

AJ SAMPLED REACH

Check ALL that apply

METHOD

- ☐ BOAT
☐ WADE
☐ L. LINE
☐ OTHER
- DISTANCE**
- ☐ 0.5 Km
☐ 0.2 Km
☐ 0.15 Km
☐ 0.12 Km
☐ OTHER

STAGE

- 1st --sample pass-- 2nd
- ☐ HIGH
☐ UP
☐ NORMAL
☐ LOW
☐ DRY

CLARITY

- 1st --sample pass-- 2nd
- ☐ < 20 cm
☐ 20-<40 cm
☐ 40-70 cm
☐ > 70 cm/CTB
☐ SECCHI DEPTH

meters

CANOPY

- ☐ > 85%- OPEN
☐ 55%-<85%
☐ 30%-<55%
☐ 10%-<30%
☐ <10%- CLOSED

CJ RECREATION

POOL: ☐ >100ft² ☐ >3ft

Stream Drawing:

Comment RE: Reach consistency/Is reach typical of stream?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.

Forested channel Between two crop areas

DJ MAINTENANCE	EJ ISSUES	FJ MEASUREMENTS
PUBLIC / PRIVATE / BOTH / NA ACTIVE / HISTORIC / BOTH / NA YOUNG-SUCCESSION-OLD SPRAY / SNAG / REMOVED MODIFIED / DIPPED OUT / NA LEVEED / ONE SIDED RELOCATED / CUTOFFS MOVING-BEDLOAD-STABLE ARMoured / SLUMPS ISLANDS / SCoured IMPOUNDED / DESICCATED FLOOD CONTROL / DRAINAGE	WWTP / CSO / NPDES / INDUSTRY HARDENED / URBAN / DIRT&GRIME CONTAMINATED / LANDFILL BMPs-CONSTRUCTION-SEDIMENT LOGGING / IRRIGATION / COOLING BANK / EROSION / SURFACE FALSE BANK / MANURE / LAGOON WASH H ₂ O / TILE / H ₂ O TABLE ACID / MINE / QUARRY / FLOW NATURAL / WETLAND / STAGNANT PARK / GOLF / LAWN / HOME ATMOSPHERE / DATA PAUCITY	\bar{x} width \bar{x} depth max. depth \bar{x} bankfull width bankfull \bar{x} depth W/D ratio bankfull max. depth floodprone \bar{x}^2 width entrench. ratio Legacy Tree:

crop

Forested

Flow

Forested

crop



Primary Headwater Habitat Evaluation Form

57

HHEI Score (sum of metrics 1, 2, 3) :

SITE NAME/LOCATION **Scioto Ridge Wind Farm Amendment Data**SITE NUMBER **SOH-AD06**

RIVER BASIN

DRAINAGE AREA (mi²)**11.20**

LENGTH OF STREAM REACH (ft)

428

LAT.

40.56166

LONG.

-83.77560

RIVER CODE

RIVER MILE

DATE **07/31/14**

SCORER

BJS

COMMENTS

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 RECOVERY

1. **SUBSTRATE** (Estimate percent of every type of substrate 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.

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [16 pts]	<input type="text" value="0%"/>	<input checked="" type="checkbox"/> SILT [3 pt]	<input type="text" value="80%"/>
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	<input type="text" value="0%"/>	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<input type="text" value="0%"/>
<input type="checkbox"/> BEDROCK [16 pt]	<input type="text" value="0%"/>	<input type="checkbox"/> FINE DETRITUS [3 pts]	<input type="text" value="0%"/>
<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<input type="text" value="0%"/>	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	<input type="text" value="0%"/>
<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<input type="text" value="5%"/>	<input type="checkbox"/> MUCK [0 pts]	<input type="text" value="0%"/>
<input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]	<input type="text" value="15%"/>	<input type="checkbox"/> ARTIFICIAL [3 pts]	<input type="text" value="0%"/>

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock **0.00%**

(A)

Substrate Percentage Check **100%**

(B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:

9

TOTAL NUMBER OF SUBSTRATE TYPES:

3**HHEI Metric Points**

Substrate Max = 40

12

A + B

2. **Maximum Pool Depth** (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check **ONLY** one box):

<input type="checkbox"/> > 30 centimeters [20 pts]	<input type="checkbox"/> > 5 cm - 10 cm [15 pts]
<input checked="" type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input type="checkbox"/> < 5 cm [5 pts]
<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

Pool Depth Max = 30

30

COMMENTS

MAXIMUM POOL DEPTH (centimeters):

25

3. **BANK FULL WIDTH** (Measured as the average of 3-4 measurements) (Check **ONLY** one box):

<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input checked="" type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]
<input type="checkbox"/> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	

Bankfull Width Max=30

15

COMMENTS

AVERAGE BANKFULL WIDTH (meters):

2.00

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY

☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH

L	R	(Per Bank)
<input type="checkbox"/>	<input type="checkbox"/>	Wide >10m
<input type="checkbox"/>	<input type="checkbox"/>	Moderate 5-10m
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Narrow <5m
<input type="checkbox"/>	<input type="checkbox"/>	None

FLOODPLAIN QUALITY

L	R	(Most Predominant per Bank)
<input type="checkbox"/>	<input type="checkbox"/>	Mature Forest, Wetland
<input type="checkbox"/>	<input type="checkbox"/>	Immature Forest, Shrub or Old Field
<input type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field
<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture

L	R	
<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

COMMENTS

FLOW REGIME (At Time of Evaluation) (Check **ONLY** one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (Intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (Interstitial)	<input type="checkbox"/> Dry channel, no water (Ephemeral)

COMMENTS

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check **ONLY** one box):

<input checked="" type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >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)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? ☒ Yes ☐ No QHEI Score 29.0 (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USE(S)

<input type="checkbox"/> WWH Name:		Distance from Evaluated Stream	
<input type="checkbox"/> CWH Name:		Distance from Evaluated Stream	
<input type="checkbox"/> EWH Name:		Distance from Evaluated Stream	

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: Roundhead NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Hardin Township / City: McDonald Township

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 07/27/14 Quantity: 1.08
Photograph Information: Three Photos taken from Cross Section from Flag 1, Looking from Flag 1 to Flag 2, and reversed
Elevated Turbidity? (Y/N): Y Canopy (% open): 100%
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) Y If not, please explain:

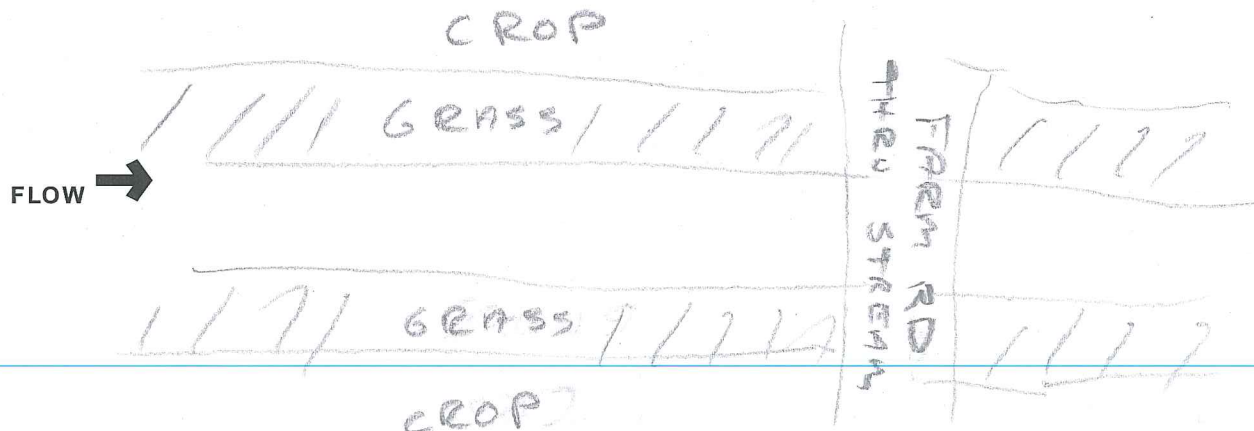
Additional comments/description of pollution impacts:

BIOTIC EVALUATION

Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N
Comments 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



This foregoing document was electronically filed with the Public Utilities

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in

Case No(s). 14-1557-EL-BGA

Summary: Application to Amend -- Exhibit D (Part 30 of 31) electronically filed by Mrs. Gretchen L. Petrucci on behalf of Hardin Wind LLC