts to a hibernaculum are proposed, this project is not likely to impact these species. The project is within the range of the following listed mussel species:

<u>Federally Endangered</u> clubshell (*Pleurobema clava*) Northern riffleshell (*Epioblasma torulosa rangiana*) rayed bean (*Villosa fabalis*)

<u>State Endangered</u> Ohio pigtoe (*Pleurobema cordatum*) washboard (*Megalonaias nervosa*) yellow sandshell (*Lampsilis teres*)

<u>State Threatened</u> black sandshell (*Ligumia recta*) fawnsfoot (*Truncilla donaciformis*) threehorn wartyback (*Obliquaria reflexa*) Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact these species.

The project is within the range of the following listed fish species:

<u>State Endangered</u> bigeye shiner (*Notropis boops*) goldeye (*Hiodon alosoides*), popeye shiner (*Notropis ariommus*), shoal chub (*Macrhybopsis hyostoma*), shortnose gar (*Lepisosteus platostomus*), shovelnose sturgeon (Scaphirhynchus platorynchus),

<u>State Threatened</u> blue sucker (*Cycleptus elongatus*), channel darter (*Percina copelandi*), paddlefish (*Polyodon spathula*) river darter (*Percina shumardi*), Tippecanoe darter (*Etheostoma tippecanoe*)

The DOW recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact these or other aquatic species.

The project is within the range of the timber rattlesnake (*Crotalus horridus*), a state endangered species, and a federal species of concern. The timber rattlesnake is a woodland species. In addition to using wooded areas, the timber rattlesnake also utilizes sunlit gaps in the canopy for basking and deep rock crevices known as den sites for overwintering. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the eastern spadefoot toad (*Scaphiopus holbrookii*), a state endangered species. This species is found in areas of sandy soils that are associated with river valleys. Breeding habitats may include flooded agricultural fields or other water holding depressions. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the midland mud salamander (*Pseudotriton montanus diastictus*), a state threatened species. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

Due to the potential of impacts to federally listed species, as well as to state listed species, we recommend that this project be coordinated with the U.S. Fish & Wildlife Service.

Water Resources: The Division of Water Resources has the following comment.

The local floodplain administrator should be contacted concerning the possible need for any floodplain permits or approvals for this project. Your local floodplain administrator contact information can be found at the website below.

http://water.ohiodnr.gov/portals/soilwater/pdf/floodplain/Floodplain%20Manager%20Community %20Contact%20List_8_16.pdf

ODNR appreciates the opportunity to provide these comments. Please contact Sarah Tebbe, Environmental Specialist, at (614) 265-6397 or <u>Sarah.Tebbe@dnr.state.oh.us</u> if you have questions about these comments or need additional information.

Mike Pettegrew Environmental Services Administrator (Acting)

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

12/13/2021 2:13:51 PM

in

Case No(s). 21-1084-EL-BLN

Summary: Notice Letter of Notification Part 2 electronically filed by Hector Garcia-Santana on behalf of AEP Ohio Transmission Company, Inc.