Ards 20121212 533

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DATE /2//2	16 SCORER AJK	LAT. 38.981018 L	ONG <u>83,367256</u> RIV	DRAINAGE AREA (m²) 'ER CODE RIVER MILE Ohio's PHWH Streams" for Inst	<u></u>
STREAM CHE	4 1/ 1		RECOVERED TREC	OVERING RECENT OR NO REC	OVERY
(Max o	f 40). Add total number of signifi DR SLABS [16 pts] ULDER (>256 mm) [16 pts] DROCK [16 pt]	icant substrate types four PERCENT TYPE O O O O O O	Id (Max of 8). Final metric SILT [3 pt] LEAF PACKWOODY FINE DETRITUS [3] CLAY OF HARDPAN MUCK [0 pts] ARTIFICIAL [3 pts]	DEBRIS [3 pts]	HHEI Metric Points Substrate Max = 40
evaluat > 30 cer > 22.5	ion. Avoid plunge pools from rootimeters [26 pts] -30 cm [30 pts] 2.5 cm [25 pts]	ad culverts or storm wate	r pipes) (Check ONLY] > 5 cm - 10 cm [15]] < 5 cm [5 pts] NO WATER OR MC	e) evaluation reach at the time of one box): pts] NIST CHANNEL (0 pts] DOL DEPTH (centimeters):	Pool Depth Max = 30
> 4.0 ms	FULL WIDTH (Measured as the ters (> 13') (30 pts) - 4.0 m (> 9' 7" - 13') (25 pts) - 3.0 m (> 4' 8" - 9' 7") (20 pts) ENTS		3 > 1.0 m - 1.5 m (> 3' 5 1.0 m (s 3' 3") [5 p	k ONLY one box): 3" - 4'8") (15 pts) 46) ANKFULL WIDTH (meters)	Bankfull Width Max=30
	RIPARIÁN ZONE AND FLOOD RIPARIAN WIDTH (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS	FLOODPLAIN QUALITY FLOODPLAIN QUA L R (Most Pre Mature Fo Immature Field	dominant per Bank) brest, Wetland Forest, Shrub or Old al, Park, New Field	Right (R) as looking downstream &	
<u> </u>	FLOW REGIME (At Time of Existeram Flowing Subsurface flow with isolated po		Moist Chann	el, isolated pools, no flow (Intermittent) no water (Ephemeral))

ADDITIONAL STREAM INFORMATION (This Information Must Also	be Completed);
QHEI PERFORMED? - TYES NO QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
JWWH Name: Scioto Brush Creek JCWH Name:	Distance from Evaluated Stream
D CWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE EN	NTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
SGS Quadrangle Name: Peebles	NRCS Soil Map Page: NRCS Soil Map Stream Order
λ.).	ship/City. Peeble5
MISCELLANEOUS	snip / city:
7.0	7/17/16
lase Flow Conditions? (Y/N): Date of last precipitation:	Quantity: 0.00
Photograph Information:	1/6
Canopy (% open):	
Nere samples collected for water chemistry? (Y/N): (Note lab	b sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (µmhos/cm)
s the sampling reach representative of the stream (Y/N)	, please explain:
Additional comments/description of pollution impacts:	
ID number. Include appropriate field dat	er collections optional. NOTE: all voucher samples must be labeled with the site ita sheets from the Primary Headwater Habitat Assessment Manual) Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
	* **
	A CONTRACTOR OF THE STATE OF TH
DRAWING AND NARRATIVE DESCRIPTION	N OF STREAM REACH (This <u>must</u> be completed):
include important landmarks and other features of interest fo	or site evaluation and a narrative description of the stream's location
	Hedge Row
8	
• •	3
FLOW T	> flow/slope
10 F - TS	· Comment of the comm
	Hay field
./ /.	
the state of the s	the state of the s

BJKB20161425\$1 (a)

Chief Primary Headwater Habitat Evaluation Form

Was Dd Comes 120by Transmission Line Design	
SITE NUMBER Stream 20 RIVER BASIN OHO RIVER DRAINAGE AREA (mi²)	0.5m12
LENGTH OF STREAM REACH (#) LOO LAT 38.785675 LONG 33.3575 ZIRIVER CODE RIVER MILE	Pir
DATE 12/16 SCORER BOTKLB COMMENTS CLEARED ROW	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instr	uctions
,	
STREAM CHANNEL	VERY
MODIFICATIONS:	
1. SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes	
(Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. TYPE PERCENT PERCENT	HHEI Metric
BLDR SLABS [16 pts] SILT [3 pt]	Points
BOULDER (>256 mm) [16 pts]	Substrate
COBBLE (65-256 mm) [12 pts]	Max = 40
GRAVEL (2-64 mm) [9 pts]	31
SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts]	
Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	A + B
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES:	
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of	Pool Depth
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] □ > 22.5 - 30 cm [30 pts] □ < 5 cm [5 pts]	25
> 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts]	
COMMENTS KAIN VESTERING (12/11/10) MAXIMUM POOL DEPTH (centimeters):	
3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):	Bankfull
> 4.0 m eters (> 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]	Width Max=30
>1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	201
COMMENTS WICH VOILES AVERAGE BANKFULL WIDTH (meters)	20
This information must also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY かNOTE: River Left (L) and Right (R) as looking downstreamか RIPARIAN WIDTH FLOODPLAIN QUALITY	
L R (Per Bank) L R (Most Predominant per Bank) L R	
(I H(1) M	
Open Pasture Row	
Narrow <5m Residential, Park, New Field Crop	
None COMMENTS Maintained R.O.W. Mining or Construction	
DEPIN PIA	
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) COMMENTS Dry channel, no water (Ephemeral)	
u) = 10'	
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None	
STREAM GRADIENT ESTIMATE Flat (0.5 m/100 m)	no 64
☐ Flat (0 5 11/100 ft) ☐ Flat to Moderate ☐ Moderate (2 11/100 ft) ☐ Moderate to Severe ☐ Severe (10 11/11)	υ <i>κ)</i>

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):	
QHEI PERFORMED? - Yes X No QHEI Score(If Yes, Attach (Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: SOLD ON Sh Creek I	Distance from Evaluated Stream 29.8 mi
	Distance from Evaluated Stream
☐ EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AR	
USGS Quadrangle Name: A B B B NRCS Soil Map Page	e: NRCS Soil Map Stream Order
County: ADAMS Township (City) LOCI	1st Grove
MISCELLANEOUS	7 - 1 1/
Base Flow Conditions? (Y/N): Date of last precipitation:AST_NIGHT	Quantity:
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open): 99.0	
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and	attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (SU)	Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) 1 If not, please explain:	eared R.O.W.
Additional comments/description of pollution impacts: NA	
Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. N ID number. Include appropriate field data sheets from the Primar	
Fish Observed? (Y/N) Voucher (Y/N) Salamanders Observed? (Y/N) Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Comments Regarding Biology	Voucher? (Y/N) Voucher? (Y/N)
	0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-
DRAWING AND NARRATIVE DESCRIPTION OF STREAM RE	
Include Important landmarks and other features of Interest for site evaluation and a	a narrative description of the stream's location
160' ROW >	
# # 1	77
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FLOW FLOW	\$
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Sould for HOLD ANG WIDTH FLOW 3	
ANG WIDTH FLOW 3	
30	CR 73

BJKB201612125\$1 (6)

	Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):
	Ware Rd - Seaman 138kV Transmission Line Project SITE NUMBER Stream 20 RIVER BASIN OHO PLUED DRAINAGE AREA (mi²) 45.511. LENGTH OF STREAM REACH (ft) 200 LAT 28.987270 ON 33.354153RIVER CODE RIVER MILE DATE 12/11/6 SCORER BCT/KLB COMMENTS CUT INTO QUESTAPPOLING PLODE COSSINOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions of SE STREAM CHANNEL ON NOTE: COMMENTED 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 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. TYPE TYPE BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts] BEDROCK [16 pt] COBBLE (65-256 mm) [12 pts] GRAVEL (2-64 mm) [9 pts] SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts]
	Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 95 (A) 28 SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES: 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): > 30 centimeters [20 pts]
	> 4.0 meters (> 13') [30 pts]
HWM W-10 D-1	This Information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ANOTE: River Left (L) and Right (R) as looking downstream RIPARIAN WIDTH RIPARIAN WIDTH RIPARIAN WIDTH FLOODPLAIN QUALITY L R (Most Predominant per Bank) Wide > 10m Mature Forest, Wetland Moderate 5-10m Moderate 5-10m Residential, Park, New Field Open Pasture, Row Crop Mining or Construction
W-20 D-2	FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing. Subsurface flow with isolated pools (Interstitial) 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 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0
	STREAM GRADIENT ESTIMATE Flat (0 5 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? - Tyes No QHEI Score(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Distance from Evaluated Stream Distance from Evaluated Stream Distance from Evaluated Stream Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name NRCS Soil Map Page: NRCS Soil Map Stream Order
County: ADAMS Township (Ofty:) LOCUST GROVE
MISCELLANEOUS Base Flow Conditions? (Y/N): Date of last precipitation: 12/11/16 Quantity: 4" Photograph Information:
Elevated Turbidity? (Y/N): Canopy (% open): 50 %
Were samples collected for water chemistry? (Y/N): 1 (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) This not, please explain: MAINTAINED (20. W.
Additional comments/description of pollution impacts:
Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the s ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) Comments Regarding Biology:
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 FORESTED FLOW F
FORESTED BEDROCK CUI - ONGRAPANT

BJKB201612125\$1 (c)

Chiefp Primary Headwater Habitat Evaluation Form

	HHEI Score (su	ım of metrics 1, 2, 3):
LENGTH OF STREAM REACH (N) 125 L DATE 1211 SCORER PCT NOTE: Complete All Items On This Form	- Refer to "Field Evaluation Manual for Oh	DRAINAGE AREA (mi²) DRAINAGE AREA (mi²) S mile RIVER MILE hio's PHWH Streams" for Instructions
SUBSTRATE (Estimate percent of every (Max of 40) Add total number of significant contents.)	y type of substrate present. Check ONLY two present substrate types found (Max of 8). Final metric scarce of the substrate types found (Max of 8). Final metric scarce of the substrate types found (Max of 8). Final metric scarce of the substrate	PERCENT BRIS [3 pts] Substrate Max = 40
evaluation. Avoid plunge pools from road or 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts] COMMENTS BANK FULL WIDTH (Measured as the at > 4.0 meters (> 13') [30 pts]	verage of 3-4 measurements) (Check 0 > 1.0 m - 1.5 m (> 3' 3"-	Max = 30 CHANNEL [0 pts] L DEPTH (centimeters): WLY one box): 4'8") [15 pts] Bankfull Width
> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS I YOU'S CHOOL	☐ ≤ 1.0 m (≤ 3' 3') [5 pts]	KFULL WIDTH (meters)
RIPARIAN ZONE AND FLOODPL RIPARIAN WIDTH (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None	This information must also be completed. AIN QUALITY ANOTE: River Left (L) and Rig FLOODPLAIN QUALITY L R (Most Predominant per Bank) Mature Forest, Wetland Immature Forest, Shrub or Old Field Residential, Park, New Field Fenced Pasture	L R Conservation Tillage ☐ Urban or Industrial ☐ Open Pasture, Row Crop ☐ Mining or Construction
FLOW REGIME (At Time of Evalu Stream Flowing Subsurface flow with isolated pools COMMENTS	Moist Channel,	isolated pools, no flow (Intermittent) water (Ephemeral)
SINUOSITY (Number of bends per None 0.5 STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft) Flat to Moderate	(Check ONLY one box 1.0	3.0 ->3

ADDITIONAL STREAM INFORMATION (This information Must	Also be Completed):
QHEI PERFORMED? - Tyes No QHEI Score _	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: CWH Name:	Distance from Evaluated Stream Distance from Evaluated Stream Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING TH	E ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: JAUBIED	NRCS Soil Map Page: NRCS Soil Map Stream Order
County: ADAMS T	OWNSHIP (City) LOCUST GROVE
MISCELLANEOUS	20,000
Base Flow Conditions? (Y/N): Date of last precipitation: Photograph Information:	12/11/16 Quantity: 4
Elevated Turbidity? (Y/N): Canopy (% open):	50_
Were samples collected for water chemistry? (Y/N): 1 (Not	
	pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) $\underline{\mathcal{V}}$ If	
Additional comments/description of pollution impacts: DY10	Age & H-wheeler trail
ID number. Include appropriate field	oucher collections optional. NOTE: all voucher samples must be labeled with the site d data sheets from the Primary Headwater Habitat Assessment Manual) ers Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
Include Important landmarks and other features of Intere	est for site evaluation and a narrative description of the stream's location

Chief PA Primary Headwater Habitat Evaluation Form

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

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>

SITE NUMBER STEAM 21 RIVER BASIN GHO RIVER DRAINAGE AREA (mi²) 4 LENGTH OF STREAM REACH (ft) 100 LAT 38,9845 LONG 335587 RIVER CODE RIVER MILE TO DATE 12/12/16 SCORER BCJ/KUB COMMENTS DRY VEGETATED STREAM CHANA	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instru STREAM CHANNEL	
1. SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE DETAIL TYPE PERCENT PERCENT PERCENT PERCENT BULD SLABS [16 pts] SILT [3 pt] BOULDER (>256 mm) [16 pts] LEAF PACKWOODY DEBRIS [3 pts] BEDROCK [16 pt] FINE DETRITUS [3 pts] COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt] GRAVEL (2-64 mm) [9 pts] MUCK [0 pts] SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 10 SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:	HHEI Metric Points Substrate Max = 40 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): > 30 centimeters [20 pts]	Pool Depth Max = 30 Bankfull Width Max=30
This Information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ANOTE: River Left (L) and Right (R) as looking downstream (RIPARIAN WIDTH FLOODPLAIN QUALITY RIPARIAN WIDTH FLOODPLAIN QUALITY Wide >10m	
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)

	If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	2 0 0 m
WWH Name: 2010 Brush Creek	
J CWH Name:	Distance from Evaluated Stream Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE <u>ENTIRE</u> WA	ATERSHED AREA. CLEARLY MARK THE SITE LOCATION
ISGS Quadrangle Name: NRCS	Soil Map Page: NRCS Soil Map Stream Order
county: Township/Cit	D LOCUST GROVE
MISCELLANEOUS	
Base Flow Conditions? (Y/N): 1 Date of last precipitation: 12/11	110 Quantity: \$14"
Photograph Information: DØ3	
Elevated Turbidity? (Y/N): Canopy (% open): _90	
	The second secon
Vere samples collected for water chemistry? (Y/N): (Note lab sample	
ield Measures: Temp (°C) Dissolved Oxygen (mg/l) p	
s the sampling reach representative of the stream (Y/N) ${\cal M}$ If not, please ϵ	explain: MAINTAINED ROW
BIOTIC EVALUATION Performed? (Y/N):	ons optional. NOTE: all voucher samples must be labeled with the site
	from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed	1? (Y/N) Voucher? (Y/N)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed Yougher? (Y/N) Voucher? (Y/N) Aquatic Macro	1? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
CORINA RUS HING	1? (Y/N) V Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) VEGLETATION (For
CORINA RUS HING	1? (Y/N) Voucher? (Y/N) oinvertebrates Observed? (Y/N) Voucher? (Y/N) TLY CONCRED W/ VEGETATION (For
CORINA RUS HING	oinvertebrates Observed? (Y/N) Voucher? (Y/N) Vouch
Comments Regarding Biology: STREAM BED MOST	TLY CONDICTED W/ VEGLENATION (FO
DRAWING AND NARRATIVE DESCRIPTION OF S	TREAM REACH (This must be completed):
DRAWING AND NARRATIVE DESCRIPTION OF S Include important landmarks and other features of interest for site ex	TREAM REACH (This must be completed):
DRAWING AND NARRATIVE DESCRIPTION OF S	TREAM REACH (This must be completed):
DRAWING AND NARRATIVE DESCRIPTION OF S Include important landmarks and other features of Interest for site ev	TREAM REACH (This must be completed):
DRAWING AND NARRATIVE DESCRIPTION OF S Include important landmarks and other features of Interest for site even	TREAM REACH (This must be completed): valuation and a narrative description of the stream's location
DRAWING AND NARRATIVE DESCRIPTION OF S Include important landmarks and other features of Interest for site ev	TREAM REACH (This must be completed): valuation and a narrative description of the stream's location
DRAWING AND NARRATIVE DESCRIPTION OF S Include important landmarks and other features of Interest for site ex	TREAM REACH (This must be completed):
DRAWING AND NARRATIVE DESCRIPTION OF S Include important landmarks and other features of Interest for site ex 100 Row-	TREAM REACH (This must be completed): valuation and a narrative description of the stream's location
DRAWING AND NARRATIVE DESCRIPTION OF S Include important landmarks and other features of Interest for site ev	TREAM REACH (This must be completed): valuation and a narrative description of the stream's location
DRAWING AND NARRATIVE DESCRIPTION OF S Include important landmarks and other features of Interest for site events.	TREAM REACH (This must be completed): valuation and a narrative description of the stream's location
DRAWING AND NARRATIVE DESCRIPTION OF S Include important landmarks and other features of Interest for site events.	TREAM REACH (This must be completed): valuation and a narrative description of the stream's location

Primary Headwater Habitat Evaluation Form

	HHEI Score (sum of metrics 1, 2, 3):
DATE 12 12 2010 SCORER BT KB	38kV Transmission Line Project 28 RIVER BASIN OHO PUBL DRAINAGE AREA (mi²) 38.98645 DONG 3.355467 RIVER CODE RIVER MILE COMMENTS Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instru
STREAM CHANNEL NONE / NATURA MODIFICATIONS:	AL CHANNEL TRECOVERED TRECOVERING RECENT OR NO RECO
	SILT [3 pt] LEAF PACKWOODY DEBRIS [3 pts] FINE DETRITUS [3 pts] CLAY or HARDPAN [0 pt] MUCK [0 pts] ARTIFICIAL [3 pts] (A) 25
2. Maximum Pool Depth (Measure the maxim	num pool depth within the 61 meter (200 ft) evaluation reach at the time of verts or storm water pipes) (Check ONLY one box):
3. BANK FULL WIDTH (Measured as the average > 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]	MAXIMUM POOL DEPTH (centimeters):
COMMENTS	AVERAGE BANKFULL WIDTH (meters)
L R (Per Bank) L Wide >10m	LOODPLAIN QUALITY R (Most Predominant per Bank) L R Mature Forest, Wetland
	Field Urban or Industrial Open Pasture, Row Crop Fenced Pasture One Pasture Row Crop Mining or Construction
FLOW REGIME (At Time of Evaluation Stream Flowing Subsurface flow with isolated pools (International Comments)	Moist Channel, isolated pools, no flow (Intermittent)
SINUOSITY (Number of bends per 61 None 0.5 1.	
	- N - N - N - N - N - N - N - N - N - N

ADDITIONAL STRE	AM INFORMATION (This in	formation Must Also be Compl	eted):	
QHEI PER	RFORMED? - Tyes N	o QHEI Score (If Y	es, Attach Completed QHEI Form)	
DOWNSTI	REAM DESIGNATED USE(S) 1 0 (6		AM O AM
WWH Name:	Scruto Tori	ish creek	Distance from Evaluated S	Stream P O M
CWH Name:			Distance from Evaluated S	tream
DEWH Name:			Distance from Evaluated S	tream
MAPPING	: ATTACH COPIES OF MAPS	S, INCLUDING THE ENTIRE WATE	ERSHED AREA. CLEARLY MARK THI	SITE LOCATION
JSGS Quadrangle N	lame: JA4BIR	NRCS Sc	oil Map Page: NRCS Soil Ma	p Stream Order
County:	Adams	Township / City:	LOCUST GRO	SE
MISCELLA	ANEOUS		10.10	
Base Flow Condition	s? (Y/N): Date of	ast precipitation: 12 11 2	016 Quantity 641	
Photograph Informat	ion: <u>P04</u>		W 0 W 10	
Elevated Turbidity? ((Y/N): NA Canop	y (% open): <u>95</u>		
Vere samples collec	cted for water chemistry? (Y/	N): (Note lab sample no	o. or id. and attach results) Lab Numb	er:
ield Measures:	Temp (°C) Dissolve	ed Oxygen (mg/l)pH	(S.U.)Conductivity (µmhos	/cm)
s the sampling read	h representative of the strea	m (Y/N) If not, please exp	lain: The stream,	upstream of
BON)	is in to	vested area		
Additional comments	s/description of pollution imp	acts:		
Performed? (Y/N): _ Fish Observed? (Y/N Frogs or Tadpoles O Comments Regardin	ID number. Inclu N)Voucher? (Y/N)_ bbserved? (Y/N)Voucherg Biology	de appropriate field data sheets fro Salamanders Observed? (her? (Y/N)Aquatic Macroin	s optional. NOTE: all voucher samples m the Primary Headwater Habitat Asset Y/N) Voucher? (Y/N) Vouchers Observed? (Y/N) V	ssment Manual)
	NO WO	Her		
	1			
DRAV	VING AND NARRATI\	/E DESCRIPTION OF STE	REAM REACH (This must be	completed):
Include Impo	rtant landmarks and other	features of interest for site eval	uation and a harrative description of	the stream's location
n.)	74	2.5	1/2	the stream's location
Logar >	1		Lary	fore 3)
LOW -)) BI	DROCK	" Cate you had	
	1		1	
3	V	all Gold	'}	
1	1	old Field 100'ROW	`{	
	1	100'ROW	> \	
/				

BJKB20161212504

	HILL Score (sum of metrics 1, 2, 3) .	
	SITE NAMELOCATION Ware Rd - Seaman 138kV Transmission Line Project	
	SITE NUMBER STREAM 29 RIVER BASIN OHO PLVER DRAINAGE AREA (mi²) LOSM	11 2
	LENGTH OF STREAM REACH (ft) 125 LAT 3988025 LONG 8335241 RIVER CODE RIVER MILE	
	DATE 12/12/16 SCORER BCS COMMENTS LEADS TO SOI	
	NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions	
	STREAM CHANNEL ON NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY	
	MODIFICATIONS: MAINTHINED R.O.W.	
		_
	1. SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B	
	TYPE PERCENT TYPE PERCENT Metric	
	BLDR SLABS [16 pts] O	۱ ا
110	BOULDER (>256 mm) [16 pts]	,
	COBBLE (65-256 mm) [12 pts]	
	□ □ GRAVEL (2-64 mm) [9 pts] □ □ MUCK [0 pts] □ □	0
	SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts]	П
	Total of Percentages of (A) (A) (B) (A + B	٠.
	Bldr Slabs, Boulder, Cobble, Bedrock	- 1
	SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES:	
	2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of	h
	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 [5 pts]	П
- 4	>10 - 22.5 cm [25 pts] S NO WATER OR MOIST CHANNEL [0 pts]	П
	COMMENTS DRY NARROW CHANNEL MAXIMUM POOL DEPTH (centimeters):	
	3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Sankfull Sankfull	-1
	□ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	
	□ >1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	1
	COMMENTSAVERAGE BANKFULL WIDTH (meters)	П
_	This information <u>must</u> also be completed	
MWHO	RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆ RIPARIAN WIDTH FLOODPLAIN QUALITY	
WAR- OF	RIPARIAN WIDTH FLOODPLAIN QUALITY L R (Per Bank) L R (Most Predominant per Bank) L R	
11) to - of	Wide >10m	
V 24 41	Medarate 5 10m Miles Immature Porest, Shribb or Old I Urban or Industrial	
$\mathcal{D} = \emptyset$.	Same Barbara Barbara	
- (Narrow com Pleid Crop	
TOP BA	None COMMENTS ONLY LOWER YZ Mas Y War an Zane DD Mining or Construction	
0 111	FLOW REGIME (At Time of Evaluation) (Check ONLY one box). Stream Flowing	
W-4	Stream Flowing Moist Channel, isolated pools, no flow (Intermittent) Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral)	
7-1	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 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? - Tyes VD No QHEI Score(If Yes, Attach Completed QHEI Form)	
DOWNSTREAM DESIGNATED USE(S) WWH Name: Distance from Evaluated Stream Distance from Evaluated Stream	8 m
Distance from Evaluated Stream	
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION	N
USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order	-
County: ADAMS Township City LOCUST GROVE	
MISCELLANEOUS	
Base Flow Conditions? (Y/N): N Date of last precipitation: 1211116 Quantity: Date of last precipitation:	
Photograph Information: P	_
Elevated Turbidity? (Y/N): Canopy (% open):	
Nere samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number	-
ield Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)	
s the sampling reach representative of the stream (Y/N) If not, please explain: But MAINTAINED R	<u>20W</u>
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled voucher. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)	vith the site
Fish Observed? (Y/N) 1 Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/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 lo	cation
some our	
FLOW \$	
FLOW TO THE STATE OF THE STATE	
3 7 8	
4	
FORESTED	

BJKB20161212605

Primary Headwater Habitat Evaluation Form

Colo

	HHEI Score (sum of metrics 1, 2, 3):
SITE	NAMELOCATION Ware Rd - Seaman 138kV Transmission Line Project
1	SITE NUMBER Stream 30 RIVER BASIN OH 10 RIVER DRAINAGE AREA (mi²) < 9,5 MI
LENG:	TH OF STREAM REACH (ft) 35 LAT. 25 LONG 83 20 RIVER CODE RIVER MILE 12/12/16 SCORER PCT/KUB COMMENTS TRUB TO SCI
NOI	TE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions
	EAM CHANNEL ONONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY
MOE	DIFICATIONS: MAINTAINED ROW
1. <u>TY</u> PI	SUBSTRATE (EstIrnate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. PERCENT TYPE PERCENT Metric
	BLDR SLABS [16 pts] SILT [3 pt] POINTS
	BEDROCK [16 pt] 25 (15) D FINE DETRITUS [3 pts] Substrate
	COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt]
	· · · · · · · · · · · · · · · · · · ·
	Total of Percentages of QC (A) QC (B) 7 A+B
SCOR	Bidr Slabs, Boulder, Cobble, Bedrock
2.	
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): Max = 30
H	> 30 centimeters [20 pts]
	> 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts]
	COMMENTSMAXIMUM POOL DEPTH (centimeters):
3	BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bankfull
	> 4.0 meters (> 13') [30 pts]
	> 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]
	COMMENTSAVERAGE BANKFULL WIDTH (meters)
011(11)	This information <u>must</u> also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY & NOTE: River Left (L) and Right (R) as looking downstream ය
OHWM	RIPARIAN WIDTH FLOODPLAIN QUALITY L R (Per Bank) L R (Most Predominant per Bank) L R
10-10	☐ ☐ Wide >10m ☐ ☐ Mature Forest, Wetland ☐ ☐ Conservation Tillage
	Moderate 5-10m Immature Forest, Shrub or Old Urban or Industrial
D-1	☐ ☐ Narrow <5m ☐ ☐ Residential, Park, New Field ☐ ☐ Open Pasture, Row Crop
TOPBANK	None COMMENTS Spayse
w-6',	FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Subsurface flow with isolated pools (Interstitial) Moist Channel, isolated pools, no flow (Intermittent) Dry channel, no water (Ephemeral)
D-7	COMMENTS
U - L	SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None
□ FI	STREAM GRADIENT ESTIMATE lat (0.5 fl/100 ft)

QHEI PERFORMED? - Yes X No QHEI Score
Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION JUNE 1997 JUNE 1998 JUNE
NRCS Soil Map Page:NRCS Soil Map Stream OrderNRCS Soil Map Stream OrderNRCS Soil Map Page:NRCS Soil Map Page:
MISCELLANEOUS Jase Flow Conditions? (Y/N): Date of last precipitation: Date of last precipitation: Canopy (% open): Detere samples collected for water chemistry? (Y/N): Canopy (% open): Overe samples collected for water chemistry? (Y/N): Were samples collected for water chemistry? (Y/N): Site deasures: Temp (°C) Dissolved Oxygen (mg/N) If not, please explain: Miscellaneous Number: Conductivity (µmhos/cm) If not, please explain: Miscellaneous Number: Site sampling reach representative of the stream (Y/N) If not, please explain: Miscellaneous Number: BIOTIC EVALUATION Performed? (Y/N): ID number: ID number: Salamanders Observed? (Y/N) Voucher? (Y/N)
MISCELLANEOUS Jase Flow Conditions? (Y/N): Date of last precipitation: DITULE Quantity: Discovered Processing
Date of last precipitation:
Canopy (% open):
Canopy (% open): Canopy (% o
Were samples collected for water chemistry? (Y/N):
BIOTIC EVALUATION Orderformed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the sign of Displace of Constant Assessment Manual) Sign Observed? (Y/N): Voucher? (Y/N):
BIOTIC EVALUATION Performed? (Y/N): White the stream (Y/N) Not the stream (Y/N) Not the samples must be labeled with the stream (Y/N) Not the samples must be labeled with the stream (Y/N) Not the samples must be labeled with the stream (Y/N) Not the samples must be labeled with the stream (Y/N) Not the samples must be labeled with the stream (Y/N) Not the samples must be labeled with the stream (Y/N) Not the samples must be labeled with the stream (Y/N) Not the samples must be labeled with the stream (Y/N) Not the samples must be labeled with the stream (Y/N) Not the samples must be labeled with the stream (Y/N) Not the samples must be labeled with the stream (Y/N) Not the samples must be labeled with the samples mu
BIOTIC EVALUATION Performed? (Y/N):
Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) is observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
rish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
Comments Regarding Biology. CFAW FISH
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):
Include important landmarks and other teatures of interest for site evaluation and a narrative description of the stream's location
F 100' ROW
646
303
FLOW
8
18
501

	138kV Transmission Line Project 148kV Transmission Line Project 148kV Transmission Line Project 148kV Transmission Line Project	ER CODE RIVER MILE	
STREAM CHANNEL NONE / NATU	URAL CHANNEL RECOVERED RECO	OVERING TRECENT OR NO RECO	OVERY
(Max of 40). Add total number of significan	y type of substrate present. Check ONLY two pnt substrate types found (Max of 8). Final metric series of the substrate types found (Max of 8). Final metric series of the substrate types found (Max of 8). Final metric series of the substrate types found (Max of 8). Final metric series of the substrate of the sub	score is sum of boxes A & B. PERCENT / O DEBRIS [3 pts] ts]	HHEI Metric Point: Substrat Max = 4
	ximum pool depth within the 61 meter (200 ft) culverts or storm water pipes) (Check ONLY or > 5 cm - 10 cm [15 pi	ne box): ts]	Pool Dep Max = 3
3. BANK FULL WIDTH (Measured as the a > 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] COMMENTS_	☐ > 1.0 m - 1.5 m (> 3'3") ☐ ≤ 1.0 m (≤ 3'3") [5 pot		Bankful Width Max=30
RIPARIAN ZONE AND FLOODPL RIPARIAN WIDTH (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS	This Information must also be completed. AIN QUALITY &NOTE: River Left (L) and F FLOODPLAIN QUALITY L R (Most Predominant per Bank) Mature Forest, Wetland Immature Forest, Shrub or Old Field Residential, Park, New Field Fenced Pasture	Right (R) as looking downstream & L R	
FLOW REGIME (At Time of Evaluation Stream Flowing Subsurface flow with isolated pools COMMENTS	Moist Channe	el, isolated pools, no flow (Intermittent) no water (Ephemeral)	

☐ Moderate to Severe

Severe (10 ft/100 ft)

☐ Moderate (2 ft/100 ft)

☐ Flat (0 5 ft/100 ft)

STREAM GRADIENT ESTIMATE
t (0 5 ft/100 ft)
Flat to Moderate

OHWM W:7 d=1

OHELDERECRIMENT - I I VAC XI NA OHELSONA	(If Yes, Attach Completed QHEI Form)
	(II 165, Attach Completed at LET only
DOWNSTREAM DESIGNATED USE(S) J.WWH Name:	Distance from Evaluated Stream 4 9800
CWH Name:	Distance from Evaluated Stream
DEWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIR	DE WATERCHER AREA OF EARLY MARK THE CITE FOCATION
and the same of th	
	IRCS Soil Map Page: NRCS Soil Map Stream Order
ounty: Adams Township	of city) LOCUST GROVE
MISCELLANEOUS	4.111
sase Flow Conditions? (Y/N): N Date of last precipitation: 12	2016 Quantity: P.F.
Photograph Information: PIO	
levated Turbidity? (Y/N): N Canopy (% open): 98 %	20
Vere samples collected for water chemistry? (Y/N): (Note lab sa	
ield Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (µmhos/cm)
the sampling reach representative of the stream (Y/N)_N If not, ple	ease explain: Rest of stream is in 2nd
	er riporiar corridor
ADJUST ADJUST MI 1000	ici Tiposton i cottini
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	allesting and and INOTE; all souther appeals a must be labeled with the city
Performed? (Y/N): (If Yes, Record all observations. Voucher of ID number. Include appropriate field data sizes to be served? (Y/N) Voucher? (Y/N) Salamanders Observeds or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Comments Regarding Biology:	heets from the Primary Headwater Habitat Assessment Manual) erved? (Y/N) Voucher? (Y/N)
Cerformed? (Y/N): (If Yes, Record all observations. Voucher of ID number. Include appropriate field data states of ID number. Include important landmarks and other features of Interest for states.	heets from the Primary Headwater Habitat Assessment Manual) erved? (Y/N) Voucher? (Y/N)
Cerformed? (Y/N): (If Yes, Record all observations. Voucher of ID number. Include appropriate field data states of ID number. Include important landmarks and other features of Interest for states.	heets from the Primary Headwater Habitat Assessment Manual) erved? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) OF STREAM REACH (This must be completed): site evaluation and a narrative description of the stream's location
Performed? (Y/N): Y (If Yes, Record all observations. Voucher of ID number. Include appropriate field data states of ID number. Include important landmarks and other features of Interest for states.	heets from the Primary Headwater Habitat Assessment Manual) erved? (Y/N) Voucher? (Y/N)
erformed? (Y/N): Y (If Yes, Record all observations. Voucher of ID number. Include appropriate field data slish Observed? (Y/N) Voucher? (Y/N) Salamanders Observeds or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic I comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION Conclude important landmarks and other features of Interest for standard in the standard interest for standard inte	heets from the Primary Headwater Habitat Assessment Manual) erved? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) OF STREAM REACH (This must be completed): lite evaluation and a narrative description of the stream's location V
erformed? (Y/N): Y (If Yes, Record all observations. Voucher of ID number. Include appropriate field data stocks of the property of the proper	heets from the Primary Headwater Habitat Assessment Manual) erved? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) OF STREAM REACH (This must be completed): lite evaluation and a narrative description of the stream's location V

Primary Headwater Habitat Evaluation Form

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	Hr	IEI Score (sum of	metrics 1, 2, 3) :	
SITE NAME/LOCATION Ware Rd - Seaman)
	neam 32 RIVER BASIN_			
LENGTH OF STREAM REACH (ft) 200				_
DATE 12/14/16 SCORER MOV, TE	COMMENTS disturb	ance win mainte	ashed ROW	
NOTE: Complete All Items On This Form	- Refer to "Field Evaluation	n Manual for Ohio's l	PHWH Streams" for Instr	uctions
STREAM CHANNEL NONE / NAT MODIFICATIONS:	URAL CHANNEL	ERED RECOVERING	RECENT OR NO RECO	OVERY
SUBSTRATE (Estimate percent of ever (Max of 40). Add total number of significa				HHEI
TYPE PI	RCENT TYPE		PERCENT	Metric Points
☐ ☐ BLDR SLABS [16 pts] ☐ ☐ BOULDER (>256 mm) [16 pts]		[3 pt] PACK/WOODY DEBRIS	[3 pts]	Politis
□ □ BEDROCK [16 pt]		DETRITUS [3 pts]		Substrate Max = 40
OBBLE (65-256 mm) [12 pts]	4-	or HARDPAN [0 pt]		Wax = 40
☐ GRAVEL (2-64 mm) [9 pts] ☐ SAND (<2 mm) [6 pts]	0	K [0 pts] FICIAL [3 pts]		19
		LIONE [3 bra]	(0)	
Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock	20 (A) 15		(B) 4	A+B
SCORE OF TWO MOST PREDOMINATE SUBS	TRATE TYPES:	TOTAL NUMBER OF SU	BSTRATE TYPES:	
2. Maximum Pool Depth (Measure the ma				Pool Dept
evaluation. Avoid plunge pools from road > 30 centimeters [20 pts]		(Check ONLY one box): cm - 10 cm [15 pts]		Max = 30
> 22.5 - 30 cm [30 pts]	☑ <5	cm [5 pts]		5
> 10 - 22.5 cm [25 pts]	□ NO	WATER OR MOIST CHA	NNEL [0 pts] 3	
COMMENTS		MAXIMUM POOL DEP		
3. BANK FULL WIDTH (Measured as the				Bankfull
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]		0 m - 1.5 m (> 3' 3" - 4' 8") 0 m (≤ 3' 3") [5 pts]	[15 pts]	Width Max=30
> 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]		(1/	
COMMENTS		AVERAGE BANKFULI	- WIDTH (meters)	20
		7.		
	This information <u>must</u> al			
RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH	LAIN QUALITY ₩NOTE: R FLOODPLAIN QUALITY	iver Left (L) and Right (R)	as looking downstream&	
L R (Per Bank)	L R (Most Predominant	per Bank) L F	_	
☑ ☑ Wide >10m	Mature Forest, We	the ib as Old	Conservation Tillage	
☐ ☐ Moderate 5-10m	Immature Forest, S Field	suran or Ora		
☑ ✓ Narrow <5m	Residential, Park, I	New Field	Open Pasture, Row Crop	
□ □ None COMMENTS	Fenced Pasture		-	e di
FLOW REGIME (At Time of Eval	uation) (Check ONLY one box)		ed pools, no flow (Intermittent)	
Subsurface flow with isolated pool COMMENTS	s (Interstitial)	Dry channel, no wate	r (Ephemeral)	
SINUOSITY (Number of bends p	er 61 m (200 ft) of channel) (C	neck ONLY one box):	-	
None □ 0.5	1.0 1.5	2.0 2.5	3.0 >3	
	1.5	2. 3		
STREAM GRADIENT ESTIMATE	Moderate (2 #/400 #)	Moderate to Severe	Severe (10 8/4)	nn #1
Flat (0 5 ft/100 ft) Flat to Moderate	Moderate (2 ft/100 ft)	Moderate to Severe	☐ Severe (10 ft/10	00 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Co	ompleted):
QHEI PERFORMED? - Tyes Yoo QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
J WWH Name: Schoto Brush Cicex	
CWH Name:	Distance from Evaluated Stream
D EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE W	
JSGS Quadrangle Name: Jaybird NRCS	
County: Adams Township/C	sity. Locust Grove
MISCELLANEOUS	7
Base Flow Conditions? (Y/N): Y Date of last precipitation: 12 11	Quantity: 0 4
Photograph Information: 25 - Upstram, 26 - downst	man
Elevated Turbidity? (Y/N): N Canopy (% open): 80	
Nere samples collected for water chemistry? (Y/N): _/ (Note lab samples	le no. or id. and attach results) Lab Number: NA
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (µmhos/cm)
s the sampling reach representative of the stream (Y/N)_\(\frac{Y}{2}\) If not, please	explain:
BIOTIC EVALUATION	
	ctions optional. NOTE: all voucher samples must be labeled with the sites from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observe Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Mac	ed? (Y/N) Voucher? (Y/N) proinvertebrates Observed? (Y/N) Voucher? (Y/N)
Comments Regarding Biology: None observed	
DRAWING AND NARRATIVE DESCRIPTION OF S	STREAM REACH (This must be completed):
Include important landmarks and other features of interest for site e	
) //	11
5	
5	,
FLOW 7 (26) 5	
///	(13)
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30// 30//	
(c)	2 10 2
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-	7/	- 11
1	46	- 11

SITE NAME/LOCATION Ware Rd - Seaman 138kV T	ransmission Line Project 33 RIVER BASIN Subto DRAINAGE AREA (mi²) LOIM. L
	998434 LONG83.330683 RIVER CODE RIVER MILE
	DMMENTS disturbance win maintained Row
NOTE: Complete All Items On This Form - Refer to	to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions
STREAM CHANNEL NONE / NATURAL CHANDOIFICATIONS:	ANNEL PRECOVERED RECOVERING PRECENT OR NO RECOVERY
(Max of 40). Add total number of significant substrat	substrate present. Check ONLY two predominant substrate TYPE boxes te types found (Max of 8). Final metric score is sum of boxes A & B. TYPE PERCENT Metric
TYPE BLDR SLABS [16 pts] PERCENT	SILT [3 pt] Points
☐ ☐ BOULDER (>256 mm) [16 pts] <u>5</u> ☐ ☐ BEDROCK [16 pt]	LEAF PACKWOODY DEBRIS [3 pts] /O Substrate
OBBLE (65-256 mm) [12 pts] 5	CLAY or HARDPAN [0 pt]
☐ GRAVEL (2-64 mm) [9 pts] 40 SAND (<2 mm) [6 pts] 30	MUCK [0 pts] ARTIFICIAL [3 pts]
Total of Percentages of	(A) (B) A+B
Bldr Slabs, Boulder, Cobble, Bedrock 10 SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPE	15
Maximum Pool Depth (Measure the maximum po- evaluation. Avoid plunge pools from road culverts or	ool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth storm water pipes) (Check ONLY one box):
> 30 centimeters [20 pts]	> 5 cm - 10 cm [15 pts]
> 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	< 5 cm [5 pts] NO WATER OR MOIST CHANNEL [0 pts]
COMMENTS	MAXIMUM POOL DEPTH (centimeters):
3. BANK FULL WIDTH (Measured as the average of > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	3-4 measurements) (Check <i>ONLY</i> one box): > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Width ≤ 1.0 m (≤ 3' 3") [5 pts] Max=30
> 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	AVERAGE BANKFULL WIDTH (meters)
COMMENTS.	AVENAGE BANKI GEE WIDTH (Inscers)
RIPARIAN ZONE AND FLOODPLAIN QUA	
RIPARIAN WIDTH	PLAIN QUALITY (Most Predominant per Bank) L R
□ □ Wide >10m	Mature Forest, Wetland
☐ ☐ Moderate 5-10m ☐ ☑ ☑	Immature Forest, Shrub or Old Urban or Industrial
□ Narrow <5m	Residential, Park, New Field
None COMMENTS	Fenced Pasture
FLOW REGIME (At Time of Evaluation) (C Stream Flowing Subsurface flow with isolated pools (Interstitie COMMENTS	Moist Channel, isolated pools, no flow (Intermittent)
SINUOSITY (Number of bends per 61 m (20)	0 ft) of channel) (Check ONLY one box):
☑ 0.5 □ 1.5	□ 2,5 □ >3

QHEI PERFORMED? - Tyes W No QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
JWWH Name: Scioto Brush Creek	
CWH Name:	Distance from Evaluated Stream
D EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE V	NATERSHED AREA. CLEARLY MARK THE SITE LOCATION
JSGS Quadrangle Name: <u>Jaybird</u> NRC	S Soil Map Page: NRCS Soil Map Stream Order
County: Adams Township / C	city: Locust Grove
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation:	Quantity: 0.4"
1	
Photograph Information: 23 - upstream, 24 - downstr	
Elevated Turbidity? (Y/N): Canopy (% open):95	
Were samples collected for water chemistry? (Y/N):/ (Note lab samp	ole no, or id, and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) / If not, please	
is the sampling reach representative of the stream (Y/N)_7 If not, please	e explain:
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher collections)	ctions optional. NOTE: all voucher samples must be labeled with the s ts from the Primary Headwater Habitat Assessment Manual)
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher collection in the propriate field data sheet in the properties of the p	ctions optional. NOTE: all voucher samples must be labeled with the s ts from the Primary Headwater Habitat Assessment Manual) ed? (Y/N) Voucher? (Y/N)
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheet Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Machine Salamanders Observed? (Y/N) Voucher? (Y/N) Vouc	ctions optional. NOTE: all voucher samples must be labeled with the sets from the Primary Headwater Habitat Assessment Manual) ed? (Y/N) Voucher? (Y/N) croinvertebrates Observed? (Y/N) Voucher? (Y/N)
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheet Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Machine Salamanders Observed? (Y/N) Voucher? (Y/N) Vouc	ctions optional. NOTE: all voucher samples must be labeled with the sets from the Primary Headwater Habitat Assessment Manual) ed? (Y/N) Voucher? (Y/N) croinvertebrates Observed? (Y/N) Voucher? (Y/N)
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher collection number. Include appropriate field data sheet Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Mac	ctions optional. NOTE: all voucher samples must be labeled with the sets from the Primary Headwater Habitat Assessment Manual) ed? (Y/N) Voucher? (Y/N) croinvertebrates Observed? (Y/N) Voucher? (Y/N)
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher colled ID number. Include appropriate field data sheet Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observe Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Mac Comments Regarding Biology: \(\text{V} \) \(\text{N} \) \(\text{Observed} \)	ctions optional. NOTE: all voucher samples must be labeled with the sits from the Primary Headwater Habitat Assessment Manual) ed? (Y/N) Voucher? (Y/N) croinvertebrates Observed? (Y/N) Voucher? (Y/N)
BIOTIC EVALUATION Performed? (Y/N):	ctions optional. NOTE: all voucher samples must be labeled with the sets from the Primary Headwater Habitat Assessment Manual) ed? (Y/N) Voucher? (Y/N) croinvertebrates Observed? (Y/N) Voucher? (Y/N) STREAM REACH (This must be completed):
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher colled ID number. Include appropriate field data sheet Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observe Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Mac Comments Regarding Biology: \(\text{V} \) \(\text{N} \) \(\text{Observed} \)	ctions optional. NOTE: all voucher samples must be labeled with the sets from the Primary Headwater Habitat Assessment Manual) ed? (Y/N) Voucher? (Y/N) croinvertebrates Observed? (Y/N) Voucher? (Y/N) STREAM REACH (This must be completed):
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher colled ID number. Include appropriate field data sheet ID number. Include appropriate fie	ctions optional. NOTE: all voucher samples must be labeled with the sets from the Primary Headwater Habitat Assessment Manual) ed? (Y/N) Voucher? (Y/N) croinvertebrates Observed? (Y/N) Voucher? (Y/N) STREAM REACH (This must be completed):
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher colled ID number. Include appropriate field data sheet ID number. Include appropriate fie	ctions optional. NOTE: all voucher samples must be labeled with the sets from the Primary Headwater Habitat Assessment Manual) ed? (Y/N) Voucher? (Y/N) croinvertebrates Observed? (Y/N) Voucher? (Y/N) STREAM REACH (This must be completed): evaluation and a narrative description of the stream's location
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher colled ID number. Include appropriate field data sheet ID number. Include appropriate fie	ctions optional. NOTE: all voucher samples must be labeled with the sets from the Primary Headwater Habitat Assessment Manual) ed? (Y/N)
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheet ID number. Include appropriate fi	ctions optional. NOTE: all voucher samples must be labeled with the step from the Primary Headwater Habitat Assessment Manual) ed? (Y/N) Voucher? (Y/N) croinvertebrates Observed? (Y/N) Voucher? (Y/N) STREAM REACH (This must be completed): evaluation and a narrative description of the stream's location
Performed? (Y/N): (If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheet Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observet Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Mac Comments Regarding Biology: V Ne Observed	ctions optional. NOTE: all voucher samples must be labeled with the step from the Primary Headwater Habitat Assessment Manual) ed? (Y/N) Voucher? (Y/N) croinvertebrates Observed? (Y/N) Voucher? (Y/N) STREAM REACH (This must be completed): evaluation and a narrative description of the stream's location
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheet ID number. Include important landmarks and other features of interest for site of Include important landmarks and other features of interest for site of Include important landmarks and other features of interest for site of Include important landmarks.	ctions optional. NOTE: all voucher samples must be labeled with the step from the Primary Headwater Habitat Assessment Manual) ed? (Y/N) Voucher? (Y/N) croinvertebrates Observed? (Y/N) Voucher? (Y/N) STREAM REACH (This must be completed): evaluation and a narrative description of the stream's location
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheet ID number. Include important landmarks and other features of interest for site of Include important landmarks and other features of interest for site of Include important landmarks and other features of interest for site of Include important landmarks.	ctions optional. NOTE: all voucher samples must be labeled with the step from the Primary Headwater Habitat Assessment Manual) ed? (Y/N) Voucher? (Y/N) croinvertebrates Observed? (Y/N) Voucher? (Y/N) STREAM REACH (This must be completed): evaluation and a narrative description of the stream's location
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheet ID number. Include appropriate fi	ctions optional. NOTE: all voucher samples must be labeled with the sets from the Primary Headwater Habitat Assessment Manual) ed? (Y/N)

38	
-0	

	34 RIVER BASIN SCIPTO DRAINAGE AREA (mi²)
DATE 12/12/16 SCORER MDV TE	COMMENTS disturbance w/in maintained Row er to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions
	CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY
evaluation. Avoid plunge pools from road culverts > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	pool depth within the 61 meter (200 ft) evaluation reach at the time of s or storm water pipes) (Check ONLY one box): O
3. BANK FULL WIDTH (Measured as the average > 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]	of 3-4 measurements) (Check <i>ONLY</i> one box): Of 3-4 measurements) (Check <i>ONLY</i> one box):
COMMENTS	AVERAGE BANKFULL WIDTH (meters)
RIPARIAN ZONE AND FLOODPLAIN QUE RIPARIAN WIDTH L R (Per Bank) Wide > 10m	DDPLAIN QUALITY R (Most Predominant per Bank) L R J Mature Forest, Wetland
Moderate 5-10m Narrow <5m None COMMENTS	Residential, Park, New Field Open Pasture, Row Crop
FLOW REGIME (At Time of Evaluation) Stream Flowing Subsurface flow with isolated pools (Inters	Moist Channel, isolated pools, no flow (Intermittent)
SINUOSITY (Number of bends per 61 m elements) None	(200 ft) of channel) (Check ONLY one box): ✓ 2.0 ☐ 3.0 ☐ 2.5 ☐ >3
	2.0

QHEI PERFORMED? - Tyes YNO QHEI Score(If Ye	as Attach Completed OHELEOTT
	s, Attach Completed QHELFOITH)
DOWNSTREAM DESIGNATED USE(S) J WWH Name: SGOTO BRUSH CREEK	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
DEWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATER	RSHED AREA. CLEARLY MARK THE SITE LOCATION
SGS Quadrangle Name: JAYBIRD NRCS Soil	Map Page: NRCS Soil Map Stream Order
ounty: Adam > Township / City:	LOCUST GROVE
MISCELLANEOUS	
ase Flow Conditions? (Y/N): Date of last precipitation:	Quantity: 0,4"
hotograph Information: 19 - upstream, 20 - downsheam	
Elevated Turbidity? (Y/N): N Canopy (% open): 80	
Vere samples collected for water chemistry? (Y/N): (Note lab sample no.	or id, and attach results) Lab Number: N/A
ield Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
s the sampling reach representative of the stream (Y/N) If not, please expl	
BIOTIC EVALUATION	
BIOTIC EVALUATION (If Yes, Record all observations. Voucher collections ID number. Include appropriate field data sheets from ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Yrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvers.	optional. NOTE: all voucher samples must be labeled with the n the Primary Headwater Habitat Assessment Manual) (/N) Voucher? (Y/N) Voucher? (Y/N)
BIOTIC EVALUATION Output Out	optional. NOTE: all voucher samples must be labeled with the n the Primary Headwater Habitat Assessment Manual) (/N) Voucher? (Y/N) Voucher? (Y/N)
Performed? (Y/N): (If Yes, Record all observations. Voucher collections	optional. NOTE: all voucher samples must be labeled with the n the Primary Headwater Habitat Assessment Manual) (/N) Voucher? (Y/N) Voucher? (Y/N)
BIOTIC EVALUATION Output Out	optional. NOTE: all voucher samples must be labeled with the n the Primary Headwater Habitat Assessment Manual) (/N) Voucher? (Y/N) ertebrates Observed? (Y/N) Voucher? (Y/N)
BIOTIC EVALUATION Output Out	optional. NOTE: all voucher samples must be labeled with the name the Primary Headwater Habitat Assessment Manual) (/N) Voucher? (Y/N) ertebrates Observed? (Y/N) Voucher? (Y/N) EAM REACH (This must be completed):
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher collections ID number. Include appropriate field data sheets from Sish Observed? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvers Regarding Biology: VONE VOSEVUED DRAWING AND NARRATIVE DESCRIPTION OF STR Include Important landmarks and other features of interest for site evaluation.	optional. NOTE: all voucher samples must be labeled with the name the Primary Headwater Habitat Assessment Manual) (/N) Voucher? (Y/N) ertebrates Observed? (Y/N) Voucher? (Y/N) EAM REACH (This must be completed): ation and a narrative description of the stream's location
BIOTIC EVALUATION Performed? (Y/N): N (If Yes, Record all observations. Voucher collections ID number. Include appropriate field data sheets from Sish Observed? (Y/N) Salamanders Observed? (Y/N) Salamanders Observed? (Y/N) Aquatic Macroinvectors Regarding Biology: NONE Observed DRAWING AND NARRATIVE DESCRIPTION OF STR Include important landmarks and other features of interest for site evaluations.	optional. NOTE: all voucher samples must be labeled with the name the Primary Headwater Habitat Assessment Manual) (/N) Voucher? (Y/N) ertebrates Observed? (Y/N) Voucher? (Y/N) EAM REACH (This must be completed):
BIOTIC EVALUATION Performed? (Y/N): N (If Yes, Record all observations. Voucher collections ID number. Include appropriate field data sheets from Sish Observed? (Y/N) Salamanders Observed? (Y/N) Salamanders Observed? (Y/N) Aquatic Macroinvectors Regarding Biology: NONE Observed DRAWING AND NARRATIVE DESCRIPTION OF STR Include important landmarks and other features of interest for site evaluations.	optional. NOTE: all voucher samples must be labeled with the name the Primary Headwater Habitat Assessment Manual) (/N) Voucher? (Y/N) ertebrates Observed? (Y/N) Voucher? (Y/N) EAM REACH (This must be completed): ation and a narrative description of the stream's location
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher collections ID number. Include appropriate field data sheets from Sish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Yrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvoluments Regarding Biology: One observed DRAWING AND NARRATIVE DESCRIPTION OF STR Include important landmarks and other features of interest for site evaluation.	optional. NOTE: all voucher samples must be labeled with the name the Primary Headwater Habitat Assessment Manual) (/N) Voucher? (Y/N) ertebrates Observed? (Y/N) Voucher? (Y/N) EAM REACH (This must be completed): ation and a narrative description of the stream's location
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher collections ID number. Include appropriate field data sheets from Sish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Yrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvoluments Regarding Biology: VONE Observed DRAWING AND NARRATIVE DESCRIPTION OF STR Include important landmarks and other features of interest for site evaluation.	optional. NOTE: all voucher samples must be labeled with the name the Primary Headwater Habitat Assessment Manual) (/N) Voucher? (Y/N) ertebrates Observed? (Y/N) Voucher? (Y/N) EAM REACH (This must be completed): ation and a narrative description of the stream's location
BIOTIC EVALUATION Performed? (Y/N): N (If Yes, Record all observations. Voucher collections ID number. Include appropriate field data sheets from Sish Observed? (Y/N) Salamanders Observed? (Y/N) Salamanders Observed? (Y/N) Aquatic Macroinvolomments Regarding Biology: NONE Observed DRAWING AND NARRATIVE DESCRIPTION OF STR Include important landmarks and other features of interest for site evaluation of the property of the story o	optional. NOTE: all voucher samples must be labeled with the name the Primary Headwater Habitat Assessment Manual) (/N) Voucher? (Y/N) ertebrates Observed? (Y/N) Voucher? (Y/N) EAM REACH (This must be completed): ation and a narrative description of the stream's location
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher collections ID number. Include appropriate field data sheets from Sish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (YFrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinve Comments Regarding Biology: VONE Observed DRAWING AND NARRATIVE DESCRIPTION OF STR Include important landmarks and other features of interest for site evaluations of the property of the prope	optional. NOTE: all voucher samples must be labeled with the name the Primary Headwater Habitat Assessment Manual) (/N) Voucher? (Y/N) ertebrates Observed? (Y/N) Voucher? (Y/N) EAM REACH (This must be completed): ation and a narrative description of the stream's location
BIOTIC EVALUATION Output Out	optional. NOTE: all voucher samples must be labeled with the name the Primary Headwater Habitat Assessment Manual) (/N) Voucher? (Y/N) ertebrates Observed? (Y/N) Voucher? (Y/N) EAM REACH (This must be completed): ation and a narrative description of the stream's location

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	1	7	2	

SITE NAME/LOCATION Ware Rd - Seam	an 138kV Transmission Line Project	
	Stream 35 RIVER BASIN SCHOTZ DRAINAGE AREA (mi²)	. 2
	TB COMMENTS disturbance win maintained ROW	
	orm - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instru	
STREAM CHANNEL IN NONE / N MODIFICATIONS:	NATURAL CHANNEL RECOVERED PRECOVERING RECENT OR NO RECO	VERY
	every type of substrate present. Check ONLY two predominant substrate TYPE boxes	
(Max of 40). Add total number of signi	ifficant substrate types found (Max of 8). Final metric score is sum of boxes A & B, PERCENT TYPE PERCENT	HHE Metri
BLDR SLABS [16 pts]	SILT [3 pt] 10	Point
BOULDER (>256 mm) [16 pts] BEDROCK [16 pt]	LEAF PACKWOODY DEBRIS [3 pts]	Substra
☐ ☐ BEDROCK [16 pt] ☐ ☐ COBBLE (65-256 mm) [12 pts]		Max = 4
GRAVEL (2-64 mm) [9 pts]	3∂	20
SAND (<2 mm) [6 pts]	ARTIFICIAL [3 pts]	20
Total of Percentages of	(B) 5	A + B
Bldr Slabs, Boulder, Cobbie, Bedrock CORE OF TWO MOST PREDOMINATE SUE		
	e maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of road culverts or storm water pipes) (Check ONLY one box):	Pool Dep Max = 3
> 30 centimeters [20 pts]	> 5 cm - 10 cm [15 pts]	10
> 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	NO WATER OR MOIST CHANNEL [0 pts]	15
COMMENTS	MAXIMUM POOL DEPTH (centimeters):	
BANK FULL WIDTH (Measured as to > 4.0 meters (> 13') [30 pts]	the average of 3-4 measurements) (Check ONLY one box):	Bankfu Wldth
> 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]	2.9	20
COMMENTS	AVERAGE BANKFULL WIDTH (meters)	
	This information must also be completed	
RIPARIAN ZONE AND FLOO	DDPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆	
RIPARIAN WIDTH L R (Per Bank)	FLOODPLAIN QUALITY L R (Most Predominant per Bank) L R	
☐ ☐ Wide >10m	☐ ☐ Mature Forest, Wetland ☐ ☐ Conservation Tillage	
☐ ☐ Moderate 5-10m	☐☐☐ Urban or Industrial	
Ø ☑ Narrow <5m	Residential Park New Field Open Pasture, Row	
None	Crop Fenced Pasture Crop Mining or Construction	
COMMENTS		
FLOW REGIME (At Time of E	Evaluation) (Check ONLY one box):	
Stream Flowing Subsurface flow with isolated p	Moist Channel, isolated pools, no flow (Intermittent) pools (Interstitial) Dry channel, no water (Ephemeral)	
(ds per 61 m (200 ft) of channel) (Check ONLY one box):	
None (Number of bend	☐ 1.0 ☐ 2.0 ☐ 3.0	
☑ 0.5	□ 1.5 □ 2.5 □ >3	
STREAM GRADIENT ESTIMATE	Charles and Charle	
Flat (0.5 ft/100 ft) Flat to Moderate	Moderate (2 ft/100 ft) Moderate to Severe Severe Severe (10 ft/10	υπ)

QHEI PERFORMED? - Tyes TNo QHEI Score((If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name: SCIDTO BRUSH CREFK	
CWH Name:	Distance from Evaluated Stream
DEWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE W	,
SGS Quadrangle Name: <u>JAYBIAD</u> NRCS	Soil Map Page: NRCS Soil Map Stream Order
ounty: Adams Township / Cil	by LOCUST GROVE
MISCELLANEOUS	
ase Flow Conditions? (Y/N): Y Date of last precipitation: 12/u/	10 Quantity: 0.04"
hotograph Information: 14 - upstroum 15 - downstrea	
evated Turbidity? (Y/N): _N Canopy (% open):90	
/ere samples collected for water chemistry? (Y/N): (Note lab sample	e no. or id, and attach results) Lab Number: <i>N/A</i>
ield Measures: Temp (°C)_~ Dissolved Oxygen (mg/l) r	oH (S.U.) Conductivity (µmhos/cm)
the sampling reach representative of the stream (Y/N)_ N _ If not, please	explain:
stream is disturbed by lots of tree cutting	s dumped into the channel
dditional comments/description of pollution impacts:	
BIOTIC EVALUATION erformed? (Y/N): (If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheets ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed	ions optional. NOTE: all voucher samples must be labeled with the from the Primary Headwater Habitat Assessment Manual) d? (Y/N) Voucher? (Y/N)
BIOTIC EVALUATION erformed? (Y/N): (If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheets ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macr	ions optional. NOTE: all voucher samples must be labeled with the from the Primary Headwater Habitat Assessment Manual) d? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheets ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macr	ions optional. NOTE: all voucher samples must be labeled with the from the Primary Headwater Habitat Assessment Manual) d? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
BIOTIC EVALUATION erformed? (Y/N): (If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheets ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macr	ions optional. NOTE: all voucher samples must be labeled with the from the Primary Headwater Habitat Assessment Manual) d? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheets ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macr	ions optional. NOTE: all voucher samples must be labeled with the from the Primary Headwater Habitat Assessment Manual) d? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
BIOTIC EVALUATION Performed? (Y/N):	ions optional. NOTE: all voucher samples must be labeled with the from the Primary Headwater Habitat Assessment Manual) d? (Y/N) Voucher? (Y/N) oinvertebrates Observed? (Y/N) Voucher? (Y/N)
BIOTIC EVALUATION Performed? (Y/N):	ions optional. NOTE: all voucher samples must be labeled with the afrom the Primary Headwater Habitat Assessment Manual) d? (Y/N) Voucher? (Y/N) oinvertebrates Observed? (Y/N) Voucher? (Y/N)
(If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheets ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macromments Regarding Biology:	ions optional. NOTE: all voucher samples must be labeled with the from the Primary Headwater Habitat Assessment Manual) d? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) oinvertebrates Observed? (Y/N) Voucher? (Y/N) STREAM REACH (This must be completed): valuation and a narrative description of the stream's location
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheets ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macromments Regarding Biology: Observed DRAWING AND NARRATIVE DESCRIPTION OF Salamanders Observed	ions optional. NOTE: all voucher samples must be labeled with the from the Primary Headwater Habitat Assessment Manual) d? (Y/N) Voucher? (Y/N) oinvertebrates Observed? (Y/N) Voucher? (Y/N) STREAM REACH (This must be completed): valuation and a narrative description of the stream's location
BIOTIC EVALUATION erformed? (Y/N): (If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheets ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macromments Regarding Biology: Observed DRAWING AND NARRATIVE DESCRIPTION OF Salamanders Observed	ions optional. NOTE: all voucher samples must be labeled with the from the Primary Headwater Habitat Assessment Manual) d? (Y/N) Voucher? (Y/N) oinvertebrates Observed? (Y/N) Voucher? (Y/N) STREAM REACH (This must be completed): valuation and a narrative description of the stream's location
BIOTIC EVALUATION erformed? (Y/N): (If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheets ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macromments Regarding Biology: Observed DRAWING AND NARRATIVE DESCRIPTION OF Salamanders Observed	ions optional. NOTE: all voucher samples must be labeled with the from the Primary Headwater Habitat Assessment Manual) d? (Y/N) Voucher? (Y/N) oinvertebrates Observed? (Y/N) Voucher? (Y/N) STREAM REACH (This must be completed): valuation and a narrative description of the stream's location
BIOTIC EVALUATION erformed? (Y/N): (If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheets ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macromments Regarding Biology: CUSENCEA	ions optional. NOTE: all voucher samples must be labeled with the from the Primary Headwater Habitat Assessment Manual) d? (Y/N) Voucher? (Y/N) Voucher? (Y/N) oinvertebrates Observed? (Y/N) Voucher? (Y/N) STREAM REACH (This must be completed): valuation and a narrative description of the stream's location
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BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheets ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macromments Regarding Biology: Observed DRAWING AND NARRATIVE DESCRIPTION OF Salamanders of Interest for site ending the property of the pro	ions optional. NOTE: all voucher samples must be labeled with the from the Primary Headwater Habitat Assessment Manual) d? (Y/N) Voucher? (Y/N) voucher? (Y/N) voucher? (Y/N) stream REACH (This must be completed): valuation and a narrative description of the stream's location Streep stopped
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheets ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macromments Regarding Biology: Observed DRAWING AND NARRATIVE DESCRIPTION OF Sinclude important landmarks and other features of interest for site experience.	ions optional. NOTE: all voucher samples must be labeled with the from the Primary Headwater Habitat Assessment Manual) d? (Y/N) Voucher? (Y/N) voucher? (Y/N) voucher? (Y/N) stream REACH (This must be completed): valuation and a narrative description of the stream's location Streep stopped
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheets ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macromments Regarding Biology: Observed DRAWING AND NARRATIVE DESCRIPTION OF Salamanders of Interest for site ending the property of the pro	ions optional. NOTE: all voucher samples must be labeled with the from the Primary Headwater Habitat Assessment Manual) d? (Y/N) Voucher? (Y/N) Voucher? (Y/N) oinvertebrates Observed? (Y/N) Voucher? (Y/N) STREAM REACH (This must be completed): valuation and a narrative description of the stream's location
BIOTIC EVALUATION erformed? (Y/N): (If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheets ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macromments Regarding Biology: Observed DRAWING AND NARRATIVE DESCRIPTION OF Salamanders of interest for site ending in the properties of the p	ions optional. NOTE: all voucher samples must be labeled with the from the Primary Headwater Habitat Assessment Manual) d? (Y/N) Voucher? (Y/N) oinvertebrates Observed? (Y/N) Voucher? (Y/N) STREAM REACH (This must be completed): valuation and a narrative description of the stream's location

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SITE NAME/LOCATION Ware Rd - Seaman 138kV Transmission Line Project SITE NUMBER Stream 30 RIVER BASIN Scroto LENGTH OF STREAM REACH (ft) 100 LAT. 39.005509 LONG -83.319711 RIVER CO DATE 12/12/16 SCORER MOV. TB COMMENTS disturbance with Me NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio": STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERED MODIFICATIONS:	RIVER MILE
1. SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predom (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score in the first section of the firs	PERCENT SO SIS [3 pts] (B) A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one both 2 30 centimeters [20 pts]	Max = 30 EPTH (centimeters): One box): Width Max=30 5
Wide > 10m	Conservation Tillage Urban or Industrial Open Pasture, Row Crop Mining or Construction

ADDITIONAL STREAM INFORMATION (This in	formation Must Also be Con	npleted):	
QHEI PERFORMED? - Yes No	o QHEI Score(I	f Yes, Attach Completed QHEI Form)	
DOWNSTREAM DESIGNATED USE(S	5)		
WWH Name: SCIOTO BRUSH		Distance from Evaluated Stream	
CWH Name:		Distance from Evaluated Stream	
J EWH Name:		Distance from Evaluated Stream	
MAPPING: ATTACH COPIES OF MAPS	, INCLUDING THE ENTIRE WA	TERSHED AREA. CLEARLY MARK THE SITE LOCATION	
ISGS Quadrangle Name: JAYBIRD	NRCS	Soil Map Page: NRCS Soil Map Stream Order	
ounty: Adams	Township / City	LOCUST GROVE	
MISCELLANEOUS			
ase Flow Conditions? (Y/N): Date of I			
			-
levated Turbidity? (Y/N): Canop	y (% open):90		
ere samples collected for water chemistry? (Y/I	N): (Note lab sample	no. or id. and attach results) Lab Number:	
		H (S.U.) Conductivity (µmhos/cm)	
the sampling reach representative of the stream	m (Y/N) If not, please e	explain:	
X			
Additional comments/description of pollution imp	acts:		
BIOTIC EVALUATION			
		ons optional. NOTE: all voucher samples must be labeled wi from the Primary Headwater Habitat Assessment Manual)	th the s
ish Observed? (Y/N) Voucher? (Y/N)_	Salamanders Observed	? (Y/N) Voucher? (Y/N)	
rogs or Tadpoles Observed? (Y/N) Vouch		oinvertebrates Observed? (Y/N) Voucher? (Y/N)	_
comments Regarding Biology: Nove obs	arvea		
· · · · · · · · · · · · · · · · · · ·			
DRAWING AND NARRATIV	F DESCRIPTION OF S	TREAM REACH (This must be completed):	
		valuation and a narrative description of the stream's loc	ation
power-line			
70.0		1 1 1	
	Faller Heeslads	is Fallentiesk Adons	
FLOW	rance (Sil	x/leal-pack	3
	46) (17)>	TXVY	-
	AXXXX	1	Soy
/		The state of the s	800
	XX. /		62
	S.K. J. S.	26	87

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73	
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SITE NAME/LOCATION Ware Rd - Seaman	138kV Transmission Line Project	
DATE 12/12/16 SCORER MDV, TB	AT. <u>39.007095</u> LONG. <u>-83.317128</u> COMMENTS	,
STREAM CHANNEL NONE / NATU MODIFICATIONS:	ral Channel Ørecovered 🗍 R	RECOVERING TRECENT OR NO RECOVERY
(Max of 40). Add total number of significant TYPE BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts] BEDROCK [16 pt] COBBLE (65-256 mm) [12 pts] GRAVEL (2-64 mm) [9 pts]	FINE DETRITUS CLAY OF HARDPA CONTROL OF THE DETRITUS CLAY OF HARDPA CONTROL OF THE DETRITUS CLAY OF HARDPA ARTIFICIAL [3 pt	PERCENT DDY DEBRIS [3 pts] [3 pts] AN [0 pt] HHEI Metric Points Substrate Max = 40
		LY one box): Max = 30
3. BANK FULL WIDTH (Measured as the a > 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] COMMENTS	verage of 3-4 measurements) (CI	heck ONLY one box): > 3' 3" - 4' 8") [15 pts] Bankfull Width
RIPARIAN ZONE AND FLOODPL RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS	This Information must also be comp AIN QUALITY ANOTE: River Left (L) a FLOODPLAIN QUALITY L R (Most Predominant per Bank) Mature Forest, Wetland Immature Forest, Shrub or Old Field Residential, Park, New Field Fenced Pasture	leted and Right (R) as looking downstream L R Conservation Tillage Urban or Industrial Open Pasture, Row Crop Mining or Construction
Stream Flowing Subsurface flow with isolated pools COMMENTS	(Interstitial) Moist Ch	nannel, isolated pools, no flow (Intermittent) nnel, no water (Ephemeral)
☐ None	r 61 m (200 ft) of channel) (Check <i>ONLY</i> of 1.0	3.0 >3
STREAM GRADIENT ESTIMATE		

DDITIONAL STREAM INFORMATION (This Information	
QHEI PERFORMED? - Tyes 7 No QHEI So	core (If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	Distance from Employed Observe
	Distance from Evaluated Stream Distance from Evaluated Stream
	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDIN	NG THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
SGS Quadrangle Name: UAYBIRD	NRCS Soil Map Page: NRCS Soil Map Stream Order
county: Adams	Township / City:LOUST GROVE
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipits	ation: 12 11 11 Quantity: 0.04"
Photograph Information: 11 - Upsheam 12-a	olownstream
Elevated Turbidity? (Y/N): Canopy (% open)	20
Vere samples collected for water chemistry? (Y/N):	(Note lab sample no. or id. and attach results) Lab Number: NA
Field Measures: Temp (°C) Dissolved Oxygen ((mg/l) pH (S.U.) Conductivity (µmhos/cm)
s the sampling reach representative of the stream (Y/N)	If not, please explain:
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
	ns. Voucher collections optional. NOTE: all voucher samples must be labeled with the ate field data sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salar Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N)_	manders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
Comments Regarding Biology: None Observed	
DRAWING AND NARRATIVE DESC	RIPTION 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
old abanda	
	red channel
	wooded
FLOW	
	obole I manel 1
	1 Sanga
TR I Alamand	ed floodplain
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Wang Dd Compan		icat	5 1, 2, 0) .
SITE NAME/LOCATION Ware Rd - Seaman	138KV Transmission Line Pro	ject promise	05 4554 2 (0)
SITE NUMBER_S LENGTH OF STREAM REACH (ft)200	LAT 39 011285 LONG 93 21	0776 BIVED CODE	GE AREA (MIF) 2011 IV
DATE 12/12/16 SCORER MOV. TE			
NOTE: Complete All Items On This Form			
	URAL CHANNEL RECOVERED	☐ RECOVERING ☐ REC	CENT OR NO RECOVERY
MODIFICATIONS:			
SUBSTRATE (Estimate percent of eve	ry type of substrate present. Check	OM V two prédominant subéti	ete TVPE hovee
(Max of 40). Add total number of significa		·	tes A & B. HHEI
TYPE PI BLDR SLABS [16 pts]	FRCENT TYPE 5 SILT [3 pt	11	PERCENT Metric Points
BOULDER (>256 mm) [16 pts]		CKWOODY DEBRIS [3 pts]	10
BEDROCK [16 pt] COBBLE (65-256 mm) [12 pts]		TRITUS [3 pts]	Substrate Max = 40
☐ ☐ GRAVEL (2-64 mm) [12 pts] _	60	HARDPAN [0 pt]	
SAND (<2 mm) [6 pts]		AL [3 pts]	29
Total of Percentages of	(A)		(B) A + B
Bldr Slabs, Boulder, Cobble, Bedrock	65 24		5
SCORE OF TWO MOST PREDOMINATE SUBS	TRATE TYPES: TOTA	AL NUMBER OF SUBSTRATE	TYPES:
2. Maximum Pool Depth (Measure the ma			
evaluation. Avoid plunge pools from road > 30 centimeters [20 pts]		10 cm [15 pts]	Max = 30
> 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	☐ < 5 cm [25
20 - 22.5 dil [25 pts]			17
COMMENTS	M	AXIMUM POOL DEPTH (centir	neters):
3. BANK FULL WIDTH (Measured as the		(Check ONLY one box):	Bankfull
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7' - 13') [25 pts]		- 1.5 m (> 3' 3" - 4' 8") [15 pts] (≤ 3' 3") [5 pts]	Width Max=30
> 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]			2.5 20
COMMENTS	A\	/ERAGE BANKFULL WIDTH (
A THURSDAY OF THE PARTY OF THE			
BIDADIAN ZONE AND EL CODO	This information must also b	•	4
RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH	FLOODPLAIN QUALITY	Left (L) and Right (R) as looking	downstream
L R (Per Bank)	L R (Most Predominant per		
₩ Wide >10m	Mature Forest, Wetland Immature Forest, Shrub	or Old	servation Tillage
☐ Moderate 5-10m	Field	LJ LJ Urba	an or Industrial
☐ ☐ Narrow <5m	Residential, Park, New I	Field	n Pasture, Row
None	Fenced Pasture	☐ ☐ Mini	ng or Construction
COMMENTS			
FLOW REGIME (At Time of Eval Stream Flowing		Moist Channel, isolated pools, n	o flow (Intermittent)
Subsurface flow with isolated pool COMMENTS		Ory channel, no water (Epheme	
	04 m (200 A) -5 -5 - 0 (2)	OM/ W I	
SINUOSITY (Number of bends portion of be	er 61 m (200 ft) of channel) (Check 1.0		0
□ 0.5	1.5		
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)

BIOTIC EVALUATION Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) N Voucher? (Y/N) Salamanders Observed? (Y/N) N Voucher? (Y/N) N Voucher	DDITIONAL STREAM INFORMATION (This Information Must Also be Comp	eleted):
JOWH Name: JC1070 PANSY CREAT Distance from Evaluated Stream MAPPING: ATTACH CONTINUATION MAPPING: ATTACH CONTINUATION MRCS Soil Map Page: NRCS Soil Map Stream Order Overstone NRCS Soil Map Page: NRCS Soil Map Stream Order Overstone NRCS Soil Map Page: NRCS Soil Map Stream Order Overstone NRCS Soil Map Page: NRCS Soil Map Stream Order Overstone NRCS Soil Map Page: NRCS Soil Map Stream Order Overstone NRCS Soil Map Page: NRCS Soil M	QHEI PERFORMED? - Tyes No QHEI Score(If	Yes, Attach Completed QHEI Form)
SGS Quadrangle Name:AYBRO	J CWH Name: SCIOTO BRUSH CREEK J CWH Name:	Distance from Evaluated Stream
MISCELLANEOUS asse Flow Conditions? (Y/N): Y Date of last precipitation: 17 1112 Quantity D.O bloodgraph Information: 6 upstream 7 Description 12 1112 Quantity 112 Quant	MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WAT	ERSHED AREA. CLEARLY MARK THE SITE LOCATION
is a Flow Conditions? (Y/N): Y Date of last precipitation: 17 In the Quantity: 0.04" hotograph information: 6 upstream 7 - downstream 8 downstream 1 - downs	ISGS Quadrangle Name: <u>JAYBIRIS</u> NRCS S	oil Map Page: NRCS Soil Map Stream Order
ase Flow Conditions? (Y/N): \(\frac{\text{V}}{\text{Date of last precipitation:}} \) Date of last precipitation: \(\frac{\text{V}}{\text{V}} \) Date of last precipitation: \(\te	ounty: Adams Township / City;	LOCUST GROVE
hotograph Information:	MISCELLANEOUS	
Revere samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: Note lab sample no. or id. and attach results) Lab Number:	ase Flow Conditions? (Y/N): Date of last precipitation:	Quantity: 0.04"
Were samples collected for water chemistry? (Y/N):	Photograph Information: 6 upstream 7 - alounstream	
Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (jumhos/cm) sthe sampling reach representative of the stream (Y/N)_Y If not, please explain:		
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with 1D number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)	Vere samples collected for water chemistry? (Y/N): (Note lab sample n	o. or id. and attach results) Lab Number:
BIOTIC EVALUATION Performed? (Y/N):	ield Measures: Temp (°C) Dissolved Oxygen (mg/l) pH	(S.U.) Conductivity (µmhos/cm)
BIOTIC EVALUATION Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with 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 Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N ID NOTICE Observed? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) N ID NOTICE Observed? (Y/N) N ID NOT	s the sampling reach representative of the stream (Y/N) If not, please ex	plain:
BIOTIC EVALUATION Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with 10 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 Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y		
BIOTIC EVALUATION Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with 1D 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 Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y	Additional comments/decoriation of nellution impacts:	
Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with 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 Voucher	Additional comments/description of politicion impacts.	
Performed? (Y/N): Note: all voucher samples must be labeled with ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) Noucher? (Y		
ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) Voucher? (Y/N) A Salamanders Observed? (Y/N) Voucher? (Y/N) N Vouche		
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 local Steep sloped Woods Woods		
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 local Steep sloped Woods Woods	Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroir	(Y/N) N Voucher? (Y/N) N Voucher? (Y/N) Voucher? (Y/N)
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's local Steep sloped Woods Woods	Comments Regarding Biology: None observed	
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's local Steep sloped Woods Woods		
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's local Steep sloped Woods Woods		
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's local steep sloped woods FLOW	DRAWING AND NARRATIVE DESCRIPTION OF ST	REAM REACH (This must be completed):
FLOW -		
=LOW → Sold wobble/		- X
=LOW → Sold wobble/	steep sloped	V
FLOW - Cobble/	Woods	7
FG wobble/		8
eteep sloped 3 cobble/	rl∪vv ▼	
eteep sloped 3-> whole	50	
1 strande	etcep sloved (9)	whole
	woods	

Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3): SITE NAME/LOCATION Ware Rd - Seaman 138kV Transmission Line Project SITE NUMBER STOCKUM 39 RIVER BASIN SCIOTO DRAINAGE AREA (mi²) 4 mi² LENGTH OF STREAM REACH (ft) 200 LAT. 39.011513 LONG. -83.310457 RIVER CODE RIVER MILE DATE 12/12/16 SCORER MDV TB COMMENTS NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions STREAM CHANNEL OND NONE / NATURAL CHANNEL FRECOVERED RECOVERING RECENT OR NO RECOVERY MODIFICATIONS: SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. HHEI Metric **PERCENT** TYPE **Points** BLDR SLABS [16 pts] SILT [3 pt] ŌŌ BOULDER (>256 mm) [16 pts] LEAF PACKWOODY DEBRIS [3 pts] Substrate BEDROCK [16 pt] FINE DETRITUS [3 pts] Max = 40COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt] 20 GRAVEL (2-64 mm) [9 pts] MUCK [0 pts] SAND (<2 mm) [6 pts] ARTIFICIAL (3 pts1 Total of Percentages of (B) A+B 28 Bidr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES: Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max = 30> 5 cm - 10 cm [15 pts] > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5 pts] V > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts] 19 COMMENTS MAXIMUM POOL DEPTH (centimeters): 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] **AVERAGE BANKFULL WIDTH (meters)** COMMENTS 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 (Per Bank) R (Most Predominant per Bank) Wide >10m Mature Forest, Wetland Conservation Tillage Immature Forest, Shrub or Old Moderate 5-10m Urban or Industrial Open Pasture, Row Narrow <5m Residential, Park, New Field Crop

Fenced Pasture None 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 SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 0.5 STREAM GRADIENT ESTIMATE Moderate (2 ft/100 ft) Flat (0.5 ft/100 ft) ☐ Moderate to Severe Severe (10 ft/100 ft) ☐ Flat to Moderate

QHEI PERFORMED? - Yes M No QHEI Score(If	Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name: SCIOTO BRUSH CRPEK	
CWH Name:	
J EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WAT	
SGS Quadrangle Name: <u>JAYBIPD</u> NRCS S	
ounty: AdaMs Township / City:	LOCUST GROVE
MISCELLANEOUS	
ase Flow Conditions? (Y/N): Date of last precipitation: 12 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Quantity: 0.04"
hotograph Information: 4 - upstream 5 - downstream	1
levated Turbidity? (Y/N): N Canopy (% open): 20	
/ere samples collected for water chemistry? (Y/N): (Note lab sample n	o or id and attach results) Lab Number:
ield Measures: Temp (°C) Dissolved Oxygen (mg/l) pH	
the sampling reach representative of the stream (Y/N) If not, please ex	plain:
additional comments/description of pollution impacts a little track	tim
BIOTIC EVALUATION	
erformed? (Y/N): (If Yes, Record all observations. Voucher collection	ns optional. NOTE: all voucher samples must be labeled with the
rerformed? (Y/N): (If Yes, Record all observations. Voucher collection ID number. Include appropriate field data sheets from the collection is high observed? (Y/N) Noucher? (Y/N) N	om the Primary Headwater Habitat Assessment Manual) (Y/N) V voucher? (Y/N) V
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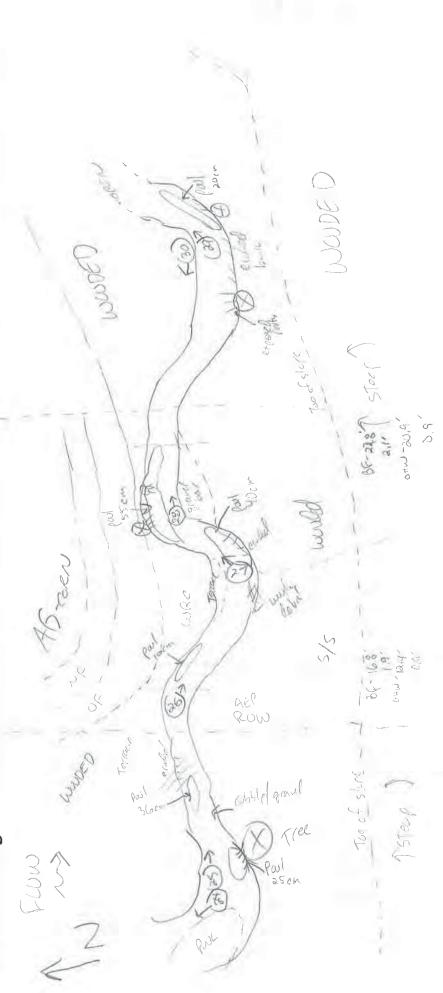
Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 58.5

Stream & Locati	on: Stream 40 (Scioto Brush Creek) Ware Rd - Seaman 138kV Transmission RM: 38.2 Date: 12/12/16
Line Projec	Scorers Full Name & Affiliation: 6.11 Leopild (stanted
River Code:	STORET #: Lat./ Long.: 39 . 0 180 183 . 3008 Office verified location
BEST TYP BLDR /SLABS BOULDER [9] COBBLE [8] GRAVEL [7] SAND [6] BEDROCK [5] NUMBER OF BE Comments	COAL FINES [-2] COAL FINES
quality; 3-Highest qu diameter log that is: UNDERCUT E OVERHANGIN	IG VEGETATION [1] / ROOTWADS [1] AQUATIC MACROPHYTES [1] SPARSE 5-<25% [3] LOGS OR WOODY DEBRIS [1] NEARLY ABSENT <5% [1] Cover Maximum 20
	RPHOLOGY Check ONE in each category (Or 2 & average)
SINUOSITY	DEVELOPMENT CHANNELIZATION STABILITY
☐ HIGH [4] ☑ MODERATE [3] ☐ LOW [2] ☐ NONE [1] Comments	□ EXCELLENT [7] □ NONE [6] □ HIGH [3] □ GOOD [5] □ RECOVERED [4] □ MODERATE [2] □ FAIR [3] □ RECOVERING [3] □ LOW [1] □ POOR [1] □ RECENT OR NO RECOVERY [1] **Channel Maximum 20
No chandling en	indust it historic, active ecosion
4] BANK EROSI River right looking do	ON AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank & average) wnstream RIPARIAN WIDTH FLOOD PLAIN QUALITY
EROSION NONE / LITTLI MODERATE [2] HEAVY / SEVE	R R R R R R R R R R
	10
MAXIMUM DE Check ONE (ONE > 1m [6] 0.7-<1m [4] 0.4-<0.7m [2] 0.2-<0.4m [1] < 0.2m [0] Comments Indicate for 1 of riffle-oblig RIFFLE DEPT ■ BEST AREAS > 10 ■ BEST AREAS < 5-10	Check ONE (Or 2 & average) Check ALL that apply POOL WIDTH > RIFFLE WIDTH [2] POOL WIDTH = RIFFLE WIDTH [1] POOL WIDTH < RIFFLE WIDTH [1] MODERATE [1] Indicate for reach - pools and riffles. Current Maximum Indicate species: Check ONE (Or 2 & average) Check ALL that apply Primary Contact Secondary Contac
Comments	ric=0]
6] GRADIENT (DRAINAGE A	ft/mi) ★ VERY LOW - LOW [2-4]

FJ MEASUREMENTS x width 19,84 /6,7 x bankfull width 19.8 bankfull x depth 2,○ bankfull max. depth floodprone x2 width 0,0 entrench. ratio egacy Tree: max. depth W/D ratio x depth HARDENED / URBAN / DIRT&GRIME LOGGINGY IRRIGATION / COOLING WWTP / CSO / NPDES / INDUSTRY BMPs-CONSTRUCTION-SEDIMENT FALSE BANK / MANURE / LAGOON NATURAL / WETLAND / STAGNANT ACID / MINE / QUARRY / FLOW ATMOSPHERE / DATA PAUCITY BANK / EROSION / SURFACE WASH H₂0 / TILE / H₂0 TABLE PARK / GOLF / LAWN / HOME CONTAMINATED / LANDFILL EJ ISSUES Circle some & COMMENT er Ray cleary ACTIVE HISTORICY BOTH / NA YOUNG-SUCCESSION-OLD PUBLIC / PRIVATE / BOTH / NA FLOOD CONTROL / DRAINAGE MOVING-BEDLOAD-STABLE MODIFIED / DIPPED OUT / NA SPRAY / SNAG / REMOVED IMPOUNDED / DESICCATED DI MAINTENANCE RELOCATED / CUTOFFS ISLANDS / SCOURED ARMOURED / SLUMPS **LEVEED / ONE SIDED** INVASIVE MACROPHYTES □ CSOs/SSOs/DUTFALLS **BI AESTHETICS EXCESS TURBIDITY** NUISANCE ALGAE SLUDGE DEPOSITS POOL: □>100ft2□>3ft AREA DEPTH NUISANCE ODOR DISCOLORATION TRASH / LITTER FOAM / SCUM OIL SHEEN CJ RECREATION □ > 70 cm/ CTB □ SECCHI DEPTH□ □ UP □ □ 1st -sample pass- 2nd -sample pass-CLARITY STAGE ☐ 20-<40 cm ⊠ 40-70 cm AJ SAMPLED REACH Check ALL that apply HIGH MOTE < 20 cm DRY <10%-CLOSED □ > 85%- OPEN CANOPY DISTANCE | 55%-<85% 30%-<55% 10%-<30% METHOD 0.15 Km 0.12 Km □ OTHER 0.5 Km 0.2 Km OTHER □ BOAT
□ WADE
□ L. LINE WADE L. LINE meters

Stream Drawing:



ChieFPA Primary Headwater Habitat Evaluation Form

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SITE NAME/LOCATION, Ware Rd - Seaman 138kV Transmission Line Project	
SITE NUMBER STICAM 41 RIVER BASIN SCIONS DRAINAGE AREA	101
LENGTH OF STREAM REACH (ft) 200 LAT. 39.019563 LONG83.298603 RIVER CODE RIVER	The second second second second
DATE 12/14/16 SCORER PL COMMENTS - WT	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams"	for Instructions
STREAM CHANNEL NONE/NATURAL CHANNEL RECOVERED RECOVERING RECENT OR	NO RECOVERY
MODIFICATIONS:	
SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE PERCENT PERCENT	HHEI
□ □ BLDR SLABS [16 pts] □ □ SILT [3 pt] 10 □ □ BOULDER (>256 mm) [16 pts] □ □ LEAF PACKWOODY DEBRIS [3 pts] 10	_
□ □ BEDROCK [16 pt] □ □ FINE DETRITUS [3 pts] [0] □ □ COBBLE (65-256 mm) [12 pts] □ □ □ CLAY or HARDPAN [0 pt]	Substrate Max = 40
☐ ☑ GRAVEL (2-64 mm) [9 pts] 30 ☐ MUCK [0 pts]	20
SAND (<2 mm) [6 pts] 3x) ARTIFICIAL [3 pts]	
Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES:	5 A+B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time	· ·
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]	Max = 30
□ > 22.5 - 30 cm [30 pts] □ < 5 cm [5 pts] □ > 10 - 22.5 cm [25 pts] □ NO WATER OR MOIST CHANNEL [0 pts]	0
COMMENTSMAXIMUM POOL DEPTH (centimeters):	
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]	Bankfull Width
□ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] □ ≤ 1.0 m (≤ 3' 3") [5 pts]	Max=30
7,8	1.52 20
COMMENTS OHW = 3.8 AVERAGE BANKFULL WIDTH (meters)	
This information <u>must</u> also be completed	
This information <u>must</u> also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstre	eam 🏠
RIPARIAN ZONE AND FLOODPLAIN QUALITY ANOTE: River Left (L) and Right (R) as looking downstre RIPARIAN WIDTH L R (Per Bank) L R (Most Predominant per Bank) L R	
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ADDITIONAL STREAM INFORMATION (This Information Must Also be Complete	eted):
QHEI PERFORMED? - TYes P No QHEI Score(If Ye	es, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S) TWWH Name: South Gross Crack	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATE	RSHED AREA. CLEARLY MARK THE SITE LOCATION
SGS Quadrangle Name: Syington NRCS Soi	il Map Page: NRCS Soil Map Stream Order
ounty: Township / City:	
MISCELLANEOUS	
ase Flow Conditions? (Y/N): Date of last precipitation:	
levated Turbidity? (Y/N): Canopy (% open):	
/ere samples collected for water chemistry? (Y/N): (Note lab sample no	or id. and attach results) Lab Number:
ield Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
the sampling reach representative of the stream (Y/N) / If not, please expl	lain:
1 1 1	
	portion wide a regitated
BIOTIC EVALUATION erformed? (Y/N): (If Yes, Record all observations. Voucher collections ID number. Include appropriate field data sheets from	s optional. NOTE: all voucher samples must be labeled with the site m the Primary Headwater Habitat Assessment Manual)
(If Yes, Record all observations. Voucher collections ID number. Include appropriate field data sheets from Voucher? (Y/N) Salamanders Observed? (Yrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinv Comments Regarding Biology)	s optional. NOTE: all voucher samples must be labeled with the site m the Primary Headwater Habitat Assessment Manual) Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
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BIOTIC EVALUATION erformed? (Y/N): (If Yes, Record all observations. Voucher collections ID number. Include appropriate field data sheets from ish Observed? (Y/N) Salamanders Observed? (Yrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvoluments Regarding Biology) Advanced Change DRAWING AND NARRATIVE DESCRIPTION OF STR	s optional. NOTE: all voucher samples must be labeled with the site method the primary Headwater Habitat Assessment Manual) Y/N) Voucher? (Y/N) Voucher? (Y
BIOTIC EVALUATION erformed? (Y/N): (If Yes, Record all observations. Voucher collections ID number. Include appropriate field data sheets from the collections of the collections	s optional. NOTE: all voucher samples must be labeled with the site m the Primary Headwater Habitat Assessment Manual) Y/N) Voucher? (Y/N) Voucher? (Y/N) Vertebrates Observed? (Y/N) Voucher? (Y/N) REAM REACH (This must be completed): Dation and a narrative description of the stream's location Was in
BIOTIC EVALUATION erformed? (Y/N): (If Yes, Record all observations. Voucher collections ID number. Include appropriate field data sheets from ish Observed? (Y/N) Salamanders Observed? (Youcher? (Y/N) Aquatic Macroinvoluments Regarding Biology) DRAWING AND NARRATIVE DESCRIPTION OF STR Include Important landmarks and other features of interest for site evaluation.	s optional. NOTE: all voucher samples must be labeled with the site method the primary Headwater Habitat Assessment Manual) Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Vertebrates Observed? (Y/N) Voucher? (Y/N) REAM REACH (This must be completed): Dation and a narralive description of the stream's location
BIOTIC EVALUATION erformed? (Y/N): (If Yes, Record all observations. Voucher collections ID number. Include appropriate field data sheets from ish Observed? (Y/N) Salamanders Observed? (Yrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvitomments Regarding Biology) DRAWING AND NARRATIVE DESCRIPTION OF STR Include Important landmarks and other features of interest for site evaluations.	s optional. NOTE: all voucher samples must be labeled with the site m the Primary Headwater Habitat Assessment Manual) Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Vertebrates Observed? (Y/N) Voucher? (Y/N) REAM REACH (This must be completed): Dation and a namative description of the stream's location Was i
BIOTIC EVALUATION erformed? (Y/N): (If Yes, Record all observations. Voucher collections ID number. Include appropriate field data sheets from ish Observed? (Y/N) Salamanders Observed? (Yrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvitomments Regarding Biology) DRAWING AND NARRATIVE DESCRIPTION OF STR Include Important landmarks and other features of interest for site evaluations.	s optional. NOTE: all voucher samples must be labeled with the site method the primary Headwater Habitat Assessment Manual) Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Vertebrates Observed? (Y/N) Voucher? (Y/N) REAM REACH (This must be completed): Dation and a narrative description of the stream's location Wast
BIOTIC EVALUATION erformed? (Y/N): (If Yes, Record all observations. Voucher collections ID number. Include appropriate field data sheets from ish Observed? (Y/N) Salamanders Observed? (Yough of Tadpoles Observed? (Y/N) Aquatic Macroinv comments Regarding Biology) DRAWING AND NARRATIVE DESCRIPTION OF STR. Include Important landmarks and other features of interest for site evaluations.	s optional. NOTE: all voucher samples must be labeled with the site of the primary Headwater Habitat Assessment Manual) Y/N) Voucher? (Y/N)
BIOTIC EVALUATION erformed? (Y/N): (If Yes, Record all observations. Voucher collections ID number. Include appropriate field data sheets from ish Observed? (Y/N) Salamanders Observed? (Yough of Tadpoles Observed? (Y/N) Aquatic Macroinv comments Regarding Biology) DRAWING AND NARRATIVE DESCRIPTION OF STR. Include Important landmarks and other features of interest for site evaluations.	s optional. NOTE: all voucher samples must be labeled with the site method the primary Headwater Habitat Assessment Manual) Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Vertebrates Observed? (Y/N) Voucher? (Y/N) REAM REACH (This must be completed): Dation and a narrative description of the stream's location Was in the primary Headwater Habitat Assessment Manual)

Primary Headwater Habitat Evaluation Form

	HHEI Score (sum of metrics 1, 2, 3):	+
SITE NAME/LOCATION Ware Rd - Seaman		0.4
DATE 12/12/16 SCORER BL	LAT. 39.023372 LONG83.287916 RIVER CODE RIVER MILE COMMENTS CPh (4 Dradon 12 12 50) m - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instru	7,3
STREAM CHANNEL NONE / NA MODIFICATIONS:	TURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECO	OVERY
(Max of 40). Add total number of significant	PERCENT SILT [3 pt] LEAF PACKWOODY DEBRIS [3 pts] CLAY or HARDPAN [0 pt] MUCK [0 pts] ARTIFICIAL [3 pts] ARTIFICIAL [3 pts] (A)	HHEI Metric Points Substrate Max = 40
Bldr Slabs, Boulder, Cobble, Bedrock _ SCORE OF TWO MOST PREDOMINATE SUBS	(B) TOTAL NUMBER OF SUBSTRATE TYPES:	A + B
evaluation. Avoid plunge pools from road > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	naximum pool depth within the 61 meter (200 ft) evaluation reach at the time of d culverts or storm water pipes) (Check ONLY one box): One continue of the culverts or storm water pipes) (Check ONLY one box): One continue of the culverts or storm water pipes) (Check ONLY one box): One continue of the culverts or storm water pipes) (Check ONLY one box): One continue of the culverts or storm water pipes) (Check ONLY one box): One continue of the culverts or storm water pipes) (Check ONLY one box): One continue of the culverts or storm water pipes) (Check ONLY one box): One continue of the culverts or storm water pipes) (Check ONLY one box): One continue of the culverts or storm water pipes) (Check ONLY one box): One continue of the culverts or storm water pipes) (Check ONLY one box): One continue of the culverts or storm water pipes) (Check ONLY one box): One continue of the culverts or storm water pipes) (Check ONLY one box): One continue of the culverts or storm water pipes) (Check ONLY one box): One continue of the culverts or storm water pipes) (Check ONLY one box): One continue of the culverts or storm water pipes (Check ONLY one box): One continue of the culverts or storm water pipes (Check ONLY one box): One continue of the culverts or storm water pipes (Check ONLY one box): One continue of the culverts or storm water pipes (Check ONLY one box): One continue of the culverts or storm water pipes (Check ONLY one box): One continue of the culverts or storm water pipes (Check ONLY one box): One continue of the culverts or storm water pipes (Check ONLY one box): One continue of the culverts or storm water pipes (Check ONLY one box): One continue of the culverts or storm water pipes (Check ONLY one box): One continue of the culverts or storm water pipes (Check ONLY one box): One continue of the culverts or storm water pipes (Check ONLY one box): One continue of the culverts of the culverts or storm water pipes (Check ONLY one box): One continue of	Pool Depth Max = 30
COMMENTS	MAXIMUM POOL DEPTH (centimeters):	
3. BANK FULL WIDTH (Measured as the > 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] COMMENTS	average of 3-4 measurements) (Check ONLY one box):	Bankfull Width Max=30
	This information <u>must</u> also be completed	
RIPARIAN ZONE AND FLOODE RIPARIAN WIDTH (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS CORRES CO	FLOODPLAIN QUALITY L R (Most Predominant per Bank) Mature Forest, Wetland Immature Forest, Shrub or Old Field Residential, Park, New Field Conservation Tillage Urban or Industrial Open Pasture, Row Crop	
	aluation) (Check ONLY one box): Moist Channel, isolated pools, no flow (Intermittent)	
SINUOSITY (Number of bends p None 0.5	per 61 m (200 ft) of channel) (Check ONLY one box): 1.0	
STREAM GRADIENT ESTIMATE Flat (0 5 ft/100 ft) Flat to Moderate	☐ Moderate (2 n/100 n) Moderate to Severe ☐ Severe (10 n/100	0 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be C	Completed):
QHEI PERFORMED? - TYES TO NO QHEI Score	_(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	Distance from Evaluated Stream/, /
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE USGS Quadrangle Name: NR	WATERSHED AREA CLEARLY MARK THE SITE LOCATION CS Soil Map Page: NRCS Soil Map Stream Order
County: Township /	city: Sinking Spring
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation:	16 Quantity: 0.4
Photograph Information: 600, 7 dann	
Elevated Turbidity? (Y/N): N Canopy (% open): 60	
	nple no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	
Is the sampling reach representative of the stream (Y/N) M If not, please	se explain: majority of ottoan win
Additional comments/description of pollution impacts:	rast pile
	ections optional. NOTE: all voucher samples must be labeled with the site ets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observeds or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Micromments Regarding Biology.	ved? (Y/N) Voucher? (Y/N)
DRAWING AND NARRATIVE DESCRIPTION OF Include important landmarks and other features of interest for site	
5/4	N N
FLOW →	
est from	
	116
	S/A
	At .

	Mars Dd. Compan 120kV Transmission Line Desiret
	SITE NAMELOCATION Ware Rd - Seaman 138kV Transmission Line Project SITE NUMBER Stream 43 RIVER BASIN Sciot DRAINAGE AREA (mi²) 0.068
	LENGTH OF STREAM REACH (ft) 700 LAT. 39.026909 LONG83.280443 RIVER CODE RIVER MILE
	DATE 12/12/16 SCORER EP/AM COMMENTS
	NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions
	STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY MODIFICATIONS:
	1. SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.
	TYPE PERCENT TYPE PERCENT Metric
- 1	LA LA BLUR SLABS 110 DISI 1 1 SILI [3 PL]
	BEDROCK [16 pt] — FINE DETRITUS [3 pts] Superior All
	COBBLE (65-256 mm) [12 pts] 20 CLAY or HARDPAN [0 pt]
	GRAVEL (2-64 mm) [9 pts]
	Total of Percentages of Bldr Stabs, Boulder, Cobble, Bedrock 50 (A) 9 (B) 4 A + B
	SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:
	2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth
	evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): 30 centimeters [20 pts]
	□ > 22.5 - 30 cm [30 pts] □ <5 cm [5 pts] □ √
	> 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts]
	COMMENTS There are very tiny Pods, but only find yester the tare
	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] Width
	> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]
	COMMENTSAVERAGE BANKFULL WIDTH (meters)
	COMMENTSAVENAGE BARN GEE WIDTH (Motors)
-	This information must also be completed
ALLIM	RIPARIAN ZONE AND FLOODPLAIN QUALITY ANOTE: River Left (L) and Right (R) as looking downstream A
077001	RIPARIAN WIDTH FLOODPLAIN QUALITY L R (Per Bank) L R (Most Predominant per Bank) L R
width 91	₩ Wide >10m
TUDIL 71	Moderate 5-10m Immature Forest, Shrub or Old
holy 2	☐ Narrow <5m ☐ ☐ Residential, Park, New Field ☐ ☐ Open Pasture, Row Crop
	☐ ☐ None ☐ ☐ Fenced Pasture ☐ ☐ Mining or Construction
TAR	COMMENTS
100	FLOW REGIME (At Time of Evaluation) (Check ONLY one box):
width 12	Stream Flowing Moist Channel, isolated pools, no flow (Intermittent) Dry channel, no water (Ephemeral)
2016 31	COMMENTS A very little bit of small "Pools" only from yesterlags pain
or in 2	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)
	Direction of Direc

ADDITIONAL STREAM INFORMATION (This Information Must Also be Com	npleted):
QHEI PERFORMED? - Tyes No QHEI Score(if Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S) WWH Name:	Distance from Evaluated Stream Distance from Evaluated Stream Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WA	ATERSHED AREA. CLEARLY MARK THE SITE LOCATION
	Soil Map Page: NRCS Soil Map Stream Order
ounty: Township / City	
MISCELLANEOUS	y
ase Flow Conditions? (Y/N):	64"
mad a	
hotograph Information:	NF1 5/1821404
levated Turbidity? (Y/N): Canopy (% open):	
Vere samples collected for water chemistry? (Y/N): (Note lab sample	no. or id. and attach results) Lab Number:
ield Measures: Temp (°C) Dissolved Oxygen (mg/l) pl	
s the sampling reach representative of the stream (Y/N) If not, please e	explain:
Comments Regarding Biology:	
DRAWING AND NARRATIVE DESCRIPTION OF ST Include Important landmarks and other features of Interest for site even	
Corri loc	aluation and a harrange description of the stream's location
,	
EPAMZO1612125 Epheneral	TECENT CUTTUR / OFWING
	Trees w/ Piles of
LOW TOWN	brugh - some in stre
N. The state of th	steer approach stop 30-40%
	1 -11
Fallopit	
John Colony	

O	Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):
SITE	IAMELOCATION Ware Rd - Seaman 138kV Transmission Line Project SITE NUMBER STOCKM 44 RIVER BASIN SCIOTO DRAINAGE AREA (mi²) 0.0895
DATE, NOT	TH OF STREAM REACH (ft) 100 LAT. 39.031336 LONG83.271994 RIVER CODE RIVER MILE 12/12/16 SCORER F AM COMMENTS TE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions EAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY
MOD 1.	SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes
	(Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. Example Percent Type Percent Perce
SCOR	Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock 50 E OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES:
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): > 30 centimeters [20 pts]
3. Q X	BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): > 4.0 meters (> 13') [30 pts]
	This information must also be completed
HWM idth 10, ept. 2.5	RIPARIAN ZONE AND FLOODPLAIN QUALITY RIPARIAN WIDTH RIPARIAN
OB 50	□ Narrow <5m □ Residential, Park, New Field □ Open Pasture, Row Crop □ None □ Fenced Pasture □ Mining or Construction COMMENTS
lepth 15	FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Subsurface flow with isolated pools (Interstitial) COMMENTS Woist Channel, isolated pools, no flow (Intermittent) Dry channel, no water (Ephemeral)
	SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None

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)

OHEI PERFORMED? - Tyes No OHEI Score (IFYes, Attach Completed GHEI Form) DOWNSTREAM DESIGNATED USE(S) Distance from Evaluated Stream MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA CLEARLY MARK THE SITE LOCATION NRCS Sculdrangle Name: Latha and NRCS Scill Map Page: NRCS Scill Map Stream Order County: Township / City Latha and MISCELLANEOUS Base Flow Conditions? (YAN): NA Date of last precipitation: 17////16 Quantity: 0.4 " Photograph Information: P 2.4 Upstream dose stream Were samples collected for water chemistry? (YAN): Name has based on cord and attach results) Lab Number. Field Measures. Tempt C Dissolved Oxygen (mgh) pH (SU) Conductivity (tumbos/cm) Is the sampling reach representative of the stream (YAN) Y (If not, please explain: BIOTIC EVALUATION Performed? (YAN). Outcher? (YAN). Salamanders Observed? (YAN). Voucher? (YAN). Voucher? (YAN). Name of the Primary Headwater Habitial Assessment Manual) 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 of the primary Headwater Habitial Assessment Manual) 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 of the primary Headwater Habitial Assessment Manual) 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 of the primary Headwater Habitial Assessment Manual) DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):	ADDITIONAL STREAM INFORMATION (This information Must Also be Completed):	
CWH Name: Distance from Evaluated Stream Distance from Evaluation D	QHEI PERFORMED? - Tyes No QHEI Score(If Yes, Attach Complete	ed QHEI Form)
Distance from Evaluated Stream BWH Name: Distance from Evaluated Stream MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA CLEARLY MARK THE SITE LOCATION NRCS Soil Map Page: NRCS Soil Map Stream Crder Township / City Latham MISCELLANEOUS Base Flow Conditions? (Y/N): N Date of last precipitation: Patherman John Stream MISCELLANEOUS Base Flow Conditions? (Y/N): N Date of last precipitation: Photograph Information: Patherman John Stream More samples collected for water chemistry? (Y/N): N Canopy (% open): So Were samples collected for water chemistry? (Y/N): So The sampling reach representative of the stream (Y/N) If not, please explain: BIOTIC EVALUATION Performed? (Y/N): N (If Yes, Record all observations, Voucher collections optional, NOTE: all voucher samples must be labeled with the ID number, Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) 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 CONTROL OF THE 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 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		
Distance from Evaluated Stream MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION USGS Quadrangle Name:		
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION USGS Quadrangle Name:		
NRCS Soil Map Page: NRCS Soil Map Stream Order Township / City Latham MISCELLANEOUS Base Flow Conditions? (Y/N): N Date of last precipitation: 12/1/1/16 Quantity: 0,4" Photograph Information: P 24	LJ EWH Name: Distance	from Evaluated Stream
MISCELLANEOUS Base Flow Conditions? (Y/N): N Date of last precipitation: 12/11/16 Quentity: 0,4" Photograph Information: P 24		
Base Flow Conditions? (Y/N):	USGS Quadrangle Name: Latham NRCS Soil Map Page:	NRCS Soil Map Stream Order
Base Flow Conditions? (Y/N): N Date of last precipitation: 12/1/16 Quantity: 2.4 " Photograph Information: P 2.4	County: Pike Township/City. Lathau	1
Elevated Turbidity? (Y/N):	MISCELLANEOUS	
Elevated Turbidity? (Y/N):	Base Flow Conditions? (Y/N): N Date of last precipitation; 17/1/16 Quant	ty: 0,4"
Elevated Turbidity? (Y/N): WA Canopy (% open): 50 Were samples collected for water chemistry? (Y/N): Note lab sample no. or id. and attach results) Lab Number. Field Measures:	Photograph Information: P24 Upstream downstream	
Were samples collected for water chemistry? (Y/N):		
State sampling reach representative of the stream (Y/N)		esults) Lab Number:
Additional comments/description of pollution impacts: BIOTIC EVALUATION Performed? (Y/N):		
BIOTIC EVALUATION Performed? (Y/N):		
BIOTIC EVALUATION Performed? (Y/N):	s the sampling reach representative of the stream (Y/N) If not, please explain:	
BIOTIC EVALUATION Performed? (Y/N):		
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 COTITION AM 2016 12:125 10 FLOW	Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all ID number. Include appropriate field data sheets from the Primary Headwiftsh Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed?	rater Habitat Assessment Manual) r? (Y/N) d? (Y/N) Voucher? (Y/N)
Include Important landmarks and other features of Interest for site evaluation and a narrative description of the stream's location		
FLOW - COTTILOT EN AM 2016 12 12 5 10	Include Important landmarks and other feetures of Interest for alter suffer and a new of	
6560637500000000000000000000000000000000	COLLIS OF COLLIS 10	
Fortentially ephenetal stream	68 88 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	88.28
	Totaling el	La wellet
	She	am

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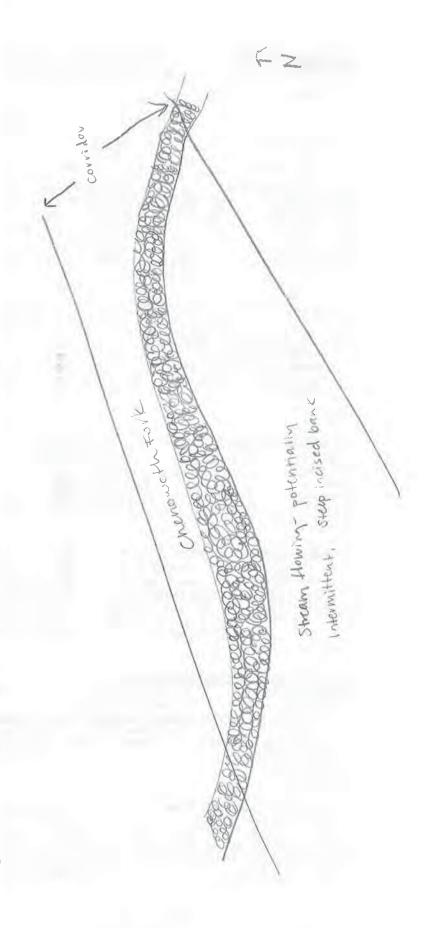
Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 49.5

Stream & Location.	Stream 45	Ware Rd - Sea	ıman 138kV	Transmission	Line Project	RM:	Date:	12/12	061
chenoweth for				Full Name & A					
River Code:		STORET #:_		Lat./ Long.:- NAD 83 - decimal ") _	39.036	9 183.	2613	Office	verified ocation
1] SUBSTRATE Che estir BEST TYPES BEST TYPES BLDR /SLABS [10] COBBLE [8] GRAVEL [7] GRAVEL [7] BEDROCK [5] NUMBER OF BEST Comments	POOL RIFFLE 30, 30 40, 40 20 5 TYPES: M4	every type present OTHER TY HARDPA DETRITE DET	PES POOL R	LIME LIME WET HARI SANI (ignore RIP/F burces) LACI	ORIGIN OSTONE [1] OS [1] LANDS [0] DPAN [0] DSTONE [0] RAP [0] USTURINE [0]	SILT	QUAL HEAVY MODER. NORMA FREE [1] MODER. MODER. MODER. NORMA	-2] ATE [-1] L [0]] IVE [-2] ATE [-1] L [0]	Substra 19 Maximul 20
quality; 3-Highest quality diameter log that is stable O UNDERCUT BAND O OVERHANGING NO SHALLOWS (IN SEROTMENTS [1])	quality; 2-M in moderate or e, well develope (S [1] /EGETATION [1]	greater amounts, greater amounts (ad rootwad in deep	e.g., very large o / fast water, or o > 70cm [2] VADS [1]	boulders in deep deep, well-defin O OXBOWS	p or fast water, I ed, functional p BACKWATER	arge cools. S [1]	Check ONE (C EXTENSIVE MODERATE SPARSE 5-	>75% [11] 25-75% [7 <25% [3]] 7]
3] CHANNEL MORP	HOLOGY Ch		category (Or 2 &		ABILITY				
☐ HIGH [4] ☐ ☐ MODERATE [3] ☐	EXCELLENT [7] GOOD [5] FAIR [3] POOR [1]	NONE [6] RECOVE	RED [4]	M ro □ wo				Channel Maximum 20	10
A] BANK EROSION River right looking downstr EROSION NONE / LITTLE [3] MODERATE [2] MHEAVY / SEVERE	RIPA	ARIAN WIDTH > 50m [4] ERATE 10-50m [3 ROW 5-10m [2] NARROW < 5m	PFOR SHR	h category for EA FLOOD PLA EST, SWAMP [3 UB OR OLD FIE IDENTIAL, PARA CED PASTURE, RO	AIN QUALIT e] eLD [2] c, new field [* [1]	Y R CO	A average) ONSERVATION RBAN OR IN INING / CON- oredominant I m riparian.	DUSTRIAL STRUCTIO and use(s) Riparian Maximum	. [0]
5] POOL / GLIDE AN MAXIMUM DEPTH Check ONE (ONLY!)	H CHA	RUN QUALIT ANNEL WIDTI ONE (Or 2 & aver	1	CURRENT Check ALL	VELOCITY that apply	001	Recreatio	n Potenti	
□ > 1m [6] □ 0.7-<1m [4] □ 0.4<0.7m [2] ■ 0.2<0.4m [1] □ < 0.2m [0]		OTH > RIFFLE WID OTH = RIFFLE WID OTH > RIFFLE WID	OTH [2]	RRENTIAL [-1] RY FAST [1] ST [1]	SLOW [1] INTERSTITIA INTERMITTE DEDDIES [1]	AL [-1] ENT [-2]	Secondal (circle one and c	ry Conta	ct
Comments		(1)						Maximum 12	0
Indicate for fun of riffle-obligate RIFFLE DEPTH BEST AREAS > 10cm BEST AREAS 5-10cm BEST AREAS < 5cm [metric=	e species: RUN [2]	DEPTH JM > 50cm [2] [7] JM < 50cm [1]	Check ONE (Or RIFFLE / R STABLE (e.g. MOD. STABL	2 & average). UN SUBSTR , Cobble, Bould	ATE RIFFI er) [2] ravel) [1]	E / RUN	EMBEDD NE [2]	Riffle /	
6] GRADIENT (15:	A. N	ERY LOW - LOW IODERATE [6-10] IGH - VERY HIGI		%POO	=	%GLIDE:	20	Gradient Maximum 10	4

	FJ MEASUREMENTS X width X depth max. depth X bankfull x depth bankfull X depth W//D ratio bankfull max. depth floodprone x² width entrench. ratio Legacy Tree:
stream, with little sinussity	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 0 / TILE / H ₂ 0 TABLE ACID / MINE / QUARRY / FLOW NATURAL / WETLAND / STAGNANT PARK / GOLF / LAWN / HOME ATMOSPHERE / DATA PAUCITY
stream wit	Circle some & COMMENT
Banks nearly vertical and	DJ MAINTENANCE 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
Banks ne	BJAESTHETICS □ NUISANCE ALGAE □ INVASIVE MACROPHYTES □ EXCESS TURBIDITY □ DISCOLORATION □ FOAM / SCUM □ OIL SHEEN □ OIL SHEEN □ NUISANCE ODOR □ SLUDGE DEPOSITS □ CSOS/SSOS/OUTFALLS 77ON AREA DEPTH
METHOD STAGE STA	RITY Passs- 2nd cm m V CTB I DEPTH cm

Stream Drawing:



DATE 12/12/16 SCORER EP AM COMME	46 LONG83.260612 RIVER CODE RIVER MILE
NOTE: Complete All Items On This Form - Refer to "Fi	eld Evaluation Manual for Ohio's PHWH Streams" for Instructions
STREAM CHANNEL ONONE / NATURAL CHANNEL MODIFICATIONS:	RECOVERED RECOVERING RECENT OR NO RECOVERY
(Max of 40). Add total number of significant substrate type TYPE BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts] BEDROCK [16 pt] COBBLE (65-256 mm) [12 pts] GRAVEL (2-64 mm) [9 pts]	HHEI Signature present. Check ONLY two predominant substrate TYPE boxes se found (Max of 8). Final metric score is sum of boxes A & B. PERCENT SILT [3 pt] SILT [3 pt] LEAF PACKWOODY DEBRIS [3 pts] FINE DETRITUS [3 pts] CLAY or HARDPAN [0 pt] MUCK [0 pts] ARTIFICIAL [3 pts] (B) A+B TOTAL NUMBER OF SUBSTRATE TYPES:
Maximum Pool Depth (Measure the maximum pool dependence of the evaluation. Avoid plunge pools from road culverts or storm > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	> 5 cm - 10 cm [15 pts] < 5 cm [5 pts] NO WATER OR MOIST CHANNEL [0 pts]
COMMENTS	MAXIMUM POOL DEPTH (centimeters):
BANK FULL WIDTH (Measured as the average of 3-4 m > 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]	neasurements) (Check <i>ONLY</i> one box): □ > 1.0 m - 1.5 m (> 3'3" - 4'8") [15 pts] □ ≤ 1.0 m (≤ 3'3") [5 pts] A5

	RIPARIAN ZONE AND FI	LOODPLAIN QUAL	nformation <u>must</u> also be complete ITY		ooking downstream☆
L R	(Per Bank) Wide >10m	L R	(Most Predominant per Bank) Mature Forest, Wetland	L R □	Conservation Tillage
	Moderate 5-10m		Immature Forest, Shrub or Old Field		Urban or Industrial
对对	Narrow <5m		Residential, Park, New Field		Open Pasture, Row Crop
	None COMMENTS		Fenced Pasture		Mining or Construction
	FLOW REGIME (At Time Stream Flowing Subsurface flow with isolat COMMENTS		Moist Chanr Dry channel	nel, isolated po , no water (Ep	ools, no flow (Intermittent) ohemeral)
	Vone	1.0	Oft) of channel) (Check ONLY one 2.0	box):	3.0
	0.5	1,5	L 2.3	_	, , ,

DDITIONAL STREAM IN	FORMATION (This Information Must A	Iso be Completed):		
	WED? - Yes No QHEI Score	(If Yes, Attach Co	ompleted QHEI Form)	
DOWNSTREAM	oto Brush Creek	Di	stance from Evaluated Stream	
DEWH Name:		Dis	stance from Evaluated Stream	
MAPPING: ATT	ACH COPIES OF MAPS, INCLUDING THE	ENTIRE WATERSHED AREA	A. CLEARLY MARK THE SITE LOCA	том
SGS Quadrangle Name:	Latham	NRCS Soil Map Page:	NRCS Soil Map Stream O	rder
ounty: Piko			ham	
MISCELLANEO				
		valulu	» » 4 "	
	/N): N Date of last precipitation:			
hotograph Information:	P-ZZ upstrea.		an	
levated Turbidity? (Y/N):	Canopy (% open):	15		
ere samples collected for	or water chemistry? (Y/N): (Note	lab sample no. or id, and at	ttach results) Lab Number:	
eld Measures. Temp	(°C) Dissolved Oxygen (mg/l)	pH(S.U.)	Conductivity (umbos/cm)	And the same of th
	esentative of the stream (Y/N) Y If no			
the sampling reach repre	esentative of the stream (Y/N) If he	ot, please explain:		
BIOTIC EVALU		No real	floodplath prese	14
erformed? (Y/N):	(If Yes, Record all observations, Vouc ID number. Include appropriate field of			
sh Observed? (Y/N)	Voucher? (Y/N) Salamanders	s Observed? (Y/N) \	Voucher? (Y/N)	
ogs or Tadpoles Observe	ed? (Y/N) Aqu	uatic Macroinvertebrates O	bserved? (Y/N) Voucher? (Y/N	N)
omments Regarding Biolo	ogy			
				
DRAWING	AND NARRATIVE DESCRIPTION	ON OF STREAM REA	CH (This must be complete	20/1
	andmarks and other features of Interest			
morado important i	4			310041011
- 11	EPAMZO	161717 508	Chenodelly Branch	
- 11				Die would
	ar	The some of the se	loli!	Danks heary
LOW	1000000000	80000	10000	Banks nearly Vertical - (steep incised) +/ 6
	6 X 8500 PSO		50 600	incised) + 6
		000000	101	
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		463620 am		

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OrieFPA Primary Headwater Habitat Evaluation Form

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	nnet sc	ore (sum of metrics 1, 2, 3)
SITE NAME/LOCATION Ware Rd - Sear	nan 138kV Transmission Line Proje	ect
SITE NUMBER	Stream 47 RIVER BASIN O 17	DRAINAGE AREA (MP)
LENGTH OF STREAM REACH (16)/G DATE///// SCORER//	LAT. 39.040518 LONG83.254864	RIVER CODE RIVER MILE
		al for Ohio's PHWH Streams" for Instructions
STREAM CHANNEL NONE /	vatural channel	RECOVERING TRECENT OR NO RECOVERY
1. SUESTRATE (Estimate percent of (Max of 40). Add total number of sign	every type of substrate present. Check ONL ificant substrate types found (Max of 8). Final PERCENT TYPE SILT [3 pt]	metric score is sum of boxes A & B. PERCENT 9 5
BOULDER (>256 mm) [16 pts] BEDROCK [16 pt]	LEAF PACKW	OODY DEBRIS [3 pts] 30 Substra
☐ ☐ GOBBLE (65-256 mm) [12 pts]	CLAY or HARD	I Wax =
GRAVEL (2-64 mm) [9 pts]	16	10
SAND (<2 mm) [6 pis]	tertion 1	
Total of Percentages of Bidr Siabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SU		JMBER OF SUBSTRATE TYPES:
evaluation. Avoid plunge pools from > 30 centimeters [26 pts] > 22.5 - 30 cm [36 pts] > 10 - 22.5 cm [25 pts]		ONLY one box): m [15 pts] DR MOIST CHANNEL [0 pts]
COMMENTS	Market Company of the	UM POOL DEPTH (centimeters):
3. BANK FULL WIDTH (Measured as 1 > 4.0 maters (> 13) [30 pts] > 3.0 m - 4.0 m (> 9' T - 13) [25 pts] > 1.5 m - 3.0 m (> 4'8' - 9' T') [20 pts]	> 1.0 m - 1.51 \$ 1.0 m (≤ 3'	(Check ONLY one box): n (> 3' 3" - 4' 8") [15 pts] Width Max=3 (5 pts]
COMMENTS	AVERA	
	This information must also be co	npleted _) and Right (R) as looking downstreamಳು
RIPARIÁN ZONE AND FLOG RIPARIAN WIDTH	FLOODPLAIN QUALITY	-) and right (is) as looking downstreams
L R (Per Bank) Wide >10m	L R (Most Predominant per Bank Mature Forest, Wetland	LR
Moderate 5-10m	Immature Forest, Shrub or O	
51.5	Fleid	- Open Bookura Bow
☐ ☐ Narrow <5m	Residential, Park, New Field Fenced Pasture	Crop
☐ ○ None COMMENTS	Fenced Pasture	Mining or Construction
FLOW REGIME (At Time of E Stream Flowing Subsurface flow with isolated to COMMENTS	Moist	Channel, isolated pools, no flow (intermittent) nannel, no water (Ephemeral)
None (Number of benderation)	Is per 61 m (200 ft) of channel) (Check <i>ONL</i> 1.0	Y one box): ☐ 3.0 ☐ >3
STREAM GRADIENT ESTIMATE Flat to 5 t/100 #1	☐ Moderate (2 t/ 100 ft) ☐ Mod	erate to Severe Severe (10 ib/100 it)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Comp	pleted):
QHEI PERFORMED? - TYES TWO QHEI Score(IF	Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
D CWH Name: Chemowe To Branc 7	Distance from Evaluated Stream
D EWH Name:	Distance from Evaluated Stream
	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WAT	FERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: Latham NRCS S	Soil Map Page: NRCS Soil Map Stream Order
County: Township/City.	- N - 1 1
MISCELLANEOUS	The state of the s
Base Flow Conditions? (Y/N): N Date of last precipitation:	116
	16 Quantity: 0.2
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open):	
Were samples collected for water chemistry? (Y/N): (Note lab sample r	no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH	
is the sampling reach representative of the stream (Y/N) / If not, please ex	
Thot, please ax	cpraint;
Additional comments/description of pollution impacts:	1 Cut
	* 1
Performed? (Y/N): (If Yes, Record all observations. Voucher collection ID number: include appropriate field data sheets from the collection in the co	ns optional. NOTE: all voucher samples must be labeled with the sir rom the Primary Headwater Habitat Assessment Manual) (Y/N) Voucher? (Y/N) Voucher? (Y/N) nvertebrates Observed? (Y/N) Voucher? (Y/N)
	
	10 mg 10 mg 12 mg
DRAWING AND NARRATIVE DESCRIPTION OF ST	REAM REACH (This <u>must</u> be completed):
Include important landmarks and other features of interest for site eva	duation and a narrative description of the stream's location
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NN UDF	5-29
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п	20	1

DATE 17.///// SCORED AJK	Strcam 48 RIVER BASIN 01, c DRAINAGE AREA (MP) () LAT. 39.040397 LONG83.25485 RIVER CODE RIVER MILE -	
	orm - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instru	ctions
	ATURAL CHANNEL TRECOVERED TRECOVERING TRECENT OF NO RECOVERING	
(Mex of 40). Add total number of signif	vary type of substrate present. Check ONLY two predominant substrate TYPE boxes ficant substrate types found (Max of 8). Final metric score is sum of boxes A & B. PERCENT TYPE PERCENT SILT [3 pt] LEAF PACKWOODY DEBRIS [3 pts] FINE DETRITUS [3 pts] 40 CLAY or HARDPAN [6 pt] MUCK [0 pts] ARTIFICIAL [3 pts] (B)	HHEI Metric Points Substrate Max = 40
Bidr Slabs, Boulder, Cobble, Bedrock _ SCORE OF TWO MOST PREDOMINATE SUB	SSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES:	Pool Depth
evaluation. Avoid plunge pools from ro 30 centimeters [26 pts] > 22.5 - 30 cm [36 pts] > 10 - 22.5 cm [25 pts]	pad culverts or storm water pipes) (Check ONLY one box): Check ONLY one box): > 5 cm - 10 cm [15 pts] < 5 cm [5 pts] NO WATER OR MOIST CHANNEL [0 pts]	Max = 30
COMMENTS	MAXIMUM POOL DEPTH (centimeters):	
3. BANK FULL WIDTH (Measured as th > 4.0 maters (> 13') [30 pts] > 3.0 m · 4.0 m (> 9' 7" - 13') [26 pts] > 1.5 m · 3.0 m (> 4' 8" - 9' 7") [20 pts]	ne average of 3-4 measurements) (Check ONLY one box): □ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] □ s 1.0 m (≤ 3' 3") [5 pts]	Bankfull Width Max=30
COMMENTS	AVERAGE BANKFULL WIDTH (meters)	-
	This information must also be completed	
RIPARIAN ZONE AND FLOOE RIPARIAN WIDTH L R (Per Banit)	DPLAIN QUALITY &NOTE: River Left (L) and Right (R) as looking downstream & FLOODPLAIN QUALITY L. R. (Most Predominant per Bank) L. R.	
RIPARIAN WIDTH (Per Bank) Wide >10m	PPLAIN QUALITY ANOTE: River Left (L) and Right (R) as looking downstream from the following down	
RIPARIAN WIDTH L R > (Per Bank)	DPLAIN QUALITY	
RIPARIAN WIDTH (Per Bank) Wide > 10m Moderate 5-10m Narrow < 5m None COMMENTS FLOW REGIME (At Time of Events	PPLAIN QUALITY ANOTE: River Left (L) and Right (R) as looking downstream FLOODPLAIN QUALITY L R (Most Predominant per Bank) Mature Forest, Welland Impature Forest, Shrub or Old Imp	
RIPARIAN WIDTH (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of Ev.) Stream Flowing Subsurface flow with isolated po	PPLAIN QUALITY ANOTE: River Left (L) and Right (R) as looking downstream FLOODPLAIN QUALITY L R (Most Predominant per Bank) Mature Forest, Welland Impature Forest, Shrub or Old Imp	

ADDITIONAL STREAM INFORMATION (This Information Must Als	o be Completed):
QHEI PERFORMED? - TYES AND QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
DWWH Name: Chenqueth Branch	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE E	NTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: La + ha M	NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Pike Town	
	iship / City.
MISCELLANEOUS	12 1/11/19
Base Flow Conditions? (Y/N): Date of last precipitation:	12/6/16 Quantity: 0.2
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open): & C	G
Were samples collected for water chemistry? (Y/N): (Note la	b 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)	njease evnjajn
	, россо охрань
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
V	
Performed? (Y/N): (If Yes, Record all observations. Vouch	er collections optional. NOTE: all voucher samples must be labeled with the site its sheets from the Primary Headwater Habitat Assessment Manual)
A Committee of the comm	
Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aqui	Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
Comments Regarding Biology: Fish	
	A CONTRACTOR OF THE PARTY OF TH
DRAWING AND NARRATIVE DESCRIPTION	N OF STREAM REACH (This must be completed):
Include important landmarks and other features of Interest f	or site evaluation and a narrative description of the stream's location
· Pacl ~ Zow	Fort's t
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Akbs 2016 | 21| 53 \ ChieFPA Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

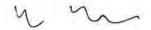
SITE NAME/LOCATION Ware Rd - Seaman 13		
The state of the s	8kV Transmission Line Project	
SITE NUMBER STYCE	um 49 RIVER BASIN Ohro DRAINAGE AREA (m²) Z/	mi
	39.048014 LONG83.240405 RIVER CODE RIVER MILE	
DATE 12/1//6 SCORER ASK	COMMENTS	
NOTE: Complete All Items On This Form - Re	efer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruct	ions
STREAM CHANNEL NONE / NATURAL	CHANNEL TRECOVERED TRECOVERING TRECENT OR NO RECOVE	RY
MODIFICATIONS:		
*		
SUBSTRATE (Estimate percent of every type	e of substrate present. Check ONLY two predominant substrate TYPE boxes	HHEI
(Max of 40). Add total number of significant sui	NT TYPE PERCENT N	detric
BLOR SLABS [16 pts]	SILT (3 pt)	oints
☐ ☐ BOULDER (>256 mm) [16 pts]	G G FINE DETRITUS IS NO.	lubstrate
COBBLE (65-256 mm) (12 pts) 25	CLAY or HARDPAN (0 pt)	Max = 40
GRAVEL (2-84 mm) [9 pts] 30	MUCK [0 pts]	28
SAND (<2 mm) [6 pts] 20	ARTIFICIAL [3 pts]	
Total of Percentages of Bldr Slabs, Boulder Cobble Bedrock	(A) 7 (B) 7	A + B
Bidr Slabs, Boulder, Cobble, Bedrock		
C Manipular Deal Death (Alexandra the manipular	um pool depth within the 61 meter (200 ft) evaluation reach at the time of	oal Depth
 Maximum Pool Depth (Measure the maximum evaluation. Avoid plunge pools from road culve 	orts or storm water pipes) (Check ONLY one box):	Max = 30
> 30 centimeters [20 pts]	> 5 cm - 10 cm [15 pts]	1- 1
> 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	NO WATER OR MOIST CHANNEL (0 pts)	15
COMMENTS	MAXIMUM POOL DEPTH (centimeters):	
	to previous St.	16.0
3, BANK FULL WIDTH (Measured as the avera > 4.0 meters (> 13') [30 pts]	> 1.0 m - 1.5 m (> 3'3" - 4'8") [15 pts]	Bankfull Width
> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	S 1.0 m (s 3'3") [5 pts]	Max=30
> 1.5 m · 3.0 m (> 4° 8° - 9′ 7") [20 pts]	7.2	25
COMMENTS	AVERAGE BANKFULL WIDTH (meters)	
COMMENTO		
COMMENTO.		
411	This information must also be completed QUALITY &NOTE: River Left (L) and Right (R) as looking downstreams	
RIPARIAN ZONE AND FLOODPLAIN RIPARIAN WIDTH	QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆ OODPLAIN QUALITY	
RIPARIAN ZONE AND FLOODPLAIN RIPARIAN WIDTH L R (Per Bank) L	QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆ OODPLAIN QUALITY R (Most Predominant per Bank) L R	
RIPARIAN ZONE AND FLOODPLAIN RIPARIAN WIDTH L R (Per Bank) L Wide > 10m	QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream ☆ CODPLAIN QUALITY R (Most Predominant per Bank) L R Mature Forest, Wetland □ □ Conservation Tillage Imalure Forest Shrub or Old □ Urban or Industrial	
RIPARIAN ZONE AND FLOODPLAIN RIPARIAN WIDTH L R (Per Bank) Wide > 10m Moderate 5-10m	QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream ☆ OODPLAIN QUALITY R (Most Predominant per Bank) L R Mature Forest, Wetland □ Conservation Tillage Immature Forest Shrub or Old □ Urban or Industrial Field □ Onep Pasture Row	
RIPARIAN ZONE AND FLOODPLAIN RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m	QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream ☆ OODPLAIN QUALITY R (Most Predominant per Bank) L R Mature Forest, Wetland □ Conservation Tillage Imalure Forest Shrub or Old □ Urban or Industrial Residential, Park, New Field □ □ Open Pasture, Row Crop	
RIPARIAN ZONE AND FLOODPLAIN RIPARIAN WIDTH FL L R (Per Bank) L Wide >10m Moderate 5-10m Narrow <5m None	QUALITY &NOTE: River Left (L) and Right (R) as looking downstream CODPLAIN QUALITY R (Most Predominant per Bank) L R Mature Forest, Wetland Conservation Tillage Imalure Forest Shrub or Old Urban or Industrial Residential Park New Field Open Pasture, Row	
RIPARIAN ZONE AND FLOODPLAIN RIPARIAN WIDTH FL (Per Bank) Wide > 10m Moderate 5-10m Narrow <5m None COMMENTS	QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream ☆ OODPLAIN QUALITY R (Most Predominant per Bank)	
RIPARIAN ZONE AND FLOODPLAIN RIPARIAN WIDTH FL L R (Per Bank) L Wide >10m Moderate 5-10m Narrow <5m None	QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream ☆ OODPLAIN QUALITY R (Most Predominant per Bank)	
RIPARIAN ZONE AND FLOODPLAIN RIPARIAN WIDTH L R (Per Bank) L Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of Evaluation Stream Flowing Subsurface flow with isolated pools (Internal Pools of Company)	QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream ☆ CODPLAIN QUALITY R (Most Predominant per Bank)	
RIPARIAN ZONE AND FLOODPLAIN RIPARIAN WIDTH L R (Per Bank) L Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of Evaluation Stream Flowing Subsurface flow with isolated pools (Intercomments)	QUALITY ANOTE: River Left (L) and Right (R) as looking downstream OODPLAIN QUALITY R (Most Predominant per Bank) L R Mature Forest, Wetland	
RIPARIAN ZONE AND FLOODPLAIN RIPARIAN WIDTH L R (Per Bank) L Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of Evaluation Stream Flowing Subsurface flow with isolated pools (Intercomments) SINUSTY (Number of bends per 61	QUALITY ANOTE: River Left (L) and Right (R) as looking downstream OODPLAIN QUALITY R (Most Predominant per Bank) L R Mature Forest, Wetland	
RIPARIAN ZONE AND FLOODPLAIN RIPARIAN WIDTH L R (Per Bank)	QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream ☆ OODPLAIN QUALITY R (Most Predominant per Bank)	
RIPARIAN ZONE AND FLOODPLAIN RIPARIAN WIDTH FL (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of Evaluation Stream Flowing Subsurface flow with Isolated pools (Intercomments COMMENTS SINUOSITY (Number of bends per 61 None	QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream ☆ OODPLAIN QUALITY R (Most Predominant per Bank)	

QHEI PERFORMED? - Yes No QHEI Score (If Yes, Attach Completed QHEI Form)	
DOWNSTREAM DESIGNATED USE(S)	* 4
LWWH Name: Chen well the Branch Distance from Evaluated Stream	
CWH Name: Distance from Evaluated Stream	
EWH Name: Distance from Evaluated Stream	
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATIO	N
SGS Quadrangle Name: Lath 9 m NRCS Soil Map Page: NRCS Soil Map Stream Order	
ounty: PIKE Township/City: Pecble 5	
Township / City,	
MISCELLANEOUS	
ase Flow Conditions? (Y/N): Date of last precipitation: Z/6///Quantity:	
hotograph Information:	
levated Turbidity? (Y/N):/_ Canopy (% open):/ O &	
/ere samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:	
ield Measures: Temp (°C)Dissolved Oxygen (mg/l)pH (S.U.)Conductivity (µmhos/cm)	
the sampling reach representative of the stream (Y/N) If not, please explain:	
17 not, prease explain:	
dditional comments/description of pollution impacts:	
Charles and Committee and Comm	
erformed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled vib number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N)	
erformed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled v ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N)	
erformed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled voucher. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) is h Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) _	
erformed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled v ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N)	
erformed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled vID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N)	<u>~</u>
erformed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled vID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N)	<u>~</u>
erformed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled vID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N)	<u>~</u>
erformed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled vide in ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) Omments Regarding Biology C = Description of STREAM REACH (This must be completed):	<u>~</u>
erformed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled vID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N)	<u>~</u>
erformed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled vID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N)	<u>~</u>
erformed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled vide number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) ish Observed? (Y/N) Voucher? (Y/N)	<u>~</u>
erformed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled vID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N)	<u>~</u>
erformed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled vide number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) ish Observed? (Y/N) Voucher? (Y/N)	<u>~</u>
erformed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled in number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) ish Observed? (Y/N) Voucher?	coation
erformed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled vide number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) ish Observed? (Y/N) Voucher? (Y/N)	coation

Chief Primary Headwater Habitat Evaluation Form

SILEMANNE	OCATION Ware Rd - Sea	aman 138kV Transmission Line Project	
- 1 - 197 HALLET	SITE NUMBER	STEAM 50 RIVER BASIN OND DRAINAGE AREA (ml²)	0.1m
ENGTH OF	STREAM REACH (#) ZOC	LAT. 39.05166 LONG83.233462 RIVER CODE RIVER MILE	
DATEIZI	1/16 SCORER SCHTZ	\$ 15 COMMENTS WIDE TOB WIDTH DUE TO TOPOLICATIONY	
		Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instr	uctions
STREAM C	HANNEL DONONE	NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECO	
		f every type of substrate present. Check ONLY two predominant substrate TYPE boxes	
	c of 40) Add total number of sign	nlficant substrate types found (Max of 8). Final metric score is sum of boxes A & B.	HHE
TYPE	BLDR SLABS [16 pts]	PERCENT TYPE PERCENT SILT [3 pt]	Point
	BOULDER (>256 mm) [16 pts]	30 LEAF PACKWOODY DEBRIS [3 pts]	1.500
	BEDROCK [16 pt]	FINE DETRITUS [3 pts]	Substrat Max = 4
<u>`</u>	COBBLE (65-256 mm) [12 pts]		
	GRAVEL (2-64 mm) [9 pts]	Z5	32
	SAND (<2 mm) [6 pts]	ARTIFICIAL [3 pts]	1
Bldr	Total of Percentages of Slabs, Boulder, Cobble, Bedrock	k 63 (A) 28 (B) 4	A+B
SCORE OF T	WO MOST PREDOMINATE SU	JBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES:	
2. Maxi	Insum Deal Death (Manaum the	the manufacture was I doubt with his the St. mater (000 th) and with a was health a line of	D1 D
		road culverts or storm water pipes) (Check ONLY one box):	Pool Dep Max = 3
> 30 c	centimeters [20 pts]	> 5 cm - 10 cm [15 pts]	
> 22.5	5 - 30 cm [30 pts] - 22.5 cm [25 pts]	< 5 cm [5 pts] NO WATER OR MOIST CHANNEL [0 pts]	25
Ç2 - 10	- 22.0 GH [20 pts]	15	-V
CON	MENTS	MAXIMUM POOL DEPTH (centimeters):	
BAN	K FULL WIDTH (Measured as t	the average of 3-4 measurements) (Check ONLY one box):	Bankful
	meters (> 13') [30 pts] m - 4.0 m (> 9' 7" - 13') [25 pts]	□ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] □ ≤ 1.0 m (≤ 3' 3") [5 pts]	Width Max=30
	m - 3.0 m (> 4' 8" - 9' 7") [20 pts]		Fig. 3
		1.81	20
CON	IMENTS	AVERAGE BANKFULL WIDTH (meters)	E
		This information must also be completed	-
	RIPARIAN ZONE AND FLOO	· · · · · · · · · · · · · · · · · · ·	
	RIPARIAN WIDTH	FLOODPLAIN QUALITY	
L F		L R (Most Predominant per Bank) L R □ □ Mature Forest, Wetland □ □ Conservation Tillage	
	P ************************************		
	Moderate 5 10m	Immature Forest, Shrub or Old	
		Field Urban or Industrial	
	Narrow <5m	Field Urban or Industrial Property of the Coop Open Pasture, Row Crop	
	Narrow <5m	Field Urban or Industrial Residential Park, New Field Open Pasture, Row	
	Narrow <5m	Field Urban or Industrial Open Pasture, Row Crop	
	Narrow <5m None COMMENTS	Field Orban or Industrial Open Pasture, Row Crop Fenced Pasture Mining or Construction Evaluation) (Check ONLY one box):	
	Narrow <5m None COMMENTS FLOW REGIME (At Time of E Stream Flowing	Field Open Pasture, Row Crop Fenced Pasture Whining or Construction Evaluation) (Check ONLY one box): Moist Channel, isolated pools, no flow (Intermittent)	
	Narrow <5m None COMMENTS FLOW REGIME (At Time of E	Field Orban or Industrial Open Pasture, Row Crop Mining or Construction Evaluation (Check ONLY one box): Moist Channel, isolated pools, no flow (Intermittent)	
	Narrow <5m None COMMENTS FLOW REGIME (At Time of E Stream Flowing Subsurface flow with isolated p COMMENTS	Field Open Pasture, Row Crop Mining or Construction Evaluation (Check ONLY one box): Dry channel, isolated pools, no flow (Intermittent) Dry channel, no water (Ephemeral)	
	Narrow <5m None COMMENTS FLOW REGIME (At Time of E Stream Flowing Subsurface flow with isolated p COMMENTS	Field Open Pasture, Row Crop Mining or Construction Evaluation (Check ONLY one box): Drown or Industrial Open Pasture, Row Crop Mining or Construction Moist Channel, isolated pools, no flow (Intermittent) Dry channel, no water (Ephemeral) Open Pasture, Row Crop Mining or Construction Moist Channel, isolated pools, no flow (Intermittent) Dry channel, no water (Ephemeral)	
	Narrow <5m None COMMENTS FLOW REGIME (At Time of E Stream Flowing Subsurface flow with isolated p COMMENTS SINUOSITY (Number of beng	Field Open Pasture, Row Crop Mining or Construction Evaluation (Check ONLY one box): Drown or Industrial Open Pasture, Row Crop Mining or Construction Moist Channel, isolated pools, no flow (Intermittent) Dry channel, no water (Ephemeral) Open Pasture, Row Crop Mining or Construction Moist Channel, isolated pools, no flow (Intermittent) Dry channel, no water (Ephemeral)	
	Narrow <5m None COMMENTS FLOW REGIME (At Time of E Stream Flowing Subsurface flow with isolated p COMMENTS SINUOSITY (Number of benco	Field General Pasture General Gen	

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):	OUMITY STROM MUST PROMO BUT ASDS LITTE TO PEELS
QHEI PERFORMED? - Yes No QHEI Score(If Yes, Attach Completed QHEI	Form) BUT ADDS LIME TO FEEL
DOWNSTREAM DESIGNATED USE(S)	Deplyment Trees
WWH Name: CHEMWORTH BRANCH Distance from EV	
CWH Name: Distance from Ev	
EWH Name: Distance from Eve	aluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY N	MARK THE SITE LOCATION
SGS Quadrangle Name: LATTHAM NRCS Soil Map Page: NRC	S Soil Map Stream Order
ounty: PIKE Township/City: PECRUS	
MISCELLANEOUS	
see Flow Conditions? (Y/N): Y Date of last precipitation: 12/6/16 Quantity: O	:2_
notograph Information:	
evated Turbidity? (Y/N):H Canopy (% open):90	
ere samples collected for water chemistry? (Y/N): 1. (Note lab sample no. or id. and attach results) L	ab Number:
eld Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S _I U ₁) Conductivit	y (µmhos/cm)
the sampling reach representative of the stream (Y/N) Y If not, please explain:	
ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N)	oitat Åssessment Manual)
erformed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher ID number Include appropriate field data sheets from the Primary Headwater Hat ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N)	oitat Åssessment Manual) Y Voucher? (Y/N)
erformed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher ID number Include appropriate field data sheets from the Primary Headwater Hat ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) comments Regarding Biology: Primary Headwater Hat	nust be completed):
erformed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher ID number Include appropriate field data sheets from the Primary Headwater Hat ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) omments Regarding Biology:	nust be completed):
erformed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher ID number. Include appropriate field data sheets from the Primary Headwater Hat ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) omments Regarding Biology: Primary Headwater Hat Aquatic Macroinvertebrates Observed? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Observed? (Y/N) Observed? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N)	nust be completed):
(If Yes, Record all observations. Voucher collections optional. NOTE: all voucher ID number. Include appropriate field data sheets from the Primary Headwater Hat ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This material important landmarks and other features of interest for site evaluation and a narrative description of the	voucher? (Y/N)
erformed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher ID number Include appropriate field data sheets from the Primary Headwater Hat ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) comments Regarding Biology Primary On Y/N Aquatic Macroinvertebrates Observed? (Y/N) DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This material important landmarks and other features of interest for site evaluation and a narrative description of the primary of the pri	nust be completed):
erformed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher ID number Include appropriate field data sheets from the Primary Headwater Hat ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) comments Regarding Biology: Primary Headwater Hat	voucher? (Y/N)
erformed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher ID number Include appropriate field data sheets from the Primary Headwater Hat ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) comments Regarding Biology Primarch On Y-A Aquatic Macroinvertebrates Observed? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Comments Regarding Biology	voucher? (Y/N)



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	12/11/16 SCORER EP	LAT. 39.056581 LONG83.22421 RIVER CODE RIVER MILE A M _ COMMENTS m - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruct	
	AM CHANNEL NONE / NA FICATIONS:	TURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVE	ERY
	(Max of 40). Add total number of signification of the state of the sta	PERCENT	HHEI Metric Points Substrate Max = 40
00		ad culverts or storm water pipes) (Check ONLY one box): Som - 10 cm [15 pts] < 5 cm [5 pts] NO WATER OR MOIST CHANNEL [0 pts]	ool Depth Max = 30
	BANK FULL WIDTH (Measured as the > 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]	e average of 3-4 measurements) (Check ONLY one box):	Bankfull Width Max=30
	RIPARIAN ZONE AND FLOODI RIPARIAN WIDTH L R_ (Per Bank)	This Information must also be completed PLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆ FLOODPLAIN QUALITY L R (Most Predominant per Bank) L R □ □ Mature Forest, Wetland □ □ Conservation Tillage	
	Wide >10m Moderate 5-10m Narrow <5m None	Immature Forest, Vectorial Immature Forest, Shrub or Old Field Open Pasture, Row Crop Fenced Pasture Mining or Construction	
	Wide > 10m Moderate 5-10m Narrow < 5m None COMMENTS	Immature Forest, Shrub or Old	

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed	<u>D:</u>
QHEI PERFORMED? - TYes No QHEI Score(If Yes, A	Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
☐ WWH Name:	Distance from Evaluated Stream
CWH Name:	
D EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSH	
USGS Quadrangle Name: Latham NRCS Soil Ma	ap Page: NRCS Soil Map Stream Order
County: Township/City:	Latham
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation:	
Photograph Information: 20 upstream downstr	earn
Elevated Turbidity? (Y/N): N/A Canopy (% open): 96	
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or i	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) If not, please explain:	Loses definition
somewhat at south end of read	h in coiridor and beyond
Additional comments/description of pollution impacts:	
Performed? (Y/N): (If Yes, Record all observations. Voucher collections optil ID number. Include appropriate field data sheets from the Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertel Comments Regarding Biology:	Voucher? (Y/N)
DRAWING AND NARRATIVE DESCRIPTION OF STREA Include important landmarks and other features of Interest for site evaluation	
EPAMZO161211567 Chemeral nation chain	gravelly within I more

Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3): SITE NAME/LOCATION. Ware Rd - Seaman 138kV Transmission Line Project SITE NUMBER Stream 52 RIVER BASIN Chenneth Branch DRAINAGE AREA (mi2) LI mi2 LENGTH OF STREAM REACH (ft) 200 LAT. 39.06126LONG. -83.454 RIVER CODE ____ RIVER MILE ____ DATE 12/11/16 SCORER EP AM COMMENTS NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY STREAM CHANNEL **MODIFICATIONS:** SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes HHEI (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. Metric PERCENT **TYPE Points** XXX BLDR SLABS [16 pts] SILT [3 pt] 図口 LEAF PACKWOODY DEBRIS [3 pts] BOULDER (>256 mm) [16 pts] Substrate BEDROCK [16 pt] FINE DETRITUS [3 pts] Max = 40X O COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt] 図口 10 GRAVEL (2-64 mm) [9 pts] MUCK [0 pts] SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] (B) Total of Percentages of A+B 80 Bldr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES: Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max = 30 > 5 cm - 10 cm [15 pts] > 30 centimeters [20 pts] П < 5 cm [5 pts] > 22.5 - 30 cm [30 pts] Ø > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts] MAXIMUM POOL DEPTH (centimeters): COMMENTS Bankfull 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] 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] COMMENTS Bank mostly 15-20 Wife ___ AVERAGE BANKFULL WIDTH (meters) but side channel included partially within OHWM Mostly tetraight Channe 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) (Per Bank) 00 Mature Forest, Wetland Conservation Tillage Wide >10m Immature Forest, Shrub or Old Moderate 5-10m Urban or Industrial Field Open Pasture, Row Residential, Park, New Field Narrow <5m Crop ☐ ☐ Fenced Pasture None Mining or Construction COMMENTS plant community FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Moist Channel, isolated pools, no flow (Intermittent) Stream Flowing Dry channel, no water (Ephemeral) Subsurface flow with isolated pools (Interstitial) 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 STREAM GRADIENT ESTIMATE

☐ Moderate (2 ft/100 ft)

Moderate to Severe

Severe (10 ft/100 ft)

Flat (0 5 ft/100 ft)

☐ Flat to Moderate

OHWM

QHEI PERFORM	IED? - Tyes No QHEI Score	e (If Yes, Attac	h Completed QHEI Form)	
	DESIGNATED USE(S)			
WWH Name:			_ Distance from Evaluated Stream	
			Distance from Evaluated Stream	
			Distance from Evaluated Stream	
MAPPING: ATTA	ACH COPIES OF MAPS, INCLUDING	THE ENTIRE WATERSHED	AREA. CLEARLY MARK THE SITE LO	CATION
			age: NRCS Soil Map Stream	
County:	Pike.	Township / City:	Lutham	
MISCELLANEO	us			
Base Flow Conditions? (Y/	N): Date of last precipitation	n: 12/10/10	Quantity: 0.01	
Photograph Information:	17	,		-
Elevated Turbidity? (Y/N):	Canopy (% open):	25		
Were samples collected fo	water-chemistry? (Y/N): N (N	Note lab sample no. or id. a	nd attach results) Lab Number.	
Field Measures: Temp	(°C) Dissolved Oxygen (mg	n)pH (S.U.)	Conductivity (µmhos/cm)	
	esentative of the stream (Y/N)			
rish Observed? (Y/N) Norogs or Tadpoles Observe	Voucher? (Y/N) Salamai ed? (Y/N) Voucher? (Y/N) N		mary Headwater Habitat Assessment Ma Voucher? (Y/N)_N Voucher? (Y/N)_N Voucher? (**)	440.514
	andmarks and other features of Inte		REACH (This <u>must</u> be compled a narrative description of the streat	
FLOW	High Flow channel	OHWN		
/		/		

Chief Primary Headwater Habitat Evaluation Form

	nr	1E1 Score (sum of met	rics 1, 2, 3) .	
SITE NAME/LOCATION Ware Rd - Seama				
SITE NUMBER_St	<u>1-eam 53</u> RIVER BASIN <u>(</u>	Chenoweth BrandoRA	NAGE AREA (mi²)	1 600
DATE 12/11/16 SCORER ER AW	COMMENTS			
NOTE: Complete All Items On This Form	- Refer to "Field Evaluation	on Manual for Ohio's PHWI	Streams" for Instru	uctions
STREAM CHANNEL NONE/NAT	URAL CHANNEL TRECOVI	ERED TRECOVERING	RECENT OR NO RECO	VERY
MODIFICATIONS:				
 SUBSTRATE (Estimate percent of ever (Max of 40). Add total number of significa 				HHEI
TYPE PE	RCENT TYPE		PERCENT	Metric Points
BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts]		[3 pt] PACK/WOODY DEBRIS [3 pts	10	
☐ ☐ BEDROCK [16 pt]	O G FINE	DETRITUS [3 pts]	0	Substrate Max = 40
COBBLE (65-256 mm) [12 pts] GRAVEL (2-64 mm) [9 pts]	12/03/04/0	Y or HARDPAN [0 pt]	0	
GRAVEL (2-64 mm) [9 pts] SAND (<2 mm) [6 pts]		:K [0 pts] FICIAL [3 pts]	0	37
Total of Percentages of	0 a (A)		(B)	A+8
Bldr Slabs, Boulder, Cobble, Bedrock	32		5	ATD
SCORE OF TWO MOST PREDOMINATE SUBST	RATE TYPES:	TOTAL NUMBER OF SUBSTRA	ATE TYPES:	
2. Maximum Pool Depth (Measure the ma	ximum pool depth within the	61 meter (200 ft) evaluation rea	ch at the time of	Pool Depti Max = 30
evaluation. Avoid plunge pools from road > 30 centimeters [20 pts]		cm - 10 cm [15 pts]		Max = 30
> 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]		cm [5 pts] WATER OR MOIST CHANNEL	[0 pts]	0
COMMENTS High gradies	4	MAXIMUM POOL DEPTH (co	0	
3. BANK FULL WIDTH (Measured as the	: ((Check ONLY one bo	ox):	Bankfull
> 4.0 meters (> 13') [30 pts]	□ > 1.	0 m - 1.5 m (> 3' 3" - 4' 8") [15 pt		Width Max=30
> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	12 (1	.0 m (≤ 3' 3") [5 pts]	2	max-30
COMMENTS Wide and des	o channel	AVERAGE BANKFULL WID	TH (meters)	30
	1-200			
	This information <u>must</u> a			
RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH	LAIN QUALITY ☆NOTE: R FLOODPLAIN QUALITY	liver Left (L) and Right (R) as loc	king downstreamಚ	
L R (Per Bank)	L R (Most Predominan			
₩ Wide >10m	Mature Forest, We Immature Forest, S		Conservation Tillage	
☐ ☐ Moderate 5-10m	Immature Forest, S Field	Shrub or Old	Urban or Industrial	
☐ ☐ Narrow <5m	Residential, Park,		Open Pasture, Row Crop	
OMMENTS	☐ ☐ Fenced Pasture		Mining or Construction	
	(fam) (Ob and Ob and)			
FLOW REGIME (At Time of Eval Stream Flowing		Moist Channel, isolated poo	ls, no flow (Intermittent)	
Subsurface flow with isolated pool COMMENTS	s (Interstitial)	Dry channel, no water (Eph	emeral)	
100000000000000000000000000000000000000	41 (000 0) 7 1 1 1 1	1 1 04// 2 1		
SINUOSITY (Number of bends p	er 61 m (200 ft) of channel) (C 1.0	heck ONLY one box):	3.0	
0.5	1.5	2.5	>3	
STREAM GRADIENT ESTIMATE	O Madanda	Museum to Comme	O Servers	10.61
Flat (0.5 ft/100 ft) Flat to Moderate	Moderate (2 ft/100 ft)	Moderate to Severe	Severe (10 ft/10	IV It)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):	
QHEI PERFORMED? - Tyes No QHEI Score(If Yes, Attach Completed QHEI Form)	
DOWNSTREAM DESIGNATED USE(S)	
WWH Name: Distance from Evaluated Stream	
☐ CWH Name:	-
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION	
USGS Quadrangle Name: Lathan NRCS Soil Map Page: NRCS Soil Map Stream Order	
County: Pike Township/City: Latham	
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Y Date of last precipitation: 17 11/10 Quantity: 0.011	
Photograph Information 15 upstream downstream	
Elevated Turbidity? (Y/N): N/A Canopy (% open): Zo	
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:	
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhqs/cm)	
Is the sampling reach representative of the stream (Y/N) If not, please explain:	
Additional comments/description of pollution impacts: Buffers recovering from clearant in	last 5 years
Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE all voucher samples must be labeled with ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Vou	the site
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 local	lon
Row Zauks	brughy-young
Boulder John Steet bank Banks	ston brushy-young tapling types Steep
Books R. P.	Steep
FLOW - 6 7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
C (app ban F	
Gleepbank	
EPAM2016121(505)	
VIII. 100 181211707	

Orimary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3): SITE NAME/LOCATION Ware Rd - Seaman 138kV Transmission Line Project DATE 12/10/16 SCORER EPIAM COMMENTS NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions MINONE / NATURAL CHANNEL IN RECOVERED IN RECOVERING IN RECENT OR NO RECOVERY STREAM CHANNEL **MODIFICATIONS:** SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes HHEL (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. Metric <u>TYP</u>E PERCENT **TYPE** PERCENT **Points** BLDR SLABS [16 pts] SILT [3 pt] 図口 BOULDER (>256 mm) [16 pts] LEAF PACKWOODY DEBRIS [3 pts] Substrate 0 BEDROCK [16 pt] FINE DETRITUS [3 pts] Max = 40M M COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt] 0 GRAVEL (2-64 mm) [9 pts] MUCK [0 pts] SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] (B) Total of Percentages of A+B 50 Bldr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES: Pool Depth 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): Max = 30> 5 cm - 10 cm [15 pts] > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5 pts] П NO WATER OR MOIST CHANNEL [0 pts] > 10 - 22.5 cm [25 pts] 0 MAXIMUM POOL DEPTH (centimeters): COMMENTS (Check ONLY one box): Bankfull BANK FULL WIDTH (Measured as the average of 3-4 measurements) > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Width Max=30 > 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] **AVERAGE BANKFULL WIDTH (meters)** COMMENTS This information must also be completed \$\text{\$\text{ANOTE}\$: River Left (L) and Right (R) as looking downstream \$\text{\$\text{\$\pi}\$}\$ RIPARIAN ZONE AND FLOODPLAIN QUALITY FLOODPLAIN QUALITY RIPARIAN WIDTH (Per Bank) (Most Predominant per Bank) 风风 Mature Forest, Wetland Conservation Tillage Wide >10m Immature Forest, Shrub or Old 风闪 Urban or Industrial Moderate 5-10m Field Open Pasture, Row Residential, Park, New Field Narrow <5m Crop Fenced Pasture Mining or Construction COMMENTS

STREAM GRADIENT ESTIMATE

None 0.5

Stream Flowing

Flat (0.5 ft/100 ft) ☐ Flat to Moderate Moderate (2 ft/100 ft)

Subsurface flow with isolated pools (Interstitial)

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

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): 1.0

1.5

☐ Moderate to Severe

2.0

Moist Channel, isolated pools, no flow (Intermittent)

3.0

Dry channel, no water (Ephemeral)

ADDITIONAL STREAM INFORMAT	TION (This Information Must Also be	Completed):	
QHEI PERFORMED? - (Yes No QHEI Score	(If Yes, Attach Completed Q	HEI Form)
DOWNSTREAM DESIGN	. ,		
WWH Name:			Evaluated Stream
J EWH Name:		Distance from	Evaluated Stream
	IES OF MAPS, INCLUDING THE ENTIR		
	athan N	RCS Soil Map Page: N	RCS Soil Map Stream Order
County: Pike	Township	/City_ Lautham	
MISCELLANEOUS		r .	
	Date of last precipitation:		0.01"
Photograph Information:	- upsteam downs	man	
Elevated Turbidity? (Y/N):	Canopy (% open):		
Were samples collected for water cl	nemistry? (Y/N): (Note lab sa	mple no. or id. and attach results	s) Lab Number:
	Dissolved Oxygen (mg/l)		
s the sampling reach representative	e of the stream (Y/N) If not, ple	ase explain:	
Additional comments/description of	pollution impacts:		
ID n	es, Record all observations. Voucher of umber. Include appropriate field data shocker? (Y/N) Salamanders Observations.	neets from the Primary Headwater erved? (Y/N) Voucher? (Y	Habitat Assessment Manual)
Frogs or Tadpoles Observed? (Y/N) Comments Regarding Biology) Voucher? (Y/N) Aquatic I	facroinvertebrates Observed? (//N) Voucher? (Y/N)
DRAWING AND N	IARRATIVE DESCRIPTION C	E STREAM REACH (This	must be completed):
	s and other features of Interest for s	·	
	A second of the second	1-11-11-11	
	Ephemeral channe	1 od tra	1
	very stack &	nd narrow bbles - moss on idas on bank no	>
4	Boulders + co	bbles - moss on	
FLOW 🔻	cobbles, bou	ILLIG ON DANK no	ear channel
1	in young ha	Moores	
11	, ,	/	The second secon
		//	the state of the s

Primary Headwater Habitat Evaluation Form

DATE_	12/10	REAM REACH (ft)	AM co	MMENTS				
NOTE	E: Com	plete All Items On This	Form - Refer t	o "Field Eva	luation Manual for	Ohio's PHW	H Streams" for Instru	uctions
	AM CHA	2.	/ NATURAL CHA	NNEL RE	COVERED REC	COVERING [RECENT OR NO RECO	VERY
WODI								
1.	SUBST (Max of	RATE (Estimate percent of 40). Add total number of si	of every type of s gnificant substrat	substrate prese e types found (ent. Check <i>ONLY</i> <u>two</u> Max of 8). Final metric	predominant s score is sum o	ubstrate <i>TYPE</i> boxes of boxes A & B.	ННЕ
TYPE		OR SLABS [16 pts]	PERCENT	TYPE	SILT [3 pt]		PERCENT O	Metr Poin
		ULDER (>256 mm) [16 pts]	10		LEAF PACKWOOD		s] <u>[0</u>	Substr
		DROCK [16 pt] BBLE (65-256 mm) [12 pts]	20		FINE DETRITUS [3 CLAY or HARDPAN		-0	Max =
XX X		AVEL (2-64 mm) [9 pts]	50		MUCK [0 pts]	1. 1.4	0	26
X 🗆	SAI	ND (<2 mm) [6 pts]	_ 10_		ARTIFICIAL [3 pts]		_0_	
	T Bldr Sis	otal of Percentages of abs, Boulder, Cobble, Bedro	ock 30	(A) 21			(B) 5	A + B
SCORE		O MOST PREDOMINATE S		ES:	TOTAL NUMBE	R OF SUBST	RATE TYPES:	
2.	Maxim	um Pool Depth <i>(Measur</i> e i	the maximum po	ol depth withi	n the 61 meter (200 f	t) evaluation re	ach at the time of	Pool De
	evaluat	ion. Avoid plunge pools fror ntimeters [20 pts]	m road culverts or	storm water pi	pes) (Check ONLY > 5 cm - 10 cm [15	one box):		Max =
					< 5 cm [5 pts]	-		0
		30 cm [30 pts]		5.7	NOWATED OF ME	OLOT OLIANKIE		_
		2.5 cm [25 pts]	(2	<u>Ø</u>	NO WATER OR MO		0	
		2.5 cm [25 pts]	15- 5tee	,12	NO WATER OR MO		0	
3	> 10 - 2 COMM BANK	ENTS No por		3-4 measuren	NO WATER OR MO MAXIMUM P nents) (Chec	OOL DEPTH (centimeters):	
3.0	> 10 - 2 COMM BANK > 4.0 me > 3.0 m	ENTS NO POO FULL WIDTH (Measured a sters (> 13') [30 pts] - 4.0 m (> 9' 7" - 13') [25 pts	s the average of	p gradies	NO WATER OR MO	OOL DEPTH (ck <i>ONLY</i> one b 73" - 4'8") [15 p	centimeters):	Width
3.0	> 10 - 2 COMM BANK > 4.0 me > 3.0 m > 1.5 m	ENTS NO POO FULL WIDTH (Measured a sters (> 13') [30 pts] - 4.0 m (> 9' 7" - 13') [25 pts - 3.0 m (> 4' 8" - 9' 7") [20 pts	s the average of	3-4 measuren	MAXIMUM P ments) (Chec > 1.0 m - 1.5 m (> 3 ≤ 1.0 m (≤ 3'3") [5]	OOL DEPTH (ck <i>ONLY</i> one b ; 3" - 4' 8") [15 p pts]	centimeters):	Widt
3.0	> 10 - 2 COMM BANK > 4.0 me > 3.0 m > 1.5 m	ENTS NO POO FULL WIDTH (Measured a sters (> 13') [30 pts] - 4.0 m (> 9' 7" - 13') [25 pts	s the average of	3-4 measuren	MAXIMUM P ments) (Chec > 1.0 m - 1.5 m (> 3 ≤ 1.0 m (≤ 3'3") [5]	OOL DEPTH (ck <i>ONLY</i> one b ; 3" - 4' 8") [15 p pts]	centimeters):	Width
3.0	> 10 - 2 COMM BANK > 4.0 me > 3.0 m > 1.5 m	ENTS NO POO FULL WIDTH (Measured a sters (> 13') [30 pts] - 4.0 m (> 9' 7" - 13') [25 pts - 3.0 m (> 4' 8" - 9' 7") [20 pts	s the average of	7 3-4 measuren	NO WATER OR MO MAXIMUM P ments) (Chec > 1.0 m - 1.5 m (> 3 ≤ 1.0 m (≤ 3'3") [5] AVERAGE B	OOL DEPTH (c.k ONLY one by 3" - 4' 8") [15 ppts]	centimeters):	Widti
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3.0	> 10 - 2 COMM BANK > 4.0 me > 3.0 m > 1.5 m	ENTS	s the average of	3-4 measuren	NO WATER OR MO MAXIMUM P Dents) (Chec > 1.0 m - 1.5 m (> 3 ≤ 1.0 m (≤ 3' 3") [5] AVERAGE B LUST also be complete DTE: River Left (L) and Y	OOL DEPTH (c. OOLY one by 3" - 4' 8") [15 ppts] BANKFULL WIE	centimeters): cox): tts] OTH (meters)	Widti
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3.0	BANK > 4.0 me > 3.0 m > 1.5 m COMM	ENTS	This OODPLAIN QUA FLOOD L R	Information multry ANO PLAIN QUALIT (Most Predor Mature Forei	NO WATER OR MO MAXIMUM P MAXIMUM P MAXIMUM P Nonts) (Chec > 1.0 m - 1.5 m (> 3 ≤ 1.0 m (≤ 3'3") [5] AVERAGE B MUST also be complete DTE: River Left (L) and Y minant per Bank) st, Wetland rest, Shrub or Old Park, New Field	OOL DEPTH (control of the control of	centimeters): DTH (meters) Conservation Tillage Urban or Industrial	Bankfi Width Max=3
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3.0	BANK > 4.0 me > 3.0 m > 1.5 m COMM	ENTS	This coopplain qualification (Coopplain (Coo	Information mulity AND PLAIN QUALITY (Most Predor Mature Foreignmature F	NO WATER OR MO MAXIMUM P ments) (Chec > 1.0 m - 1.5 m (> 3 ≤ 1.0 m (≤ 3'3") [5] AVERAGE B must also be complete DTE: River Left (L) and Y minant per Bank) st, Wetland rest, Shrub or Old Park, New Field ure e box): Moist Chan	OOL DEPTH (Co. NONLY one book only one book only one book on the control of the c	contimeters): DTH (meters) Conservation Tillage Urban or Industrial Open Pasture, Row Crop Mining or Construction ools, no flow (Intermittent)	Width Max=3
3.0	BANK > 4.0 me > 3.0 m > 1.5 m COMM	ENTS Do Poor FULL WIDTH (Measured a sters (> 13') [30 pts] - 4.0 m (> 9' 7" - 13') [25 pts - 3.0 m (> 4' 8" - 9' 7") [20 pt ENTS POOR AND FLOOR RIPARIAN ZONE AND FLOOR RIPARIAN WIDTH (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of Stream Flowing) Subsurface flow with isolated	This coodplain qualified by the state of the	Information multry AND PLAIN QUALIT (Most Predor Mature Foreignmature Fo	NO WATER OR MO MAXIMUM P MAXIMUM P MAXIMUM P Nonts) (Chec > 1.0 m - 1.5 m (> 3 ≤ 1.0 m (≤ 3'3") [5] AVERAGE B MUST also be complete DTE: River Left (L) and Y minant per Bank) st, Wetland rest, Shrub or Old Park, New Field ure e box): Moist Chan Dry channe	COOL DEPTH (Cook ONLY one be 13" - 4" 8") [15 pe pts] DANKFULL WILL WILL Right (R) as to be 14 Right (R) as to be 15 pe pts]	contimeters): DTH (meters) Conservation Tillage Urban or Industrial Open Pasture, Row Crop Mining or Construction ools, no flow (Intermittent)	Width Max=3

Name: Name: MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED A DIAGRAPHIC COPIES OF MAPS, INCLUDING THE COPIES	Distance from Evaluated Stream Distance from Evaluated Stream Distance from Evaluated Stream AREA CLEARLY MARK THE SITE LOCATION age: NRCS Soil Map Stream Order THANA Quantity: 0.01''
Name:	Distance from Evaluated Stream Distance from Evaluated Stream AREA. CLEARLY MARK THE SITE LOCATION age: NRCS Soil Map Stream Order Quantity:
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AND ADDRESS OF MAPS, INCLUDING THE ADDRESS OF THE ADDRESS OF	AREA CLEARLY MARK THE SITE LOCATION age: NRCS Soil Map Stream Order Quantity: 0.01 11
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AND INCOME IN THE INCLUDING THE ENTIRE WATERSHED AND INCOME IN TOWNShip / City. MISCELLANEOUS OF Conditions? (Y/N): Y Date of last precipitation: 12 (11 11/11) OF Information: PB - Upstream / Journstreem Turbidity? (Y/N): N/A Canopy (% open): 15 Inples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and issures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.)	AREA CLEARLY MARK THE SITE LOCATION age: NRCS Soil Map Stream Order THAN Quantity: 0.01 11
MISCELLANEOUS W Conditions? (Y/N): Y Date of last precipitation: 12(11/11/11/11/11/11/11/11/11/11/11/11/11/	Age:NRCS Soil Map Stream Order
MISCELLANEOUS W Conditions? (Y/N): Y Date of last precipitation: 12(11 110) The Information: PB - Upst ream/dewast ream Turbidity? (Y/N): N/A Canopy (% open): 15 Inples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and issures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.)	Quantity: 0.01
MISCELLANEOUS W Conditions? (Y/N): Y Date of last precipitation: 12(11 110) The Information: PB - Upst ream/dewast ream Turbidity? (Y/N): N/A Canopy (% open): 15 Inples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and issures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.)	Quantity: 0.01
MISCELLANEOUS W Conditions? (Y/N): Y Date of last precipitation: 12(11 11/11/11/11/11/11/11/11/11/11/11/11/1	Quantity: 0.01
Date of last precipitation: 12 11 10 Turbidity? (Y/N): N/A Canopy (% open): 15 Turbidity? (Y/N): N/A Canopy (% open): N/A (Note lab sample no. or id. and sures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.)	
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nples collected for water chemistry? (Y/N): (Note lab sample no. or id. ar	nd attach results) Lab Number:
sures: Temp (°C) Dissolved Oxygen (mg/l)pH (S.U.)	nd attach results) Lab Number:
sures: Temp (°C) Dissolved Oxygen (mg/l)pH (S.U.)	ra account robuito) Exp (rantibul
npling reach representative of the stream (Y/N)_Y If not, please explain:	
comments/description of pollution impacts:	
BIOTIC EVALUATION	
d? (Y/N):	
d? (Y/N):N (If Yes, Record all observations, Voucher collections optional. ID number Include appropriate field data sheets from the Prin	
erved? (Y/N) //A Voucher? (Y/N) Salamanders Observed? (Y/N)	
Fadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrate	es Observed? (Y/N) Voucher? (Y/N)
s Regarding Biology:	
DRAWING AND NARRATIVE DESCRIPTION OF STREAM F	PEACH (This must be completed):
lude Important landmarks and other features of Interest for site evaluation an	
I EPAMZO1612105	82
	À /
	N —
1	
La La A	10 pmole
Ephemeral channel - N covered in leaves with some builders, colobler; 91	1901)
Constantin leaves with	and the
Con the state of blace of	avel bettern

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LENGTH OF STREAM REACH (TC)	LAT. 39,074/ LONG. 83,1918 RIVER	DRAINAGE AREA (m²) R CODE RIVER MILE	Ump
DATE 12/10/16 SCORER AUTO	COMMENTS		
NOTE: Complete All Items On This Form	n - Refer to "Field Evaluation Manual for Ol	hio's PHWH Streams* for Instru	uctions
STREAM CHANNEL DNONE/NAT	TURAL CHANNEL DRECOVERED DIRECOV		
(Max of 40). Add total number of significant type TYPE BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts] BEDROCK [16 pt] CORR F (65-256 mm) [12 pts]		PERCENT	HHEI Metric Points Substrat Max = 40
7. Maximum Pool Depth (Measure the m	d culverts or storm water pipes) (Check ONLY on Some 10 cm [15 pts] (Check ONLY on Some 15 cm - 10 cm [15 pts] (Check ONLY on Some 15 cm [15 pts] (Check ONLY on Some 15 cm - 10 cm [15 pts] (Check ONLY on Some 15 cm - 10 cm [15 pts] (Check ONLY on Some 15 cm - 10 cm [15 pts] (Check ONLY on Some 15 cm - 10 cm [15 pts] (Check ONLY on Some 15 cm - 10 cm [15 pts] (Check ONLY on Some 15 cm - 10 cm [15 pts] (Check ONLY on Some 15 cm - 10 cm [15 pts] (Check ONLY on Some 15 cm - 10 cm [15 pts] (Check ONLY on Some 15 cm - 10 cm [15 pts] (Check ONLY on Some 15 cm - 10 cm [15 pts] (Check ONLY on Some 15 cm - 10 cm [15 pts] (Check ONLY on Some 15 cm - 10 cm [15 pts] (Check ONLY on Some 15 cm - 10 cm [15 pts] (Check O	e box):	Pool Dep Max = 36
NAME OF TAXABLE PARTY.		ONLY one box):	Bankful
3. BANK FULL WIDTH (Measured as the > 4.0 maters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [26 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	☐ > 1.0 m - 1.5 m (> 3' 3") ☐ s 1.0 m (≤ 3' 3") [5 pts		Width Max=30
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [26 pts] > 7.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]		7.1	Width Max=30
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [26 pts] > 7.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	This information must also be completed PLAIN QUALITY	7.1	
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [26 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOODE RIPARIAN WIDTH (Per Bank) Wide > 10m	This information must also be completed PLAIN QUALITY	IKFULL WIDTH (meters) ight (R) as looking downstream☆ L R Conservation Tillage	
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [26 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	AVERAGE BAN This information must also be completed PLAIN QUALITY ↑NOTE: River Left (L) and RI FLOODPLAIN QUALITY L R (Most Predominant per Bank) Mature Forest, Wetland Immature Forest, Shrub or Old Field Residential, Park, New Field Fenced Pasture Moist Channel	ight (R) as looking downstream & Conservation Tiliage Urban or Industrial Open Pasture, Row Crop	

ADDITIONAL STREAM INFORMATION (This Information Must Also be Comple	
QHEI PERFORMED? - Tyes No QHEI Score(If Yo	es, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	100
CWH Name: SunCish Coppe	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATE	RSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NRCS So	ill Map Page: NRCS Soll Map Stream Order
County: Pike Township/City: Township/City:	Debble
MISCELLANEOUS	400
The state of the s	Part - 1 - 11 - 11
Base Flow Conditions? (Y/N): Date of last precipitation: Z / 6/	16 Quantity: 6.7
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open):7 5 %	
Were samples collected for water chemistry? (Y/N): (Note lab sample no	or id and attach results) Lab Number
pri(
is the sampling reach representative of the stream (Y/N) If not, please expl	lain:
Additional comments/description of pollution impacts: 1 m pg cls	mornist hand to the
riperia buffer	
BIOTIC EVALUATION	
Performed? (Y/N): (If Yes, Record all observations, Voucher collections	
	optional. NOTE: all voucher samples must be labeled with the s m the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (
Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinv	vertebrates Observed? (Y/N) Voucher? (Y/N)
Comments Regarding Biology: Nove Charles	
The state of the s	resignation of the second
DRAWING AND NARRATIVE DESCRIPTION OF STR	EAM REACH (This must be completed):
include important landmarks and other features of interest for site evalu	
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SITE NAME/LOCATION Ware Rd - Seaman 138kV Transmission Line Project SITE NUMBER STREAM 57 RIVER BASIN Chio DRAINAGE AREA (m²) 4 14.1 LENGTH OF STREAM REACH (ft) 200 LAT. 39, 6769 LONG. 83. 1876 RIVER CODE RIVER MILE DATE 2/10/16 SCORER COMMENTS	- -
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Chio's PHWH Streams" for Instructions STREAM CHANNEL NONE / NATURAL CHANNEL TRECOVERED RECOVERING TRECOVERY MODIFICATIONS:	5
1. SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. TYPE BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts] BEDROCK [16 pt] COBBLE (63-256 mm) [12 pts] GRAVEL (2-84 mm) [9 pts] GRAVEL (2-84 mm) [9 pts] Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES:	trate = 40
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): 30 centimeters [26 pts]	
3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): > 4.0 maters (> 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]	th =30
This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ANOTE: River Left (L) and Right (R) as looking downstream? RIPARIAN WIDTH FLOODPLAIN QUALITY L R (Per Bank) L R (Most Predominant per Bank) Wide >10m Mature Forest, Wetland Moderate 5-10m Moderate 5-10m Residential, Park, New Field Open Pasture, Row Crop None COMMENTS FLOW REGIME (At Time of Evaluation) Stream Flowing Subsurface flow with Isolated pools (Interstitial) COMMENTS SHNUOSITY (Number of bends per 61 m (200 ft) of channel) None 1.0 2.0 3.0 3.0 0.5	1
STREAM GRADIENT ESTIMATE	

ADDITIONAL STREAM INFORMATION (This Information Must Also be Con	npleted);
QHEI PERFORMED? - Tyes No QHEI Score(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	See
	Distance from Evaluated Stream
FMH Neme:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WA	ATERSHED AREA. CLEARLY MARK THE SITE LOCATION
SGS Quadrangle Name: NRCS	Soil Map Page: NRCS Soil Map Stream Order
county: Township / Cit	
MISCELLANEOUS	1-10-5
Base Flow Conditions? (Y/N): Date of last precipitation:	6/16 Quantity: 0.2
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open):	
Vere samples collected for water chemistry? (Y/N): (Note lab sample	e no or id and affach resulte) Lab Number
ield Measures: Temp (°C) Dissolved Oxygen (mg/l) p	
s the sampling reach representative of the stream (Y/N)	
Thou, prease (explain:
	
dditional comments/description of pollution impacts:	
BIOTIC EVALUATION	
Performed? (Y/N): (If Yes, Record all observations. Voucher collections)	ions optional. NOTE: all voucher samples must be labeled with the sit from the Primary Headwater Habitat Assessment Manual)
ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed	d? (Y/N) Voucher? (Y/N)
rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macro	oinvertebrates Observed? (Y/N) Voucher? (Y/N)
Similar Rogarding Broogy.	
DRAWING AND NARRATIVE DESCRIPTION OF S	TOTALS DEACH (This mains less along the
Include important landmarks and other features of interest for site ev	Valuation and a narrative description of the stream's leastless
) C) 1977 E	Address and a near enve description of the stream's location
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LENGTH OF STREAM REACH (8) 200 LAT \$7,00'L/L (LONG \$3,10'L) RIVER CODE RIVER MILE	SITE NAMELOCATION Ware Rd - Sear	nan 138kV Transmission Line Project	
DATE	SITE NUMBER	Stream 58 RIVER BASIN O DRAINAGE AREA	(m²)
NOTE: Complete All temes On This Form - Refer to "Field Evaluation Manual for Chio's PHWH Streams" for Instru STREAM CHANNEL ONNE / NATURAL CHANNEL PRECOVERED RECOVERING RECOVER SUBSTRATE TYPE SUBSTRATE TYPE SUBSTRATE TYPE SUBSTRATE TYPE SUBSTRATE TYPES RECOVER OF TWO MOST PRECOMMATE SUBSTRATE TYPES: Maximum Pool Depth (Measure the maximum pool depth within the 61 measur (280 ft) evaluation reach at the time of evaluation. Avoid plange pools from road culverts or storm water plaps) (Check ONLY one box): > 300 extinates to 280 pts] > 5 cm - 10 cm (15 pts] > 22.5 - 3.0 cm (380 pts] > 1.0 cm (15 pts] > 1.0 cm > 1	ENGTH OF STREAM REACH (ft) 200	LAT. 39,08/4 LONG. 83, 18/1 RIVER CODE RIVER	₹ MILE
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instru TREAM CHANNEL	ATE 12/10/16 SCORER ATX	COMMENTS	
SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY byo predominant substrate TYPE boxes (Max of 40). And total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. TYPE BLOR SLABS (16 pts)	NOTE: Complete All Items On This Fi	orm - Refer to "Field Evaluation Manual for Chio's PHWH Streams"	for instructions
SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 40), Add total number of significant substrate bypes found (Max of 6). Final metric score is sum of boxes A & B. TYPE BLOR SLABS [16 pts] BLOR SLAB [16			
SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Mix of 40). Add total number of significant substrate types found (Mex of 6). Final metric score is sum of boxes A & B. TYPE BLOR SLABS (16 pts) BLOR SLABS (16 pts) BLOR SLABS (16 pts) BEDROCK (15 pt) COBBLE (65-256 mm) [12 pts) GRAVEL (2-44 mm) [9 pts) Total of Percentages of Bids Slabs, Boulder, Cobble, Bedrook BRAND (-2 mm) [8 pta] Total of Percentages of GRAVEL (2-44 mm) [9 pts) ARTIFICIAL [3 pts] Total of Percentages of Bids Slabs, Boulder, Cobble, Bedrook BRAND (-2 mm) [8 pta] Total of Percentages of GRAVEL (2-44 mm) [9 pts] ARTIFICIAL [3 pts] 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 stormwater pipes) (Check ONLY one box): 30 centimeters [20 pts] So centimeters [20 pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): This information must also be completed RIPARIAN ZONE AND FLOODPLAIN (QUALITY ANOTE: River Left (L) and Right (R) as looking downstream RIPARIAN WIDTH RESIDENCE (At Time of Evaluation) (Check ONLY one box): Stream Flowing Subsulface flow with isolated pools (Interstitial) COMMENTS SINUO SITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.			NO RECOVERY
(Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes & 8. B. TYPE BLOR SLABS [16 pts] BLOR SLABS [16 pts			havon I
## PERCENT TYPE SILT [3 pt] SILT [3 pt	SUBSTRATE (Estimate percent of e (Max of 40), Add total number of sign	a very type of substrate present. Check ONL Filed predominant substrate <i>i FPE</i> dificant substrate types found (Max of 8). Final metric score is sum of boxes A & B	nnei
BOULDER (>256 mm) (16 pts]		PERCENT TYPE PERCE	NT Metric
BEDROCK [16 pt] FINE DETRITUS [3 pts] COBBLE (65-258 mm) [12 pts] GRAVEL (2-84 mm) [12 pts] GRAVEL (2-84 mm) [13 pts] GRAVEL (2-84 mm) [15 pts] GRAVEL (2-84 m			
COBMENTS Total of Percentages of Ampite pts] SAND (<2 mm) 16 pts] Total of Percentages of Ampite pts] SAND (<2 mm) 16 pts] Total of Percentages of Ampite pts] Naximum Pool Depth (Measure the maximum pool depth wilthin 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): > 30 centimeters [28 pts] > 22.5 - 30 om (30 pts] > 10 - 22.5 cm (25 pts) COMMENTS MAXIMUM POOL DEPTH (centimeters): BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): > 4.0 meters (> 13) (35 pts) > 1.0 m (<2 3 3) [6 pts] > 1.0 m (<3 3 3) [6 pts] > 1.0 m (<3 3 3) [6 pts] This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY (Most Predominant per Bank) RIPARIAN WIDTH (Most Predominant		FINE DETRITUS (3 pts)	Substrat Max = 4
SAND (2 mm) [6 pts] 2			- 1
Total of Percentages of Bidr Stabs, Boulder, Cobble, Bedrook			- 119
Biddr Stabs, Boulder, Cobble, Bedrock CORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 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): > 30 centimeters (28 pts] > 22.5 - 30 cm (30 pts) > 10 - 22.5 cm (5 pts) NOWATER OR MOIST CHANNEL (0 pts) COMMENTS MAXIMUM POOL DEPTH (centimeters): AVERAGE BANKFULL WIDTH (Measured as the average of 3-4 measurements) COMMENTS AVERAGE BANKFULL WIDTH (meters) This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ANOTE: River Left (L) and Right (R) as locking downstreams RIPARIAN WIDTH FLOODPLAIN QUALITY ANOTE: River Left (L) and Right (R) as locking downstreams RIPARIAN WIDTH FLOODPLAIN QUALITY Mature Forest, Wetland Mature Forest, Strub or Old Wide > 10m Mature Forest, Strub or Old Wide > 10m Narrow <5m Residential, Park, New Field Open Pasture, Row Crop Mining or Construction Moderate 6-10 with isolated pools (interstitial) COMMENTS SINUOSITY (Number of bends per 61 mr (200 ft) of channel) (Check ONLY one box): None None 1.0 Check ONLY one box): None	SAND (<2 mm) [6 pts]		30000
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): > 30 certimeters (28 pts)		(A) (9)	S A+B
evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): > 30 centimeters (28 pts) > 10 - 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): BANK FULL WIDTH (Measured as 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] > 1.0 m (> 3' 3") [5 pts] > 1.0 m (> 4' 6" - 9" 7") [20 pts] COMMENTS AVERAGE BANKFULL WIDTH (meters) This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY (*NOTE: River Left (L) and Right (R) as looking downstream's RIPARIAN WIDTH RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) L R (Most Predominant per Bank)			James !
evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): > 30 centimeters [28 pts]	Maximum Pool Depth (Measure the	maximum pool depth within the 61 meter (200 ft) evaluation reach at the time	of Pool Dep
> 22.5 - 30 om [30 pts]	evaluation. Avoid plunge pools from a	road culverts or storm water pipes) (Check ONLY one box):	Max = 3
NO WATER OR MOIST CHANNEL (0 pts) SAMK FULL WIDTH (Measured as the average of 3-4 measurements)			10
BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): 3.0 m -4.0 m (> 9 7 - 131) [25 pts]			
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9 T - 13T) [25 pts] > 1.5 m - 3.0 m (> 4'8" - 9'7") [20 pts] COMMENTS This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ANOTE: River Left (L) and Right (R) as looking downstream (RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) Wide > 10 m	COMMENTS	MAXIMUM POOL DEPTH (centimeters):	
>3.0 m -4.0 m (> 9 7 -13) [25 pts] >1.5 m -3.0 m (> 4 8 - 9 7) [20 pts] COMMENTS This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ANOTE: River Left (L) and Right (R) as looking downstream: RIPARIAN WIDTH FLOODPLAIN QUALITY Residential, Perk, Wetland Field Open Pasture, Row Crop None Fenced Pasture Mining or Construction COMMENTS Stream Flowing Subsurface flow with isolated pools (Interstitial) COMMENTS SNUOSITY (Number of bends per 61 m (200 ft) of channel) None 1.0 Check ONLY one box): None None 1.0 Check ONLY one box): None None 1.0 Check ONLY one box): None 3.0		the average of 3-4 measurements) (Check ONLY one box):	Bankfuli Width
AVERAGE BANKFULL WIDTH (meters) This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY PNOTE: River Left (L) and Right (R) as looking downstreams RIPARIAN WIDTH PLOODPLAIN QUALITY Wide > 10m Mature Forest, Wetland Moderate 5-10m Mature Forest, Wetland Moderate 5-10m Residential, Park, New Field Penced Pasture FLOW REGIME (At Time of Evaluation) COMMENTS FLOW REGIME (At Time of Evaluation) COMMENTS Stream Flowing Subsurface flow with isolated pools (Interstitial) COMMENTS SINUO SITY (Number of bends per 81 m (200 ft) of channel) None 1.0 COMMENTS AVERAGE BANKFULL WIDTH (meters)			Max=30
This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY	> 1.5 m - 3.0 m (> 4° 8° - 9° 7°) [20 pts]		0.9 5
RIPARIAN ZONE AND FLOODPLAIN QUALITY RIPARIAN WIDTH FLOODPLAIN QUALITY (Per Bank) Wide >10m Mature Forest, Wetland Moderate 5-10m Residential, Park, New Field Open Pasture, Row Crop None COMMENTS FLOW REGIME (At Time of Evaluation) COMMENTS Wide >10m Moderate 5-10m Residential, Park, New Field Open Pasture, Row Crop Mining or Construction Moderate Solution Comments Flow Regime (At Time of Evaluation) COMMENTS Wise Channel, isolated pools, no flow (intermittent) Dry channel, no water (Ephemeral) SINUOSITY (Number of bends per 61 m (200 ft) of channel) None 1.0 Check ONLY one box): Check ONLY one box): None 3.0	COMMENTS	AVERAGE BANKFULL WIDTH (meters)	
RIPARIAN ZONE AND FLOODPLAIN QUALITY RIPARIAN WIDTH FLOODPLAIN QUALITY (Per Bank) Wide >10m Mature Forest, Wetland Moderate 5-10m Residential, Park, New Field Open Pasture, Row Crop None COMMENTS FLOW REGIME (At Time of Evaluation) COMMENTS Wide >10m Moderate 5-10m Residential, Park, New Field Open Pasture, Row Crop Mining or Construction Moderate Solution Comments Flow Regime (At Time of Evaluation) COMMENTS Wise Channel, isolated pools, no flow (intermittent) Dry channel, no water (Ephemeral) SINUOSITY (Number of bends per 61 m (200 ft) of channel) None 1.0 Check ONLY one box): Check ONLY one box): None 3.0			2010/10
Residential, Park, New Field Conservation Tillage Winder South Conservation Tillage Conservation Cons	RIPARIAN ZONE AND FLOC	DDPLAIN QUALITY &NOTE: River Left (L) and Right (R) as looking downstr	eam 1∕r
Wide >10m			
Narrow <5m		Mature Forest, Wetland Conservation	Tillage
Narrow <5m Residential, Park, New Field Open Pasture, Row Crop Mining or Construction Comments Mining or Construction Comments Moist Channel, isolated pools, no flow (Intermittent) 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	Moderate 5-10m		ıstrial
None Fenced Pasture Crop Mining or Construction		Open Pasture	, Row
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Subsurface flow with isolated pools (Interstitial) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.		Crop	astruction
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Subsurface flow with isolated pools (Interstitial) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 Check ONLY one box): None 3.0		בי Faliced Fascure ביבי Millilig o, Col	13ti dollott
Stream Flowing Subsurface flow with isolated pools (Interstitial) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) None Stream Flowing Moist Channel, isolated pools, no flow (intermittent) Dry channel, no water (Ephemeral) (Check ONLY one box): None 3.0	2247700-0072	Similarity (Chark OM) Yong box):	
Subsurface flow with isolated pools (Interstitial) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 3.0			termittent)
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None	ATTACAS AND	pools (Interstitial) Dry channel, no water (Ephemeral)	
Ø None ☐ 1.0 ☐ 2.0 ☐ 3.0			
	· · · · · · · · · · · · · · · · · · ·		
	0.5 None		
STEER AM ON ADIENT ROYIN ATT	#*************************************	. \ 3	
STREAM GRADIENT ESTIMATE J. Flat (05 ft/100 ft)		☐ Moderate (2 tr/100 ft) ☐ Moderate to Severe ☐ Set	/are (10 ft/100 ft)

	RFORMED? - Tyes No	QHEI Score(If Yes, Att	ach Completed QHEI Form)	* *
DOWNS	TREAM DESIGNATED USE(S)			the same show
☑ WWH Name:	545113h 65		Distance from Evaluated S	ream
CWH Name:	1		Distance from Evaluated St	
DEWH Name:			Distance from Evaluated St	
MAPPING	G: ATTACH COPIES OF MAPS, II	NCLUDING THE <u>ENTIRE</u> WATERSHE	DAREA CLEADIV MADE TUE	SITE LOCATION
USGS Quadrangle				
	Name:	NRCS Soll Map	Page: NRCS Soil Maj	Stream Order
County:	Pike -	Township / City:	Pebible	
MISCELI	ANEOUS		7	
	1.44	interest in	07	40
Base Flow Condition		t precipitation; 12/0 10	Quantity: 0.7	*
Photograph Informa	ation:	- 12	- AA	
Elevated Turbidity?	(Y/N): Canopy (% open); / O CY		3440
		/		
were samples colle	cted for water chemistry? (Y/N):	(Note lab sample no. or id.	and attach results) Lab Numbe	C
Fleld Measures:	Temp (°C) Dissolved C	Oxygen (mg/l) pH (S.U.) _	Conductivity (µmhos/	cm)
Is the sampling read		(Y/N) / If not, please explain:		
		, 111/ 4 If flot, preuse expiair.		540000
			3	
Additional comment	ts/description of pollution impact	S:		4 1
				4
BIOTIC	EVALUATION	14. 14.		- 1
Performed? (Y/N):	V /If Von Bosoid all at	War War I a war	4	5 47 4
, 40, 40, 40, 40, 40, 40, 40, 40, 40, 40		servations. Voucher collections option appropriate field data sheets from the F	al. NOTE: all voucher samples n Primary Headwater Habitat Asses	ust be labeled with the site ment Manual)
		Salamanders Observed? (Y/N)		
Fish Observed? (Y/		? (Y/N) Aquatic Macroinvertebra	ates Observed? (Y/N) Vo	ucher? (Y/N)
			14,0	
Frogs or Tadpoles (ng Biology: none	A STATE OF THE PARTY OF THE PAR	W. 12-11	-15
Frogs or Tadpoles (ng Biology: none			Contract of the Contract of th
Frogs or Tadpoles (ng Biology: none	w + 5		
Frogs or Tadpoles (ng Biology: Nene		200 - 200 - 20 - 20 -	
Frogs or Tadpoles (Comments Regard		DESCRIPTION OF STREAM	REACH (This must be	completed):
Frogs or Tadpoles (Comments Regardi	WING AND NARRATIVE	DESCRIPTION OF STREAM	REACH (This must be	completed):
Frogs or Tadpoles (Comments Regardi	WING AND NARRATIVE	tures of interest for site evaluation	REACH (This <u>must</u> be and a narrative description of	sompleted): he stream's location
Frogs or Tadpoles (Comments Regardi	WING AND NARRATIVE	DESCRIPTION OF STREAM tures of interest for site evaluation	REACH (This <u>must</u> be and a narrative description of	sompleted); he stream's location
Frogs or Tadpoles (Comments Regardi	WING AND NARRATIVE	tures of interest for site evaluation	REACH (This <u>must</u> be and a narrative description of	completed): he stream's location
Frogs or Tadpoles (Comments Regardi	WING AND NARRATIVE ortant landmarks and other feat	tures of interest for site evaluation :	REACH (This <u>must</u> be an an an arrative description of	sompleted): he stream's location
Frogs or Tadpoles (Comments Regardi DRA) Include impo	WING AND NARRATIVE ortant landmarks and other feat	tures of interest for site evaluation	REACH (This <u>must</u> be and a narrative description of	sompleted): he stream's location
Frogs or Tadpoles (Comments Regardi DRA) Include impo	WING AND NARRATIVE ortant landmarks and other feat	tures of interest for site evaluation :	REACH (This must be and a narrative description of	he stream's location
Comments Regard	WING AND NARRATIVE ortant landmarks and other feat	tures of interest for site evaluation :	REACH (This <u>must</u> be and a narrative description of	sompleted): he stream's location
Frogs or Tadpoles (Comments Regardi DRA) Include impo	WING AND NARRATIVE ortant landmarks and other feat	tures of Interest for site evaluation	REACH (This <u>must</u> be an an arrative description of	sompleted); he stream's location
Frogs or Tadpoles (Comments Regardi DRA) Include impo	WING AND NARRATIVE ortant landmarks and other feat	tures of Interest for site evaluation	REACH (This <u>must</u> be and a narrative description of	he stream's location
Frogs or Tadpoles (Comments Regardi	WING AND NARRATIVE ortant landmarks and other feat	tures of Interest for site evaluation	REACH (This must be	he stream's location
Progs or Tadpoles (Comments Regard) DRAI Include impo	WING AND NARRATIVE ortant landmarks and other feat	tures of Interest for site evaluation	REACH (This <u>must</u> be	sompleted): he stream's location

June 20, 2006 Revision

AKD5-016/210526

OnicEPA Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3)



SITE NAME/LOCATION Ware Rd - Seama	in 138kV Transmission Line Project		
SITE NUMBER	Stram 59 RIVER BASIN OH O	DRAINAGE AREA (m²)	[1m, Z
LENGTH OF STREAM REACH (#) ZOO	5tram 59 RIVER BASIN	ER CODE RIVER MILE	<u>.</u>
	COMMENTS		
NOTE: Complete All Items On This For	m - Refer to "Field Evaluation Manual for	Ohio's PHWH Streams" for Instr	uctions
STREAM CHANNEL ONONE / NA	TURAL CHANNEL TRECOVERED TREC	OVERING TRECENT OR NO REC	OVERY
MODIFICATIONS: Impounds	neut for follow occ	ess (Load	
SUBSTRATE (Estimate percent of ev	ery type of substrate present. Check ONLY two	predominant substrate TYPE boxes	
(Max of 40). Add total number of signifi-	cant substrate types found (Max of 8). Final metric	score is sum of boxes A & B.	HHE! Metric
ninima da	PERCENT TYPE SILT (3 pg)	PERCENT	Points
	D LEAF PACKWOODY		
BEDROCK [16 pt]	FINE DETRITUS [3	ntsl	Substrat Max = 4
OBBLE (65-256 mm) [12 pts]	CLAY OF HARDPAN	la btl	Max - 40
GRAVEL (2-64 mm) [9 pts]	15 O MUCK [0 pts]		14
SAND (<2 mm) [6 pts]	To ARTIFICIAL (3 pis)		
Total of Percentages of	(A)	(B)	A+B
Bidr Slabs, Boulder, Cobble, Bedrock		D OF BURBER ATE TARES	
SCORE OF TWO MOST PREDOMINATE SUB-	BTRATE TYPES: TOTAL NUMBE	R OF SUBSTRATE TYPES:	
2. Maximum Pool Depth (Measure the n	naximum pool depth within the 61 meter (200 ft	evaluation reach at the time of	Pool Dep
evatuation. Avoid plunge pools from roa	nd culverts or storm water pipes) (Check ONLY	one box):	Max = 30
> 30 centimeters [28 pts] > 22.5 - 30 cm [30 pts]	> 5 cm - 10 cm [15]	mal	0
O > 10 - 22.5 cm (25 pts)		DIST CHANNEL (0 pts)	
COMPAS DISTO	MAYIMIM	OOL DEPTH (centimeters):	- Sections
COMMENTS	And the second s	SOL BEL III (GOMAINICES S).	
3. BANK FULL WIDTH (Measured as the	average of 3-4 measurements) (Chec	k ONLY one box):	Bankfull Width
> 4.0 meters (> 13') [30 pts] > 3.0 m · 4.0 m (> 9' 7" - 13') [25 pts]	☐ > 1.0 m + 1.5 m (> 3' ☐ ≤ 1.0 m (≤ 3'3') [5]		Max=30
> 1.5m - 3.0m (> 4'8" - 9'7") [20 pts]		- Immedia	1 ,-
COMMENTS	AVERAGER	ANKFULL WIDTH (meters)	-5
COMMENTS	AVERAGE	AIRT DEE WEST (Metals)	Sec. 24
	This information must also be complete	ad	
RIPARIAN ZONE AND FLOOD		ru Right (R) as looking downstream∆r	
RIPARIAN WIDTH	FLOODPLAIN QUALITY		
L R (Per Bank)	L R (Most Predominant per Bank)	L R Conservation Tillage	
Wide >10m	Mature Forest, Wetland		
☐ ☐ Moderate 5-10m	(Field)	Urban or Industrial	
☐ ☐ Narrow <5m	Residential, Park, New Field	Open Pasture, Row	
□ □ None	☐ ☐ Fenced Pasture	Crop Mining or Construction	
COMMENTS	-		-
EI AM REPAIRE /// 71 57	aluation) (Check ONLY one box):		
Stream Flowing		nel, isolated pools, no flow (Intermittent)	
 Subsurface flow with isolated po 		, no water (Ephemeral)	
COMMENTS EPH		-	
/ 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	<u></u> →3	
STREAM GRADIENT ESTIMATE			
Flat (0.5 #/100 #) Flat to Moderate	Moderate (2 t/100 ft) Moderate t	o Severe 10 ft/10	

	ORMATION (This Information Must Al			
QHEI PERFORME	ED? - TYES No QHEI Score	(If Yes, Attach Con	pleted QHEI Form)	
DOWNSTREAM D	DESIGNATED USE(S)		3 4 4	
	OF OTEST		ince from Evaluated Stre	
D EWH Name:			nce from Evaluated Stree	
MAPPING: ATTAC	CH COPIES OF MAPS, INCLUDING THE			
JSGS Quadrangle Name:	Laftan	NRCS Soil Map Page:	NRCS Soll Map S	tream Order
County: Adams			0	
MISCELLANEOU	s			
Base Flow Conditions? (Y/N): Date of last precipitation:	12/6/16 0	uantity: 0,2	
Photograph Information:			1. 1. 1. 1. 1.	30
Elevated Turbidity? (Y/N): _	Canopy (% open):	00.		4
Were samples collected for v	water chemistry? (Y/N): (Note	ab sample no. or id. and atta	ch results) Lab Number:	
Field Measures: Temp (°	C) Dissolved Oxygen (mg/l)	pH (S.U.)	Conductivity (µmhos/cm	
s the sampling reach repres	sentative of the stream (Y/N)	ot, please explain:	a francisco	
				400
Additional comments/descrip	otion of pollution impacts:			
H				
Performed? (Y/N): Fish Observed? (Y/N) Frogs or Tadpoles Observed Comments Regarding Biolog	1? (Y/N) Voucher? (Y/N) Aq	lata sheets from the Primary H	eadwater Habitat Assessm	ent Manual)
		6 16 E		
		en en en en en en en		-
DE AMARINA	AND NARRATIVE DESCRIPTION	ARL CAME CAMES WAS A SHIPLE OF		mulated).
	ndmarks and other features of interest			
			rrative description of the	
Include important lar			rrative description of the	
Include important lar			rrative description of the	
Include important lar		for site evaluation and a na	rrative description of the	
Include Important lar		for site evaluation and a na	rrative description of the	

AKDS 20121216527

OhioEPA Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

SITE NAME/LOCATION Ware Rd - Seaman	138kV Transmiss	ion Line Project	SHE ALTO		
SITE NUMBER ST	Tream 60 RIVER BA	ISIN Ohio	DRAII	NAGE AREA (MP) 🧹	Jmis
LENGTH OF STREAM REACH (A) 200 L	AT. 19. 0834 LO	NG. 83, 1754 RIVER	CODE	RIVER MILE	
DATE 12/10/16 SCORER ATK					
NOTE: Complete All Items On This Form					
	IRAL CHANNEL SER	COULT	ÆRING OF	RECENT OR NO RECO	VERY
SUBSTRATE (Estimate percent of every	y type of substrate pre	sent. Check ONLY <u>two</u> pr	edominant sub	strate TYPE boxes	me
(Max of 40). Add total number of significar	nt substrate types found	(Max of 8). Final metric so	ore is sum of	boxes A & B.	Metric
TYPE PE	RCENT TYPE	SILT (3 pg		PERCENT	Points
BOULDER (>250 mm) [16 pts]		LEAF PACKWOODY D	EBRIS [3 pts]	10	Substrate
☐☐ BEDROCK [16 pt]		FINE DETRITUS (3 pt	**		Max = 40
		CLAY OF HARDPAN (0	pt]		127
	5 00	MUCK [0 pts]			1 -1
Ø(☐ SAND (<2 mm) [6 pts]	<u>,5</u> UU	ARTIFICIAL [3 pis]			-
Total of Percentages of	(A) g			(B)	A+B
Bidr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBSTI		TOTAL NUMBER	OF SUBSTRA	TE TYPES:	
				to a bable a disease of	Pool Depth
 Maximum Pool Depth (Measure the max evaluation. Avoid plunge pools from road 	ximum pool depth with	nin the 61 meter (204111) on pipes) (Check ONLY on	e pox):	n at the time of	Max = 30
> 30 centimeters [26 pts]	Calvella of accitif water	> 5 cm - 10 cm [15 pts	s]		-
> 22.5 - 30 cm [30 pts]	2	< 5 cm (5 pts)	T OLIANAUTI I		5
> 10 - 22.5 cm [25 pts]		NO WATER OR MOIS	CHANNEL	2	
COMMENTS		MAXIMUM POO	L DEPTH (ce	ntimeters):	
3. BANK FULL WIDTH (Measured as the a	verage of 3-4 measure	ments) (Check	ONLY one box		Bankfull Width
> 4.0 maters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]		> 1.0 m - 1.5 m (> 3'3' \$ 1.0 m (\$ 3'3") [5 pts			Max=30
> 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]					
Laber 1	7	AVERAGE BAN	IN MILLE AND T	W (meters)	5
COMMENTS		AVERAGE DAN	IKFULL WID!	n (Illierers)	Bruns
	This information	must also be completed			
RIPARIÁN ZONE AND FLOODPL	AIN QUALITY ☆N FLOODPLAIN QUAL	OTE: River Left (L) and R	ght (R) as look	king downstream &	
RIPARIAN WIDTH	Contract of the Parket of the	ominant per Bank)	L R		
Wide >10m	Mature For	est, Welland	AND ADDRESS .	Conservation Tillage	
Moderate 5-10m		orest, Shrub or Old		Jrban or Industrial	
	Field			Open Pasture, Row	
☐ ☐ Narrow <5m		, Park, New Field		Crop	
☐ ☐ None COMMENTS	Fenced Pa	sture		Vining or Construction	
FLOW REGIME (At Time of Evalue Stream Flowing Subsurface flow with isolated pools COMMENTS		Moist Channel Dry channel, n		s, no flow (Intermittent) emeral)	. 4
None 0.5	er 61 m (200 ft) of chann 1.0 1.5	el) (Check <i>ONLY</i> one bo	x):	3.0 >3	
STREAM GRADIENT ESTIMATE Flat to 5 t/100 (t) Flat to Moderate	Moderate (2 t/106 fi	Moderate to	Severe	Severe (10 ft/10	00 ft (

QHEI PERFO	ORMED? - Tyes I No QHE	Score (If Yes, Attack	h Completed QHEI Form)	
* * * * * * * * * * * * * * * * * * * *	EAM DESIGNATED USE(S)	34	the state of the s	139
J WWH Name:	which treek		Distance from Evaluated Stream	
CWH Name:			Distance from Evaluated Stream	-
J EWH Name:			Distance from Evaluated Stream	_
MAPPING: A	ATTACH COPIES OF MAPS, INCLU	DING THE <u>ENTIRE</u> WATERSHED	AREA. CLEARLY MARK THE SITE LOCATION	
JSGS Quadrangle Nan	me: Lottogia	NRCS Soil Map Pe	age: NRCS Soll Map Stream Order	_
County:Ada		Township / City:	570	
MISCELLAN	lEOUS	41 41 41		
Base Flow Conditions?	(Y/N): Date of last pred	pitation: 12/6/14	Quantity: 0/2	
hotograph Information	n:	·	e de la companya del companya de la companya del companya de la co	
Elevated Turbidity? (Y/I	(N): Canopy (% op	en):		
Vere samples collected	d for water chemistry? (Y/N):	√ (Note lab sample no. or id. ar	nd attach results) Lab Number:	_
field Measures: Ter	emp (°C) Dissolved Oxyg	n (mg/l) pH (S.U.)	Conductivity (µmhos/cm)	
s the sampling reach re	epresentative of the stream (Y/N)	If not, please explain:		
Additional comments/de	lescription of pollution impacts:		1913 10 8 8 1 35 -	
100			1 1 1	
BIOTIC EVA	AL HATION	No. of the last	* * * * * * * * * * * * * * * * * * * *	-
ish Observed? (Y/N)_ rogs or Tadpoles Obse	(If Yes, Record all observed: ID number: Include appro Voucher? (Y/N) Served? (Y/N) Voucher? (Y/N)	oriate field data sheets from the Prin	NOTE: all voucher samples must be labeled with th nary Headwater Habitat Assessment Manual) Voucher? (Y/N) Voucher? (Y/N)	e site
Performed? (Y/N): Fish Observed? (Y/N)_ Frogs or Tadpoles Observed.	(If Yes, Record all observed: ID number: Include appro Voucher? (Y/N) Served? (Y/N) Voucher? (Y/N)	oriate field data sheets from the Prin	nary Headwater Habitat Assessment Manual)	e site
Performed? (Y/N): Sish Observed? (Y/N)_ Trogs or Tadpoles Observed	(If Yes, Record all observed: ID number: Include appro Voucher? (Y/N) Served? (Y/N) Voucher? (Y/N)	oriate field data sheets from the Prin	nary Headwater Habitat Assessment Manual)	e site
Performed? (Y/N): Sish Observed? (Y/N)_ Trogs or Tadpoles Observed	(If Yes, Record all observed: ID number: Include appro Voucher? (Y/N) Served? (Y/N) Voucher? (Y/N)	oriate field data sheets from the Prin	nary Headwater Habitat Assessment Manual)	e sit
Performed? (Y/N): Fish Observed? (Y/N) Frogs or Tadpoles Observed. Comments Regarding E	(If Yes, Record all observation include approximately appr	oriate field data sheets from the Prin alamanders Observed? (Y/N)_ I) Aquatic Macroinvertebrate	nary Headwater Habitat Assessment Manual) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N)	e sito
Performed? (Y/N): Fish Observed? (Y/N) Frogs or Tadpoles Observed: Comments Regarding E	(If Yes, Record all observation in number: Include approved to the served? (Y/N) Served? (Y/N) Voucher? (Y/N) Biology. We will be served? (Y/N) Wouther? (Y/N) Served? (Y/N) Wouther? (Y/N	oriate field data sheets from the Printle I alamanders Observed? (Y/N) Aquatic Macroinvertebrate	nary Headwater Habitat Assessment Manual) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) REACH (This must be completed):	
Performed? (Y/N):	(If Yes, Record all observation in number: Include approved to the served? (Y/N) Served? (Y/N) Voucher? (Y/N) Biology. We will be served? (Y/N) Wouther? (Y/N) Served? (Y/N) Wouther? (Y/N	oriate field data sheets from the Printle I alamanders Observed? (Y/N) Aquatic Macroinvertebrate	nary Headwater Habitat Assessment Manual) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N)	
Performed? (Y/N): Fish Observed? (Y/N) Frogs or Tadpoles Observed: Comments Regarding E	(If Yes, Record all observation in number: Include approved to the served? (Y/N) Served? (Y/N) Voucher? (Y/N) Biology. We will be served? (Y/N) Wouther? (Y/N) Served? (Y/N) Wouther? (Y/N	oriate field data sheets from the Printle I alamanders Observed? (Y/N) Aquatic Macroinvertebrate	nary Headwater Habitat Assessment Manual) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) REACH (This must be completed):	
Performed? (Y/N): ish Observed? (Y/N)_ rogs or Tadpoles Observed: Comments Regarding E	(If Yes, Record all observation in number: Include approved to the served? (Y/N) Served? (Y/N) Voucher? (Y/N) Biology. We will be served?	oriate field data sheets from the Printle I alamanders Observed? (Y/N) Aquatic Macroinvertebrate	nary Headwater Habitat Assessment Manual) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) REACH (This must be completed):	
Performed? (Y/N): ish Observed? (Y/N)_ rogs or Tadpoles Observed: Comments Regarding E	(If Yes, Record all observation in number: Include approved to the served? (Y/N) Served? (Y/N) Voucher? (Y/N) Biology. We will be served?	oriate field data sheets from the Printle I alamanders Observed? (Y/N) Aquatic Macroinvertebrate	nary Headwater Habitat Assessment Manual) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) REACH (This must be completed):	
Performed? (Y/N): Fish Observed? (Y/N) Frogs or Tadpoles Observed: Comments Regarding E	(If Yes, Record all observation in number: Include approved to the served? (Y/N) Served? (Y/N) Voucher? (Y/N) Biology. We will be served?	oriate field data sheets from the Printle I alamanders Observed? (Y/N) Aquatic Macroinvertebrate	nary Headwater Habitat Assessment Manual) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) REACH (This must be completed):	
Performed? (Y/N):	(If Yes, Record all observation in number: Include approved to the served? (Y/N) Served? (Y/N) Voucher? (Y/N) Biology. We will be served?	oriate field data sheets from the Printle I alamanders Observed? (Y/N) Aquatic Macroinvertebrate	nary Headwater Habitat Assessment Manual) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) REACH (This must be completed):	
Performed? (Y/N): Fish Observed? (Y/N) Frogs or Tadpoles Observed? Domments Regarding E DRAWIN Include Important	(If Yes, Record all observation in number: Include approved to the served? (Y/N) Served? (Y/N) Voucher? (Y/N) Biology. We will be served?	oriate field data sheets from the Printle I alamanders Observed? (Y/N) Aquatic Macroinvertebrate	nary Headwater Habitat Assessment Manual) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) REACH (This must be completed):	
Performed? (Y/N): Fish Observed? (Y/N) Frogs or Tadpoles Observed? Domments Regarding E DRAWIN Include Important	(If Yes, Record all observation in number: Include approved to the served? (Y/N) Served? (Y/N) Voucher? (Y/N) Biology. We will be served?	oriate field data sheets from the Printle I alamanders Observed? (Y/N) Aquatic Macroinvertebrate	nary Headwater Habitat Assessment Manual) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) REACH (This must be completed):	
Performed? (Y/N): Fish Observed? (Y/N) Frogs or Tadpoles Observed? Domments Regarding E DRAWIN Include Important	(If Yes, Record all observation in number: Include approved to the served? (Y/N) Served? (Y/N) Voucher? (Y/N) Biology. We will be served?	oriate field data sheets from the Printle I alamanders Observed? (Y/N) Aquatic Macroinvertebrate	nary Headwater Habitat Assessment Manual) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) REACH (This must be completed):	
Performed? (Y/N): Fish Observed? (Y/N)_ Frogs or Tadpoles Observed? Comments Regarding E DRAWIN Include Important	(If Yes, Record all observation in number: Include approved to the served? (Y/N) Served? (Y/N) Voucher? (Y/N) Biology. We will be served?	oriate field data sheets from the Printle I alamanders Observed? (Y/N) Aquatic Macroinvertebrate	nary Headwater Habitat Assessment Manual) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) REACH (This must be completed):	
Performed? (Y/N): ish Observed? (Y/N)_ rogs or Tadpoles Observed? Comments Regarding E DRAWIN Include Important	(If Yes, Record all observation in number: Include approved to the served? (Y/N) Served? (Y/N) Voucher? (Y/N) Biology. We will be served?	oriate field data sheets from the Printle I alamanders Observed? (Y/N) Aquatic Macroinvertebrate	nary Headwater Habitat Assessment Manual) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) REACH (This must be completed):	

AKDS 20161210528

Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):



DATE 12/19/16 SCORER ATK	LAT. 39,0867 LONG. 83,173 4 RIVER CODE RIVER MILE COMMENTS PHWH Streams" for Instru	
STREAM CHANNEL NONE/NATE MODIFICATIONS:	ural channel	VERY
(Max of 40). Add total number of significant TYPE PE PE PE PE PE PE PE	y type of substrate present. Check ONLY two predominant substrate TYPE boxes nt substrate types found (Max of 8). Final metric score is sum of boxes A & B. RCENT	HHEI Metric Points Substrate Max = 40
evaluation. Avoid plunge pools from road > 30 centimeters [26 pts] > 22.5 - 30 cm [36 pts] > 10 - 22.5 cm [25 pts]		Pool Depth Max = 30
3. BANK FULL WIDTH (Measured as the a	average of 3-4 measurements) (Check ONLY one box):	Bankfull Width
> 4.0 magers (> 1.3) [au pes] > 3.0 m - 4.0 m (> 9' 7" - 13') [26 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	s 1.0 m (s 3' 3") [5 pts] AVERAGE BANKFULL WIDTH (meters)	Max=30
> 3.0 m - 4.0 m (> 9' T - 13') [26 pte] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	AVERAGE BANKFULL WIDTH (meters) This information must also be completed LAIN QUALITY 公NOTE: River Left (L) and Right (R) as looking downstream公	Max=30
> 3.0 m - 4.0 m (> 9 T - 13) [26 pts] > 1.5 m - 3.0 m (> 4 8 - 9 7) [20 pts] COMMENTS	AVERAGE BANKFULL WIDTH (meters) This information must also be completed	Max=30
> 3.0 m - 4.0 m (> 9 T - 13) [26 pts] > 1.5 m - 3.0 m (> 4 8 - 9 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOODPL RIPARIAN WIDTH L. R. (Per Bank) Wide > 10 m Moderate 5-10 m Narrow < 5 m	This information must also be completed LAIN QUALITY *NOTE: River Left (L) and Right (R) as looking downstream FLOODPLAIN QUALITY R (Most Predominant per Bank) Mature Forest, Wetland Mature Forest, Shrub or Sid Metid Residential, Park, New Field Residential, Park, New Field Mining or Construction Moist Channel, isolated pools, no flow (Intermittent)	Max=30

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
GHEI PERFORMED? - TYES INO QHEI Score (If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)
Towns III
Distance non Evaluated Greatt
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
JSGS Quadrangle Name: Lg Lharn NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Adams Township/City. Idaha
MISCELLANEOUS
The state of the s
Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Quantity:
Photograph Information:
Elevated Turbidity? (Y/N): Canopy (% open): O
Nere samples collected for water chemistry? (Y/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)
s the sampling reach representative of the stream (Y/N) If not, please explain:
Additional comments/description of pollution impacts:
action of political impacts.
Cerformed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the ID number: Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
Comments Regarding Biology: 100000 6000000000000000000000000000000
the same of the sa
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 locati
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the state of the s

OhioEPA

Ak DS 2016 12095 22

Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

Stream & Location:	Ware Rd - Seaman 138kV Transmission Line Project	RM:	Date:	_/ <u>~ /</u> / 06
	Stream to 2 Scorers Full Name & Affillation:	AJE	Stanles	
River Code:	- STORET#: Lat./Long.3 9.09 2	8/83.	1643	Office verified location
BEST TYPES BLDR /SLABS [10] BOULDER [9] GOBBLE [8] GRAVEL [7] SAND [6]	POOL RIFFLE OTHER TYPES POOL RIFFLE ORIGIN	SILT	average) QUAL MEAVY [- MODERA NORMAL FREE [1] MODERA MODERA NORMAL NONE [1]	ITY 2] TE [-1] Substrate [0] VE [-2] TE [-1] Maximum [0] 20
quality: 3-Highest quality is	EGETATION [1] ROOTWADS [1] AQUATIC MACROPHY	of highest , large pools. [RS [1] .[TES [1] [Check ONE (O EXTENSIVE MODERATE SPARSE 5 NEARLY AB	r 2 & average) >75% [11] 25-75% [7] 25% [3]
SINUOSITY DEV HIGH [4]	### CLOCY Check ONE in each category (Or 2 & average) ###################################			Channel Maximum 20
River right looking downstrea REROSION NONE / LITTLE [3] MODERATE [2]	AND RIPARIAN ZONE Check ONE in each category for EACH BANK (O. am RIPARIAN WIDTH FLOOD PLAIN QUALITY FLOOD	TY R R C C C C C C C C C C C C C C C C C	CONSERVATIO IRBAN OR IND IINING / CONS predominant la Om riparian.	OUSTRIAL [0] TRUCTION [0]
MAXIMUM DEPTH Check ONE (ONLY!)	CHANNEL WIDTH Check ONE (Or 2 & average) POOL WIDTH > RIFFLE WIDTH [2] POOL WIDTH > RIFFLE WIDTH [1] POOL WIDTH RIFFLE WIDTH [1] POOL WIDTH RIFFLE WIDTH	TENT [-2]	Recreation Primary Secondar (circle one and co	Contact y Contact
Indicate for function of riffle-obligate in RIFFLE DEPTH BEST AREAS > 10cm [2] BEST AREAS 5-10cm [1] BEST AREAS < 5cm [metric=0] Comments	RUN DEPTH RIFFLE / RUN SUBSTRATE RIFF [2] MAXIMUM > 50cm [2] STABLE (e.g., Cobble, Boulder) [2] [3] MAXIMUM < 50cm [1] MOD. STABLE (e.g., Large Gravel) [1] [4] UNSTABLE (e.g., Fine Gravel, Sand) [0]	FLE / RUN	N EMBEDDE DNE [2] DW [1] DDERATE [0] CTENSIVE [-1]	RIFFLE [metric=0]
6] GRADIENT (12, 6) DRAINAGE AREA (89)	ft/mi)	%GLIDE		Gradient S Maximum 10

ins, Access directions, etc.	F) MEASUREMENTS GRIME GRIME T width GRIME T depth T bankfull width Dollng Donn bankfull width BLE WD ratio Bankfull max. depth GOON BLE WD ratio Dankfull max. depth floodprone x² width floodprone x² width floodprone x² width GOON DANKE LOW GOOD DANKENI			Guerhangins U VB3
typical of steam?, <i>Recreation</i> / Observed - Interred, <i>Other</i> / Sampling observations, Concerns, Access directions, etc.	E//SSUES WWYTP / 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 0 / TILE / H ₂ 0 TABLE ACID / MINE / QUARRY / FLOW NATURAL / WETLAND / STAGNANT PARK / GOLF / LAWN / HOME ATMOSPHERE / DATA PAUCITY	2	2	242
on/ Observed - Interrea, Other	Circle some & COMMENT		undeccet bes	
	DJ MAINTENANCE PUBLIC I PRIVATE I BOTH INA ACTIVE I HISTORIC I BOTH INA YOUNG-SUCCESSION-OLD SPRAY I SNAG I REMOVED MODIFIED I DIPPED OUT I NA LEVEED I ONE SIDED RELOCATED I CUTOFFS MOVING-BEDLOAD-STABLE ARMOURED I SLUMPS ISLANDS I SCOURED IMPOUNDED I DESICCATED			
Comment KE: Keach consistency/ Is reach	B/AESTHETICS NUISANCE ALGAE INVASIVE MACROPHYTES EXCESS TURBIDITY DISCOLORATION POSCOLORATION OIL SHEEN OIL SHEEN ITRASH / LITTER NUISANCE OBOR SLUDGE DEPOSITS CSOS/SSOS/OUTFALLS			To San Sel
**ALL that apply **ALL that apply **STAGE **1st -sample pass- 2nd HIGH	RWALED - 2nd no com Carlo Carl	awing:	4 Stew	

ChicEPA

Qualitative Habitat Evaluation Index and Use Assessment Field Sheet



Stream & Location:	Ware Rd - Seaman 138kV T	Γransmission Line Project	RM: Date	2: 121 091 06
	Stream UB	Scorers Full Name & Affiliation		
River Code	STORET#:	Lat./Long.: 39. 69	36 /83. 1633	Office verified of location
BEST TYPES BLDR /SLABS [10] BOULDER [9] COBBLE [8] GRAVEL [7] SAND [6] BEDROCK [5]	WE OWE TWO Substrate TYPE BOXI ate % or note every type present POOL RIFFLE OTHER TYPE HARDPAN DETRITUS MUCK [2] SILT [2] ARTIFICIA (Score nate) (Score nate) SILT [2] SILT [2]	PES POOL RIFFLE ORIGIN [4] ULIMESTONE [1] [5 [3] WETLANDS [0] WETLANDS [0] HARDPAN [0] LE [0] SANDSTONE [0] UITAL SUBSTRATES; ignore RIP/RAP [0]	SILT HEAV MODE NORN FREE EXTER MODE MODE NORN NORN NORN NORN	RATE [-1] Substrate
quality; 3-Highest quality is	quality; 2-Moderate amounts, b in moderate or greater amounts (e., well developed rootwad in deep / S [1] POOLS : EGETATION [1] ROOTW	이렇게 하면 없는 아니지 않는데 아니는 아니는데 아니는데 그 아니는데 아니는데 아니다는데 아니다.	ter, large Check ONE ter, large Check ONE ter pools. EXTENSI TERS [1] MODERA TYTES [1] SPARSE	IOUNT (Or 2 & average) VE >75% [11] ITE 25-75% [7] 5-<25% [3] ABSENT <5% [1] Cover Maximum 20
3] CHANNEL MORPH	HOLOGY Check ONE in each ca	ategory (Or 2 & average)		
☐ HIGH [4] ☐ E ☐ MODERATE [3] ☐ G ☐ LOW [2] ☐ F	XCELLENT [7] NONE [6] GOOD [5] RECOVERI AIR [3] RECOVERI		2]	Channel Maximum 20
4] BANK EROSION A River right looking downstrea EROSION NONE / LITTLE [3] MODERATE [2] MHEAVY / SEVERE [1] Comments	RIPARIAN WIDTH WIDE > 50m [4] MODERATE 10-50m [3] NARROW 5-10m [2]	FLOOD PLAIN QUAIN PLAIN QUAIN PLAIN QUAIN PLAIN QUAIN	LITY CONSERVATION URBAN OR D [1] MINING / CO	NSTRUCTION [0] at land use(s)
				10
MAXIMUM DEPTH Check ONE (ONLY!) > 1m [6] 0.7-<1m [4] 0.4-<0.7m [2] 0.2-<0.4m [1] <0.2m [0] Comments	CHANNEL WIDTH Check ONE (Or 2 & average) POOL WIDTH > RIFFLE WIDT POOL WIDTH > RIFFLE WIDT POOL WIDTH > RIFFLE WIDT	CURRENT VELOCIT (e) Check ALL that apply (H [2] TORRENTIAL [-1] SLOW [1] (H [1] VERY FAST [1] INTERS (H [0] FAST [1] INTERM (MODERATE [1] EDDIES Indicate for reach - pools and	Primal Second (circle one an ITTENT [-2] ITIPINE [-1]	con Potential Ty Contact Comment on back) Pool (Current) Maximum 12
Indicate for funct of riffle-obligate a RIFFLE DEPTH BEST AREAS > 10cm [2] BEST AREAS 5-10cm [1] BEST AREAS < 5cm [metric=0] Comments	Species: Ch RUN DEPTH F MAXIMUM > 50cm [2] S MAXIMUM < 50cm [1] M	nust be large enough to suppor eck ONE (Or 2 & average). RIFFLE / RUN SUBSTRATE RI STABLE (e.g., Cobble, Boulder) [2] MOD. STABLE (e.g., Large Gravel) [1] JNSTABLE (e.g., Fine Gravel, Sand) [0]	t a population FFLE / RUN EMBED NONE [2] LOW [1] MODERATE [1] EXTENSIVE [-	n Riffle
6] GRADIENT (12,6) DRAINAGE AREA		701 002.) %GLIDE:)%RIFFLE:(20)	Gradient S

cess directions, etc.	F) MEASUREMENTS x width x depth max. depth x bankfull width bankfull x depth WD ratio bankfull max. depth floodprone x² width entrench. ratio	
Sampling observations, Concerns, Ac	WWTP / CSO / NPDES / INDUSTRY HARDENED / URBAN / DIRT&GRIME CONTAMINATED / LANDFILL BMPs-CONSTRUCTION-SEDIMENT LOGGING / IRRIGATION / COOLING BANK / EROSION / SURFACE FALSE BANK / MANURE / LAGOON WASH H20 / TILE / H20 TABLE ACID / MINE / QUARRY / FLOW NATURAL / WETLAND / STAGNANT PARK / GOLF / LAWN / HOME ATMOSPHERE / DATA PAUCITY	undecent summersed
Comment RE: Reach consistency/ Is reach typical of steam?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.	DJ WAIN/TENANCE PUBLIC / PRIVATE / BOTH / WA ACTIVE / HISTORIC / BOTH / WA ACTIVE / HISTORIC / BOTH / WA YOUNG-SUCCESSION-9LB SPRAY / SNAG / REMOVED MODIFIED / DIPPED OUT / NA LEVEED / ONE SIDED RELOCATED / CUTOFFS MOVING-BEDLOAD-STABLE ARMOURED / SLUMPS ISLANDS / SCOURED IMPOUNDED / DESICCATED FLOOD CONTROL / DRAINAGE	
MACOOD SEE SEE SEE SEE SEE SEE SEE SEE SEE SE	0.5 Km	Stream Drawing:

AKDS 2016 1209 5 20

OnicEPA Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):



SITE NAME/LOCATION Ware Rd - Seams SITE NUMBER_ LENGTH OF STREAM REACH (ft) DATE 17 19 116 SCORER ATK	Stream 64 RIVER I LAT 39.96417 L COMMENTS	BASIN	ER CODERIVE	R MILE
NOTE: Complete All Items On This Fo	rm - Refer to "Field E	valuation Manual for	Ohio's PHWH Streams"	for Instructions
1. SUBSTRATE (Estimate percent of e (Max of 40). Add total number of signif TYPE BLOR SLABS [16 pts] BEDROCK [16 pts] COBBLE (65-256 mm) [12 pts] GRAVEL (2-64 mm) [9 pts] SAND (<2 mm) [6 pts] Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUB	TOTAL SUBSTRATE TYPES FOUR PERCENT TYPE CENT TYPE CENT CENT TYPE CENT CENT CENT CENT CENT CENT CENT CEN	d (Max of 8). Final metric SILT [3 pg LEAF PACKWOODY FINE DETRITUS [3 p CLAY OF HARDPAN MUCK [0 pts] ARTIFICIAL [3 pts]	score is sum of boxes A & E PERCE DESRIS [3 pts]	Metric Points Substrate Max = 40 A + B
2. Maximum Pool Depth (Measure the evaluation. Avoid plunge pools from ro > 30 centimeters [26 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	ad culverts or storm wate	rpipes) (Check ONLY) > 5 cm - 10 cm [15 p < 5 cm [5 pts] NO WATER OR MO	one box):	Max = 30
3. BANK FULL WIDTH (Measured as the second s		3 > 1.0 m + 1.5 m (> 3		Bankfull Width Max=30
RIPARIAN ZONE AND FLOOR			d Right (R) as looking downst	reamth
L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None	L R (Most Pre	dominant per Bank) prest, Wetland Forest, Shrub or Old al, Park, New Field	L R Conservation Urban or Ind Open Pastur Crop Mining or Co	lustrial re, Row
FLOW REGIME (At Time of Et Stream Flowing Subsurface flow with isolated phonone COMMENTS	ools (Interstitial)	Moist Chann Dry channel,	el, isolated pools, no flow (li , no water (Ephemeral)	ntermittent)
SINUOSITY (Number of bends	per 61 m (200 ft) of char 1.0	nnel) (Check <i>ONLY</i> one l	box):	

ADDITIONAL STREAM INFORMATION (This Information Must Also be Con	npleted):
QHEI PERFORMED? - QYes ONO QHEI Score(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S) WWH Name:	
CWH Name:	Distance from Evaluated Stream
D EWH Name;	Distance from Evaluated Stream Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WA	
and the second s	1.1
	Soil Map Page: NRCS Soil Map Stream Order
County: Township / Cit	y Idaho
MISCELLANEOUS	1 2 4 3
Base Flow Conditions? (Y/N): Date of last precipitation:	6/16 Quantity: 0.2
Base Flow Conditions? (Y/N): Date of last precipitation:	Quantity:
Photograph Information:	2 a 22 a
Elevated Turbidity? (Y/N): Canopy (% open):	
Were samples collected for water chemistry? (Y/N):(Note lab sample	
	the state of the s
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) p	H (S.U.) Conductivity (µmhos/cm)
is the sampling reach representative of the stream (Y/N) If not, please of	explain;
A	the state of the s
Additional annual file	7 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
Additional comments/description of pollution impacts:	and the second second
BIOTIC EVALUATION	
Performed? (Y/N): (If Yes, Record all observations. Voucher collection in number: Include appropriate field data sheets	ons optional. NOTE: all voucher samples must be labeled with the s from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macro Comments Regarding Biology:	2 (VAI) Vouchar 2 (VAI)
a mark	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
the state of the s	A CONTRACT OF THE PARTY OF THE
DRAWING AND NARRATIVE DESCRIPTION OF S	TREAM REACH (This must be completed):
include important landmarks and other features of interest for site ev	valuation and a narrative description of the stream's location
*	
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ald Field	
LOW TO THE TANK THE T	
NO CCM	e(
NO (C.	
An Field	<i>N</i>
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The state of the s	

AKDS2016 | 2.99.5 | 9 Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

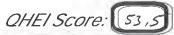


DATE 12 SCORER NOTE: Complete All Items On This Form STREAM CHANNEL NONE / NATE	AT. 39. 101129 LONG. 83.15239 RECOVERED RE	DRAINAGE AREA (m²) _ < IVER CODE RIVER MILE or Ohio's PHWH Streams" for Instr	uctions
1. SUBSTRATE (Estimate percent of every (Max of 40). Add total number of significant type O	y type of substrate present. Check ONLY two nt substrate types found (Max of 8). Final metr RCENT TYPE SILT [3 pt] LEAF PACKWOOD FINE DETRITUS [CLAY OF HARDPAN MUCK [0 pts] ARTIFICIAL [3 pts]	pric score is sum of boxes A & B. PRACENT OY DEBRIS [3 pts] N [0 pt]	HHEI Metric Points Substrate Max = 40 A+B
2. Maximum Pool Depth (Measure the maxevaluation. Avoid plunge pools from road > 30 centimeters [28 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts] COMMENTS	Σ	Y one box):	Pool Depth Max = 30
3. BANK FULL WIDTH (Measured as the a > 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] COMMENTS	verage of 3-4 measurements) (Che > 1.0 m - 1.5 m (> \$ 1.0 m (s 3'3") [5]	5 pts]	Bankfull Width Max=30
RIPARIAN ZONE AND FLOODPL RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of Evaluation of Eval	L R (Most Predominant per Bank) Mature Forest, Wetland Immature Forest, Shrub or Old Field Residential, Park, New Field Fenced Pasture (Check ONLY one box): Moist Char	nd Right (R) as looking downstreams Conservation Tillage Urban or Industrial Open Pasture, Row Crop Mining or Construction Innel, isolated pools, no flow (Intermittent) Intel, no water (Ephemeral)	

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):	
QHEI PERFORMED? - Tyes Tho QHEI Score (If Yes, Atta	ach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
	Distance from Evaluated Stream
CWH Name:	
☐ EWH Name;	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED	AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: Lating M NRCS Soil Map	Page: NRCS Soll Map Stream Order
County: Township/City. Peb	oble
MISCELLANEOUS	100
Base Flow Conditions? (Y/N): Date of last precipitation:	Quantity:
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open): \ 0 =	
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id.	and attach results) Lab Number
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.)	
Is the sampling reach representative of the stream (Y/N) If not, please explain:	
Additional comments/description of pollution impacts:	The second section is
- Policing of Policing Impacts.	
Performed? (Y/N): (If Yes, Record all observations. Voucher collections options ID number: Include appropriate field data sheets from the Prish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebra Comments Regarding Biology.	rimary Headwater Habitat Assessment Manual)
#	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
DRAWING AND NARRATIVE DESCRIPTION OF STREAM Include Important landmarks and other features of Interest for site evaluation a	and a narrative description of the stream's location
in 18 per Fie	
FLOW -	
per per	2017

OhioEPA

Qualitative Habitat Evaluation Index and Use Assessment Field Sheet



and odd Addedonione Flora Gricot	
Stream & Location: Stream 66 (Leeth Creek) Ware Rd - Seaman 138kV Project Date: 10	9/ d 6
Transmission Line Project Scorers Full Name & Affiliation: kwo ek/5/544	
River Code: STORET#: Lat./Long. 3 9 . 1 0 5 9 183 . 1 1 5 2 Office	location
1] SUBSTRATE Check ONL / Two substrate TYPE BOXES; estimate % or note every type present BEST TYPES POOL RIFFLE OTHER TYPES POOL RIFFLE ORIGIN HEAVY [-2] In the control of the control or control	Substrate Maximum 20
2] //STREAM COVER Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools. UNDERCUT BANKS [1]	[7] [7] [5% [1]
3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average) SINUOSITY DEVELOPMENT CHANNELIZATION STABILITY HIGH [4]	n Z
4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank & average) RIPARIAN WIDTH FLOOD PLAIN QUALITY FROSION NONE / LITTLE [3]	AL [0] ON [0]
Solution Pool File Fil	ct tact back)
Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average). RIFFLE DEPTH BEST AREAS > 10cm [2] MAXIMUM > 50cm [2] STABLE (e.g., Cobble, Boulder) [2] NONE [2] NONE [2] NONE [2] NONE [2] MAXIMUM < 50cm [1] MOD. STABLE (e.g., Large Gravel) [1] MODERATE [0] Ruffle (e.g., Fine Gravel, Sand) [0] MODERATE [0] Ruffle (expected for support a population of riffle (e.g., Fine Gravel) [1] NONE [2] NONE [2] NONE [2] Ruffle (e.g., Fine Gravel, Sand) [0] MODERATE [0] Ruffle (expected for support a population of riffle (e.g., Fine Gravel) [1] NONE [2]	s
6] GRADIENT (32,3 ft/mi) VERY LOW - LOW [2-4] %POOL:	n 🔼

FI MEASUREMENTS Roodprone x2 width bankfull max. depth x bankfull width bankfull x depth Comment RE: Reach consistency/ Is reach typical of steam?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc. entrench, ratio Legacy Tree: max. depth **NVD** ratio x depth x width HARDENED / URBAN / DIRT&GRIME BMPs-CONSTRUCTION-SEDIMENT LOGGING / IRRIGATION / COOLING FALSE BANK FMANURE / LAGOON WWTP / CSO / NPDES / INDUSTRY NATURAL / WETLAND / STAGNANT WASH H20 / TILE / H20 TABLE ACID / MINE / QUARRY / FLOW ATMOSPHERE / DATA PAUCITY BANK / EROSION / SURFACE PARK / GOLF / LAWN / HOME **CONTAMINATED / LANDFILL** EJISSI/E G10000 Circle some & COMMENT PUBLIC / PRIVATE / BOTH / NA ACTIVE / HISTORIC / BOTH / NA FLOOD CONTROL / DRAINAGE MODIFIED / DIPPED OUT / NA MOVING-BEDLOAD-STABLE IMPOUNDED / DESICCATED YOUNG-SUCCESSION-OLD SPRAY / SNAG / REMOVED RELOCATED / CUTOFFS *DI MAINTENANCE* ARMOURED / SLUMPS **LEVEED / ONE SIDED** ISLANDS / SCOURED S. C. Sec. D. 3327 ☐ INVASIVE MACROPHYTES CSOS/SSOS/OUTFALLS **BIAESTHETICS EXCESS TURBIDITY** SLUDGE DEPOSITS **NUISANCE ALGAE** POOL - ->100ft2 ->3ft AREA DEPTH ☐ DISCOLORATION ☐ FOAM / SCUM ☐ NUISANCE ODOR OIL SHEEN
TRASH / LITTER CJ RECREATION -sample pass- 2nd □ SECCHI DEPTH□ D'NORMAL D' ☐ 40-70 cm ☐ > 70 cm/ CTB 1st -sample pass- 2nd CLARITY STAGE Ø 20-<40 cm AJ SAMPLED REACH Stream Drawing. Check ALL that apply - HIGH 0 < 20 cm O DRY 45 1st <10%- CLOSED □ > 85%- OPEN CANOPY DISTANCE **≥2%-<85%** 30%-<55% 10%-<30% METHOD 0.15 Km 0.12 Km OTHER O LLINE O OTHER 0.2 Km LINE 0.5 Km meters D BOAT

AKD 52016 1709 117

OnicEPA Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

-1	
-1	1 V
- 4	10

DATE 12/9/16 SCORER ASK				
NOTE: Complete All Items On This Form	n - Refer to "Field Evaluatio	n Manual for Ohio's P	HWH Streams* for Instru	ıctions
STREAM CHANNEL NONE / NAT MODIFICATIONS:	rural channel () recove	RED TRECOVERING	RECENT OR NO RECO	VERY
I. SUBSTRATE (Estimate percent of eve	ry type of substrate present. C	neck <i>ONLY</i> <u>two</u> predomina	nt substrate TYPE boxes	
(Max of 40). Add total number of signific		'8), Final metric score is su		Metric
TYPE PLOR SLABS [16 pts]	ERCENT TYRE SILT	[3 gg	PERCENT	Point
BOULDER (>256 mm) [16 pts]	DD LEAF	PACK/WOODY DEBRIS	3 pts]	
☐☐ BEDROCK [16 pl]		DETRITUS (3 pts)		Substrat Max = 4
		or HARDPAN (0 pt]	5	
OHART (S. CARRING To Beat		K [0 pis]		13
Ø ☐ SAND (<2 mm) [6 pts]	O ARTI	FICIAL [3 pis]		
Total of Percentages of	(A) 9		(B) LJ	A+B
Total of Percentages of Bidr Siabs, Boulder, Cobbie, Bedrock SCORE OF TWO MOST PREDOMINATE SUBS	TRATE TYPES:	TOTAL NUMBER OF SUB	STRATE TYPES:	
2. Maximum Pool Depth (Weasure the m	aximum pool depth within the	in meter (200 ft) evaluation	n reach at the time of	Pool Dep Max = 3
evaluation. Avoid plunge pools from road > 30 centimeters [28 pts]		cm - 10 cm [15 pts]		max - J
> 22.5 - 30 cm [30 pts]	□ <5	cm (5 pts)		0
> 10 - 22.5 cm (25 pts)	₹ NO	WATER OR MOIST CHAN	NEL [0 pts]	
COMMENTS		MAXIMUM POOL DEPT	H (centimeters):	-
		(0) 1 01914		Santa Sal
BANK FULL WIDTH (Measured as the > 4.0 maters (> 13') [30 pts]	average of 3-4 measurements)	(Check ONLY or 0 m + 1.5 m (> 3' 3" - 4' 8")		Bankful Width
> 3.0 m - 4.0 m (> 9' 7" - 13") [26 pte]		0 m (≤ 3' 3") [5 pts]		Max=30
> 1.5 m - 3.0 m (> 4'8"-9"7") [20 pts]			0.7	15
COMMENTS		AVERAGE BANKFULL		
			1	Employ.
	This information must al	so be completed		
		iver Left (L) and Right (R) a	is looking downstream\$	
RIPARIÁN ZONE AND FLOODE	FLOODPLAIN QUALITY	ess Bank) I D		
RIPARIAN WIDTH				
RIPARIAN WIDTH L R (Per Bank)	L R (Most Predominant			
RIPARIAN WIDTH L R (Per Bank) Wide >10m	L R (Most Predominant Mature Forest, Wel	land Od	Conservation Tillage	
RIPARIAN WIDTH L R (Per Bank)	L R (Most Predominant Mature Forest, Wel	land _	Conservation Tiliage Urban or Industrial	
RIPARIAN WIDTH L R (Per Bank) Wide >10m	L R (Most Predominant Mature Forest, Wel	tland D D	Conservation Tiliage Urban or Industrial Open Pasture, Row	
RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m	L R (Most Predominant Mature Forest, Wel Immature Forest, S Field	tland D D	Conservation Tiliage Urban or Industrial Open Pasture, Row Crop	
RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m	L R (Most Predominant Mature Forest, Wel Immature Forest, S Field Residential, Park, N	thrub or Old	Conservation Tiliage Urban or Industrial Open Pasture, Row Crop	
RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS	L R (Most Predominant Mature Forest, Wel Immature Forest, S Field Residential, Park, N Fenced Pasture	tend	Conservation Tiliage Urban or Industrial Open Pasture, Row Crop	
RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of Eval	L R (Most Predominant Mature Forest, Wel Immature Forest, S Field Residential, Park, N Fenced Pasture [Juation] (Check ONLY one box)	thrub or Old	Conservation Tillage Urban or Industrial Open Pasture, Row Crop Mining or Construction	
RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of Eval Stream Flowing Subsurface flow with isolated poo	L R (Most Predominant Mature Forest, Wel Immature Forest, S Field Residential, Park, N Fenced Pasture [Juation] (Check ONLY one box)	tland	Conservation Tillage Urban or Industrial Open Pasture, Row Crop Mining or Construction	
RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of Eval	L R (Most Predominant Mature Forest, Wel Immature Forest, S Field Residential, Park, N Fenced Pasture [Juation] (Check ONLY one box)	thrub or Old	Conservation Tillage Urban or Industrial Open Pasture, Row Crop Mining or Construction	
RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of Eval Stream Flowing Subsurface flow with isolated poo	L R (Most Predominant Mature Forest, Wel Immature Forest, S Field Residential, Park, N Fenced Pasture (Check ONLY one box) Is (Interstitial)	thrub or Old	Conservation Tillage Urban or Industrial Open Pasture, Row Crop Mining or Construction I pools, no flow (Intermittent) (Ephemeral)	
RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of Eval Stream Flowing Subsurface flow with isolated poo	L R (Most Predominant Mature Forest, Wel Immature Forest, S Field Residential, Park, N Fenced Pasture (Check ONLY one box) Is (Interstitial)	tew Field	Conservation Tillage Urban or Industrial Open Pasture, Row Crop Mining or Construction	

ADDITIONAL STREAM INFORMATION (This Information Must Als	
	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S) WWH Name:	
CWH Name:	
	Distance from Evaluated Stream
- 4 12	ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
ISGS Quadrangle Name:	NRCS Soil Map Page: NRCS Soll Map Stream Order
county: Tow	
MISCELLANEOUS	* 1
iase Flow Conditions? (Y/N): Date of last precipitation:	12/6/16 Quantity: 0,2"
	Quantity:
hotograph Information:	
levated Turbidity? (Y/N): Canopy (% open):	0.
Vere samples collected for water chemistry? (Y/N); // (Note I	lab sample no. or id. and attach results) Lab Number:
	pH (S.U.)Conductivity (µmhos/cm)
the sampling reach representative of the stream (Y/N) If no	or, prease explain:
dditional comments/description of pollution impacts:	
BIOTIC EVALUATION	
V	
Performed? (Y/N): (If Yes, Record all observations. Voud	ther collections optional. NOTE: all voucher samples must be labeled with the late sheets from the Primary Headwater Habitat Assessment Manual)
rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Adu	S Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
comments Regarding Biology. None obscure d	vocation (III)
Type The State of	The second secon
	46 - 4000 00 00 00 00 00
DRAWING AND NARRATIVE DESCRIPTION	ON 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
	to be I
	od reco
1	Cephile
LOW	2
010 AP	175
a d	10
9. 1	6 1

AkDS 2016/209516

OnicEPA Primary Headwater Habitat Evaluation Form



Wang D.J. Committee		m or matrics 1, 2, 3) :
SITE NAME/LOCATION Ware Rd - Seams	Stream 68 RIVER BASIN Ohio	DRAINAGE APEA (MP 4 1 m) Z
LENGTH OF STREAM REACH (ff)	LAT. 39, 1115 8 LONG. 83. 13 730 RIVER	CODE RIVER MILE
DATE 12 SCORER ATK	LAT. 39, 1115 8 LONG 83. 13730 RIVER	
NOTE: Complete All Items On This For	m - Refer to "Field Evaluation Manual for Ohi	o's PHWH Streams" for Instructions
	TURAL CHANNEL PRECOVERED TRECOVE	
MODIFICATIONS: Drives the	TOTAL GRANNER DE NEGOVERED EN REGOVE	THE LANGE OF THE PERSON.
Liven total	at a treatment	
SUBSTRATE (Estimate percent of every	ary type of substrate present. Check <i>ONL</i> Y <u>two</u> precent substrate types found (Max of 8). Final metric sco	dominant substrate TYPE boxes re is sum of boxes A & B.
TYPE		PERCENT Metric
BLDR SLABS [16 pts]	ERCENT TYPE SILT (3 pg LEAF PACKWOODY DE	Points
THE BEDROCK MEDI	FINE DETRITUS IS DIS	All and
	CLAY OF HARDPAN (0 p	Max = 40
☐ Ø GRAVEL (2-64 mm) [8 pts] Ø ☐ SAND (<2 mm) [6 pts]	20 D MUCK [0 pis]	20
E Sales (a list) fa had	10 (A)	(B) A+B
Total of Percentages of Bldr Slabs, Boulder, C o bble, Bedrock	115	15.11
SCORE OF TWO MOST PREDOMINATE SUBS	TRATE TYPES: TOTAL NUMBER O	F SUBSTRATE TYPES:
2. Maximum Pool Depth (Weasure the m	aximum pool depth within the 61 meter (200 ft) eve	aluation reach at the time of Pool Depth
evaluation. Avoid plunge pools from roa > 30 centimeters [28 pts]	d culverts or storm water pipes) (Check ONLY one 25 pm - 10 cm [15 pts]	BOX):
> 22.5 - 30 cm [30 pte] > 10 - 22.5 cm [25 pts]	< 5 cm (5 pts) NO WATER OR MOIST	CHANNEL CORES
	MAXIMUM POOL	7 1
COMMENTS	Control of the second second	
3. BANK FULL WIDTH (Measured as the > 4.0 maters (> 13) [30 pts]	average of 3-4 measurements) (Check Of > 1.0 m - 1.5 m (> 3'3" -	WLY one box): Bankfull 4'8") [15 pts] Width
> 3.0 m - 4.0 m (> 9' 7" - 13") [26 pte]	> 1.0 m - 1.5 m (> 3'3") \$ 1.0 m (< 3'3") [5 pts]	Max=30
> 1.5 m - 3.0 m (> 4° 8° - 9° 7°) [70 pts]		0.4 5
COMMENTS	AVERAGE BANK	PULL WIDTH (meters)
	This information <u>must</u> also be completed	
RIPARIAN ZONE AND FLOOD	PLAIN QUALITY	nt (R) as looking downstream⊀r
RIPARIAN WIDTH L R (Per Bank)	L R (Most Predominant per Bank)	L R
☐ Wide >10m	Mature Forest, Wetland	Conservation Tillage
Moderate 5-10m	Immature Forest, Shrub or Old	Urban or Industrial
☐ ☐ Narrow <5m	Residential, Park, New Field	Open Pasture, Row Crop
☐ ☐ None	Fenced Pasture	Mining or Construction
COMMENTS		
	(Check ONLY one box):	solated pools, no flow (Intermittent)
Stream Flowing Subsurface flow with isolated poor	ols (Interstitial) Dry channel, no	water (Ephemeral)
COMMENTS ground	hater present	*
	er 61 m (200 ft) of channel) (Check ONLY one box)	
None 0.5	1.0 U 2.0 1.5 D 2.5	□ 3.0 □ >3
STREAM GRADIENT ESTIMATE	· ,	
☐ Flat (0.5 n/100 n) ☐ Flat to Moderate	Moderate (2 t/100 ft) Moderate to Se	evere Severe (10 ft/100 ft/

ADDITIONAL STREAM INFORMATION (This Information Must Also be Complete	ed):
QHEI PERFORMED? - TYES NO QHEI Score(If Yes	, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	ter i v
WWH Name: Leeth (cept	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
D EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERS	SHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: Ls + h S M NRCS Soll N	Map Page: NRCS Soll Map Stream Order
County: Township / City:	
MISCELLANEOUS	The state of the s
Base Flow Conditions? (Y/N): Date of last precipitation:	Quantity: 0 2
	Quantity:
Photograph Information: Elevated Turbidity? (Y/N): Canopy (% open): Canopy (% open):	
	(F)
Were samples collected for water chemistry? (Y/N): (Note lab sample no. of	
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.	U.) Conductivity (µmhos/cm)
is the sampling reach representative of the stream (Y/N)i if not, please explain	in: Ks
Additional comments/description of pollution impacts:	
	* 4
BIOTIC EVALUATION	
Performed? (Y/N): (If Yes, Record all observations, Voucher collections of	Will NOTE WAR
ID number: Include appropriate field data sheets from the	phonal. NOTE: all voucher samples must be labeled with the site the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Frogs or Tadholes Observed? (Y/N) Voucher? (Y/N)	N) Voucher? (Y/N)
Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinver Comments Regarding Biology.	rtebrates Observed? (Y/N)
The second secon	Service and the service of the servi
DRAWING AND NARRATIVE DESCRIPTION OF STRE	AM REACH (This must be completed):
Include important landmarks and other features of interest for site evaluat	
	. /./
· oldsid	(S) I.
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FLOW	1
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	1100000
D. J	
	old Carlotte
	0 "
The state of the s	

AKDS 2016 1208.514 ChieFPA Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

SITE NAME/LOCATION Ware Rd - Seama			1. (2.
	tream 69 RIVER BASIN 017:0 LAT.39,1148 LONG. 83.1307 RIVE		
	COMMENTS		
NOTE: Complete All Items On This For	n - Refer to "Field Evaluation Manual for C	Phio's PHWH Streams" for Instru	uctions
STREAM CHANNEL OND NO. 10 NO.	access / wallowing	VERING RECENT OR NO RECO	OVERY
(Max of 40). Add total number of signific	ory type of substrate present. Check ONLY two plant substrate types found (Max of 8). Final metric s	core is sum of boxes A & B. PERCENT	HHEI Metric
BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts]	SILT [3 pt]	DEBRIS [3 pts]	Points
BEDROCK [16 pt]	FINE DETRITUS (3 p)		Substrate Max = 40
COBBLE (65-256 mm) [12 pts] _ GRAVEL (2-64 mm) [9 pts]	CLAY OF HARDPAN (0	7 pt	9
SAND (<2 mm) [6 pts]	20 ARTIFICIAL [3 pts]		۵
Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBS	TRATE TYPES: TOTAL NUMBER	OF SUBSTRATE TYPES:	A+B
Maximum Pool Depth (Measure the m	aximum pool depth within the 61 meter (200 ft)	evaluation reach at the time of	Pool Depth
> 30 centimeters [20 pts]	d culverts or storm water pipes) (Check ONLY or > 5 cm - 10 cm [15 pt	ne box): s]	Max = 30
> 22.5 - 30 om [30 pts] > 10 - 22.5 cm [25 pts]	< 5 cm [5 pts] NO WATER OR MORE	ST CHANNEL [0 pts]	15
COMMENTS		OL DEPTH (centimeters):	
3. BANK FULL WIDTH (Measured as the > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [26 pts] > 1.5 m - 3.0 m (> 4 8" - 9' 7") [20 pts]	average of 3-4 measurements) (Check > 1.0 m - 1.5 m (> 3' 3	5]	Bankfull Width Max=30
COMMENTS	AVERAGE BA	NKFULL WIDTH (meters)	5
RIPARIAN ZONE AND FLOODE	This information <u>must</u> also be completed PLAIN QUALITY	light (R) as looking downstream☆	
RIPARIAN WIDTH L R (Per Bank)	L R (Most Predominant per Bank)	L R	
☐ ☐ Wide >10m	Mature Forest, Wetland Immature Forest, Shrub or Old	Conservation Tillage Urban or Industrial	
□ □ Moderate 5-10m	Field	— Open Besture Pour	
Narrow <5m	Residential, Park, New Field Fenced Pasture	Crop Mining or Construction	
None COMMENTS	Fenced Pasture	Let withing of Construction	
FLOW REGIME (At Time of Eval Stream Flowing Subsurface flow with isolated poo		I, isolated pools, no flow (Intermittent) no water (Ephemeral)	
SINUOSITY (Number of bends p None 0.5	er 61 m (200 ft) of channel) (Check <i>ONLY</i> one both 1.0 2.0 2.5	3.0 3.0 3.0	
STREAM GRADIENT ESTIMATE Flat (0.5 #/100 #) Flat to Moderate	Moderate (2 t/100 ft) Moderate to	Severe Severe (10 ft/100	ገዙ፡

QHEI PERFORMED? - Tyes No QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	The same of the sa
WWH Name: NO Norme Creek	Distance from Evaluated Stream
J CWH Name:	Distance from Evaluated Stream
J EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE EN	NTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
SGS Quadrangle Name: Lgtham	NRCS Soil Map Page: NRCS Soil Map Stream Order
O. L.	position City. Pebble
County: Town	ship/City: TEDDIE
MISCELLANEOUS	
ase Flow Conditions? (Y/N): Date of last precipitation:	12/6/16 Quantity: 0. Z
Photograph Information:	
A STATE OF THE STA	
Elevated Turbidity? (Y/N): N Canopy (% open): 50	
Vere samples collected for water chemistry? (Y/N): $\mathcal N$ (Note lat	b sample no. or id. and attach results) Lab Number:
	pH (S.U.) Conductivity (µmhos/cm)
s the sampling reach representative of the stream (Y/N) If not,	, please explain:
<u> </u>	
additional comments/description of pollution impacts:	
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Vouch	er collections optional. NOTE: all voucher samples must be labeled with the site
Performed? (Y/N): (If Yes, Record all observations. Voucher ID number. Include appropriate field date ish Observed? (Y/N) Voucher? (Y/N) Salamanders (er collections optional. NOTE: all voucher samples must be labeled with the site ita sheets from the Primary Headwater Habitat Assessment Manual)
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher ID number. Include appropriate field data ish Observed? (Y/N) Voucher? (Y/N) Salamanders Corogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aqua	er collections optional. NOTE: all voucher samples must be labeled with the site ita sheets from the Primary Headwater Habitat Assessment Manual)
Performed? (Y/N): (If Yes, Record all observations. Voucher ID number. Include appropriate field date ish Observed? (Y/N) Voucher? (Y/N) Salamanders (er collections optional. NOTE: all voucher samples must be labeled with the site ita sheets from the Primary Headwater Habitat Assessment Manual)
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher ID number. Include appropriate field data ish Observed? (Y/N) Voucher? (Y/N) Salamanders Corogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aqua	er collections optional. NOTE: all voucher samples must be labeled with the site ita sheets from the Primary Headwater Habitat Assessment Manual)
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher ID number. Include appropriate field data ish Observed? (Y/N) Voucher? (Y/N) Salamanders Corogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aqua	er collections optional. NOTE: all voucher samples must be labeled with the site ita sheets from the Primary Headwater Habitat Assessment Manual)
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Vouched ID number. Include appropriate field date is high Observed? (Y/N) Salamanders of the comments of the comments Regarding Biology (Y/N) Aqual comments Regarding Biology (Y/N) Aqual comments Regarding Biology (Y/N)	er collections optional. NOTE: all voucher samples must be labeled with the site ta sheets from the Primary Headwater Habitat Assessment Manual) Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher ID number. Include appropriate field date is hobserved? (Y/N) Salamanders Corrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aqua comments Regarding Biology / Sh	er collections optional. NOTE: all voucher samples must be labeled with the site ita sheets from the Primary Headwater Habitat Assessment Manual) Observed? (Y/N) Voucher? (Y/N) Vou
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher ID number. Include appropriate field date is hobserved? (Y/N) Salamanders Corrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aqua comments Regarding Biology / Sh	er collections optional. NOTE: all voucher samples must be labeled with the site ta sheets from the Primary Headwater Habitat Assessment Manual) Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
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BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Vouched ID number. Include appropriate field date is high observed? (Y/N) Salamanders (Yrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aqua comments Regarding Biology (Y/N) To the comments Regarding Biology (Y/N) Advanced to the comments Regarding Biology (Y/N) (Y/N) Advanced to the comments Regarding Biology (Y/N)	er collections optional. NOTE: all voucher samples must be labeled with the site ita sheets from the Primary Headwater Habitat Assessment Manual) Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) atic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) NOF STREAM REACH (This must be completed): For site evaluation and a narrative description of the stream's location
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Vouched ID number. Include appropriate field date is high observed? (Y/N) Salamanders (Yrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aqua comments Regarding Biology (Y/N) To the comments Regarding Biology (Y/N) Advanced to the comments Regarding Biology (Y/N) (Y/N) Advanced to the comments Regarding Biology (Y/N)	er collections optional. NOTE: all voucher samples must be labeled with the site ita sheets from the Primary Headwater Habitat Assessment Manual) Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) atic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) NOF STREAM REACH (This must be completed): For site evaluation and a narrative description of the stream's location
Performed? (Y/N): (If Yes, Record all observations. Voucher ID number. Include appropriate field data ish Observed? (Y/N) Salamanders of rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aqua comments Regarding Biology (Y/N) Aqua DRAWING AND NARRATIVE DESCRIPTION Include important landmarks and other features of interest for the control of the cont	er collections optional. NOTE: all voucher samples must be labeled with the site its sheets from the Primary Headwater Habitat Assessment Manual) Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) attic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) NOF STREAM REACH (This must be completed): or site evaluation and a narrative description of the stream's location Cartle
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher ID number. Include appropriate field date is hobserved? (Y/N) Voucher? (Y/N) Salamanders Corogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aqua comments Regarding Biology (Y/N) Advanced to the property of the property	er collections optional. NOTE: all voucher samples must be labeled with the site ita sheets from the Primary Headwater Habitat Assessment Manual) Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) atic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) NOF STREAM REACH (This must be completed): For site evaluation and a narrative description of the stream's location
Performed? (Y/N): (If Yes, Record all observations. Voucher ID number. Include appropriate field data ish Observed? (Y/N) Salamanders of rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aqua comments Regarding Biology (Y/N) Aqua DRAWING AND NARRATIVE DESCRIPTION Include important landmarks and other features of interest for the control of the cont	er collections optional. NOTE: all voucher samples must be labeled with the site its sheets from the Primary Headwater Habitat Assessment Manual) Observed? (Y/N) Voucher? (Y/N) Voucher
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher ID number. Include appropriate field date is the Observed? (Y/N) Salamanders (Yrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aqua comments Regarding Biology: (Y/N) Advanced to the Important landmarks and other features of interest for the Comments of Include Important landmarks and other features of interest for the Comments (Y/N)	er collections optional. NOTE: all voucher samples must be labeled with the site ita sheets from the Primary Headwater Habitat Assessment Manual) Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) atic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) NOF STREAM REACH (This must be completed): For site evaluation and a narrative description of the stream's location Cartella (Cartella (Car
Performed? (Y/N): (If Yes, Record all observations. Voucher ID number. Include appropriate field data ish Observed? (Y/N) Salamanders of rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aqua comments Regarding Biology (Y/N) Aqua DRAWING AND NARRATIVE DESCRIPTION Include important landmarks and other features of interest for the control of the cont	er collections optional. NOTE: all voucher samples must be labeled with the site its sheets from the Primary Headwater Habitat Assessment Manual) Observed? (Y/N) Voucher? (Y/N) Voucher

EPA 4520

Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

		-
QHEI Score:	(4	4)

Stream & Location St	ream 70 (No Name Creek) Ware Rd -	Soaman 138kV Transmission	RM: Date: \21 081 66
Line Pro		orers Full Name & Affiliation	
River Code.	- STORET#:	Lat./Long.:39.126	
SUBSTRATE Check cestimate BEST TYPES BLDR /SLABS [10] BOULDER [9] COBBLE [8] GRAVEL [7] SAND [6]	ONLYTwo substrate TYPE BOXES; a % or note every type present OOL RIFFLE HARDPAN [4] DETRITUS [3] MUCK [2] ARTIFICIAL [0] (Score natural surples [2] sludge from [3] or less [0]	Check ORIGIN POOL RIFFLE LIMESTONE [1] TILLS [1] WETLANDS [0] HARDPAN [0] SANDSTONE [0] Ubstrates: ignore RIP/RAP [0]	ONE (Or 2 & average) QUALITY HEAVY [-2] SILT NORMAL [0] FREE [1] EXTENSIVE [-2] Maximum Moderate [-1] Maximum
uality: 3-Highest quality in r	quality; 2-Moderate amounts, but no moderate or greater amounts (e.g., ve vell developed rootwad in deep / fast [1] POOLS > 70c		check ONE (Or 2 & average) pools.
SINUOSITY DEVE	R [3] RECOVERING	ATION STABILITY HIGH [3] MODERATE [2] LOW [1]	Channel Maximum 20
River right looking downstream EROSION NONE / LITTLE [3] MODERATE [2] HEAVY / SEVERE [1]	RIPARIAN WIDTH WIDE > 50m [4] WIDE > 50m [4] WIDE > 50m [4] WIDE > 50m [2] WIDE WIDE	E in each category for EACH BANK (0) FLOOD PLAIN QUAL FOREST, SWAMP [3] SHRUB OR OLD FIELD [2] RESIDENTIAL, PARK, NEW FIELD FENCED PASTURE [1] OPEN PASTURE, ROWCROP [0]	TY CONSERVATION TILLAGE [1] URBAN OR INDUSTRIAL [0] Indicate predominant land use(s)
MAXIMUM DEPTH Check ONE (ONLY!) □ > 1m [6] □,0.7-<1m [4]	PRIFFLE / RUN OUALITY CHANNEL WIDTH Check ONE (Or 2 & average) POOL WIDTH > RIFFLE WIDTH [2] POOL WIDTH = RIFFLE WIDTH [1] POOL WIDTH > RIFFLE WIDTH [0]		Primary Contact Secondary Contact (circle one and comment on back) TENT [-2]
of riffle-obligate sp RIFFLE DEPTH BEST AREAS > 10cm [2] BEST AREAS 5-10cm [1] BEST AREAS < 5cm [metric=0] Comments	Check C RUN DEPTH RIFF ☐ MAXIMUM > 50cm [2] ☐ STAB ☐ MAXIMUM < 50cm [1] ☐ MOD.	LE (e.g., Cobble, Boulder) [2]	a population NO RIFFLE [metric=0] NONE [2] LOW [1] MODERATE [0] Riffle Run Maximum 8
DRAINAGE AREA	ft/mi) URRY LOW - LOW [2-4] MODERATE [6-10] mi ²) HIGH - VERY HIGH [10-6]	%POOL: NRUN: 90	%GLIDE: Gradlent Maximum 10 06/16/06

FI MEASUREMENTS Roodprone x2 width bankfull max, depth bankfull x depth X bankfull width entrench, ratio Comment RE: Reach consistency/ Is reach typical of steam?, Recreation/Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc. Legacy Tree: max. depth W/D ratio 500 t x depth x width HARDENED / URBAN / DIRT&GRIME **BMPs-CONSTRUCTION-SEDIMENT** LOGGING / IRRIGATION / COOLING FALSE BANK / MANURE / LAGOON WWTP / CSO / NPDES / INDUSTRY NATURAL / WETLAND / STAGNANT ACID / MINE / QUARRY / FLOW **ATMOSPHERE / DATA PAUCITY** BANK / EROSION / SURFACE WASH H₂0 / TILE / H₂0 TABLE PARK / GOLF / LAWN / HOME **CONTAMINATED / LANDFILL** Chaumelization Circle some & COMMENT ACTIVE MISTORIC / BOTH / NA PUBLIC (PRIVATE / BOTH / NA FLOOD CONTROL / DRAINAGE MODIFIED / DIPPED OUT / NA MOVING-BEDLOAD-STABLE YOUNG-SUCCESSION-OLD SPRAY / SNAG / REMOVED IMPOUNDED / DESICCATED RELOCATED / CUTOFFS DINIAINTENANCE **ARMOURED / SLUMPS** LEVEED / ONE SIDED **ISLANDS / SCOURED** ☐ INVASIVE MACROPHYTES CSOS/SSOS/OUTFALLS **EXCESS TURBIDITY** ☐ SLUDGE DEPOSITS **NUISANCE ALGAE** AREA DEPTH ☐ NUISANCE ODOR ☐ DISCOLORATION OIL SHEEN
TRASH / LITTER ☐ FOAM / SCUM CJ RECREATION ☐ SECCHI DEPTH☐ 1st --sample pass-- 2nd CH O UP
CLOW 1st -sample pass- 2nd □ > 70 cm/ CTB CLARITY STAGE □ 20~40 cm AJ SAMPLED REACH Stream Drawing. A 40-70 cm Check ALL that apply HOH -□ < 20 cm DRY | <10%- CLOSED □ > 85%- OPEN CANOPY DISTANCE 55%-<85% X30%-<55% 10%-<30% METHOD BOAT
SEWADE

L'LINE

OTHER 0,15 Km 0.12 Km OTHER 0.5 Km 0.2 Km meters 9

Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3): SITE NAME/LOCATION Ware Rd - Seaman 138kV Transmission Line Project SITE NUMBER STRONT RIVER BASIN Scioto DRAINAGE AREA (mi2) _OLOUMI LENGTH OF STREAM REACH (#) 200 LAT. 39. 121741° LONG. 83. 118419° RIVER CODE RIVER MILE 2017 SCORER KO AK NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions □ NONE / NATURAL CHANNEL □ RECOVERED □ RECOVERING ▼ RECENT OR NO RECOVERY STREAM CHANNEL **MODIFICATIONS:** SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes HHEI (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. Metric PERCENT TYPE **PERCENT Points** BLDR SLABS [16 pts] SILT [3 pt] 40 BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] Substrate 図口 FINE DETRITUS [3 pts] BEDROCK [16 pt] Max = 40CLAY or HARDPAN [0 pt] COBBLE (65-256 mm) [12 pts] GRAVEL (2-64 mm) [9 pts] MUCK [0 pts] SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] Total of Percentages of (B) A + B 5 Bldr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES: Pool Depth 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): Max = 30> 5 cm - 10 cm [15 pts] 8 > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5 pts] П > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): Bankfull BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): > 1.0 m - 1.5 m (> 3"3" - 4"8") [15 pts] Width > 4.0 meters (> 13') [30 pts] 靣 \leq 1.0 m (\leq 3' 3") [5 pts] Max=30 > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] 15 AVERAGE BANKFULL WIDTH (meters) COMMENTS 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 (Per Bank) (Most Predominant per Bank) Wide >10m Mature Forest, Wetland Conservation Tillage Immature Forest, Shrub or Old Moderate 5-10m Urban or Industrial Open Pasture, Row Residential, Park, New Field Narrow <5m Crop Fenced Pasture None Mining or Construction COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Moist Channel, isolated pools, no flow (Intermittent) Stream Flowing Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral) phernesal SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

Moderate (2 ft/100 ft)

2.0

2.5

☐ Moderate to Severe

3.0

Severe (10 ft/100 ft)

1.0

1.5

Flat (0 5 ft/100 ft)

None

STREAM GRADIENT ESTIMATE

☐ Flat to Moderate

0.5

DOWNSTREAM D	DESIGNATED USE(S)	
1		Distance from Evaluated Stream Collmi
D EWH Name:		Distance from Evaluated Stream Distance from Evaluated Stream
MAPPING: ATTAC	CH COPIES OF MAPS, INCLUDING THE EN	ITIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name:	Piketon	NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Pike	Town:	ship/City: Buchanan
MISCELLANEOUS	s	
Base Flow Conditions? (Y/N)): N Date of last precipitation:	19 2017 Quantity: 4
Photograph Information		
Elevated Turbidity? (Y/N):	Y Canopy (% open):	2
Were samples collected for v	. (o sample no. or id. and attach results) Lab Number:
	4	pH (S.U.) Conductivity (µmhos/cm)
		please explain:
Additional comments/descrip	otion of pollution impacts:	
BIOTIC EVALUA	TION	
Performed? (Y/N):		er collections optional. NOTE: all voucher samples must be labeled with the site
		a sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N)	Voucher,? (Y/N) / Salamanders C	Observed? (Y/N) Voucher? (Y/N)
Fish Observed? (Y/N). Nerved	Voucher? (Y/N) Salamanders C	
Fish Observed? (Y/N). Nerved	Voucher? (Y/N) Salamanders C	Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
Fish Observed? (Y/N). Nerved	Voucher? (Y/N) Salamanders C	Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
Fish Observed? (Y/N) Frogs or Tadpoles Observed Comments Regarding Biolog	Voucher? (Y/N) Salamanders C ? (Y/N) Voucher? (Y/N) Aqua yy:	Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
Fish Observed? (Y/N) Frogs or Tadpoles Observed Comments Regarding Biolog	Voucher? (Y/N) Salamanders C ? (Y/N) Voucher? (Y/N) Aqua Dy: AND NARRATIVE DESCRIPTION Offmarks and other features of interest for	Observed? (Y/N) Voucher? (Y/N) Vouch
Fish Observed? (Y/N) Frogs or Tadpoles Observed Comments Regarding Biolog	Voucher? (Y/N) Salamanders C ? (Y/N) Voucher? (Y/N) Aqua Dy: AND NARRATIVE DESCRIPTION Offmarks and other features of interest for	Observed? (Y/N) Voucher? (Y/N) Vouch
Fish Observed? (Y/N) Frogs or Tadpoles Observed Comments Regarding Biolog	Voucher? (Y/N) Salamanders C 1? (Y/N) Voucher? (Y/N) Aqua 19:	Observed? (Y/N) Voucher? (Y/N) Vouch
Fish Observed? (Y/N) Frogs or Tadpoles Observed Comments Regarding Biolog DRAWING A Include Important Ian	Voucher? (Y/N) Salamanders C ? (Y/N) Voucher? (Y/N) Aqua Dy: AND NARRATIVE DESCRIPTION Offmarks and other features of interest for	Observed? (Y/N) Voucher? (Y/N) Vouch
Fish Observed? (Y/N) Frogs or Tadpoles Observed Comments Regarding Biolog DRAWING A Include Important Ian	Voucher? (Y/N) Salamanders C ? (Y/N) Voucher? (Y/N) Aqua Dy: AND NARRATIVE DESCRIPTION Offmarks and other features of interest for	Observed? (Y/N) Voucher? (Y/N) Vouch
Fish Observed? (Y/N) Frogs or Tadpoles Observed Comments Regarding Biolog	Voucher? (Y/N) Salamanders C ? (Y/N) Voucher? (Y/N) Aqua Dy: AND NARRATIVE DESCRIPTION Offmarks and other features of interest for	Disserved? (Y/N) Voucher? (Y/N) Vouc
Fish Observed? (Y/N) Frogs or Tadpoles Observed Comments Regarding Biolog DRAWING A Include Important Ian	Voucher? (Y/N) Salamanders C ? (Y/N) Voucher? (Y/N) Aqua Dy: AND NARRATIVE DESCRIPTION Offmarks and other features of interest for	Diserved? (Y/N) Voucher? (Y/N) Vouch
Fish Observed? (Y/N) Frogs or Tadpoles Observed Comments Regarding Biolog DRAWING A Include Important Ian	Voucher? (Y/N) Salamanders C ? (Y/N) Voucher? (Y/N) Aqua Dy: AND NARRATIVE DESCRIPTION Offmarks and other features of interest for	Diserved? (Y/N) Voucher? (Y/N) Vouch
Fish Observed? (Y/N) Frogs or Tadpoles Observed Comments Regarding Biolog DRAWING A Include Important Ian	Voucher? (Y/N) Salamanders C ? (Y/N) Voucher? (Y/N) Aqua Dy: AND NARRATIVE DESCRIPTION Offmarks and other features of interest for	Disserved? (Y/N) Voucher? (Y/N) Vouc

AKMD 2017 03 285 02

Ohio PA Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

	SITE NAME/LOCATION. Ware Rd - Seaman 138kV Transmission Line Project
	SITE NUMBER Stream 72 RIVER BASIN 610 DRAINAGE AREA (MP) 1 LENGTH OF STREAM REACH (ft) 31 LAT38.9 447 LONG. 83,550 7 RIVER CODE RIVER MILE DATE 3/28//7 SCORER ATK COMMENTS
	NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions
	STREAM CHANNEL DNONE NATURAL CHANNEL DRECOVERED DRECOVERING PRECED TO NO RECOVERY MODIFICATIONS: Straightened in Iquin
	SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. TYPE BLOR SLABS [16 pts] BLOR SLABS [16 pts] BEDROCK [16 pt] COBBLE (65-256 mm) [16 pts] COBBLE (65-256 mm) [12 pts] GRAVEL (2-64 mm) [9 pts] Total of Percentages of (A) Bldr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES:
	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): > 30 centimeters [26 pts]
1	COMMENTS MAXIMUM POOL DEPTH (centimeters):
	3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): > 4.0 maters (> 13*) [30 pts]
	COMMENTSAVERAGE BANKFULL WIDTH (meters)
o H= 1	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
TOB= 3	L R (Per Bank) L R (Most Predominant per Bank) L R Mature Forest, Wetland Conservation Tillage Immature Forest, Shrub or Old Utben or Industrial
9 TOD = 018	☐ Moderate 5-10m ☐ Immature Forest, String or Old ☐ ☐ Urban or Industrial Field ☐ Open Pasture, Row Residential Park, New Field ☐ Open Pasture, Row
7 TOB= 0.8"	None Grop Mining or Construction
7 0 1.	FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Subsurface flow with isolated pools (Interstitial) COMMENTS Dry channel, no water (Ephemeral)
	SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None
	STREAM GRADIENT ESTIMATE Flat (0.5 8/100 ft)

QHEI PERFORMED? - Tyes O No QHEI Score(If Yes	, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	The state of the s
JWWH Name: Ohio Brysh creek	Distance from Evaluated Stream
☐ CWH Name:	Distance from Evaluated Stream
EWH Name;	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATER	SHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: PeebleS NRCS Soil	Men Pege NPCS Soil Man Streem Order
County: Adams Township / City:	A 11
t ownship / City	reedes
MISCELLANEOUS	
Base Flow Conditions? (Y/N): N Date of last precipitation: 3 (26/17	7 Quantity:
Photograph Information:	- 24°
Elevated Turbidity? (Y/N): Canopy (% open): 1 o C	
Were samples collected for water chemistry? (Y/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) If not, please expla	
in not, please expla	
7	
Additional comments/description of pollution impacts: Cathle acce	ss anstream
BIOTIC EVALUATION	
V	
(If Yes, Record all observations. Voucher collections of the collectio	optional. NOTE: all voucher samples must be labeled with the site
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N)	
Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinve	rtebrates Observed? (Y/N) Voucher? (Y/N)
Comments Regarding Biology: nave, ephenoca	
30 Sec. 62	
10 10 10 10 10 10 10 10 10 10 10 10 10 1	And the state of t
DRAWING AND NARRATIVE DESCRIPTION OF STRE	AM REACH (This must be completed):
include important landmarks and other features of interest for site evalua	tion and a narrative description of the stream's location
· · · · · · · · · · · · · · · · · · ·	
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	Les man bast
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1	1
	Hit
FLOW - TO	
T 7 5/E	
T 7 5/E	Concrete
	Concrete Blocks

AKMD 20170329506

OnicEPA Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

ATE 3/29/17 SCORER ASK	LAT. 38.9808 LONG. 83.3505 RIVER CODE RIVER MILE COMMENTS	
NOTE: Complete All Items On This Fori	m - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for instruc	ctions
MODIFICATIONS: 4 raig 4 to	TURAL CHANNEL PRECOVERED PRECOVERING DRECENT OF NO RECOVERED by 1091	/ERY
SUBSTRATE (Estimate percent of eve	ary type of substrate present. Check ONLY two predominant substrate TYPE boxes	Section of
	ant substrate types found (Max of 8). Final metric score is sum of boxes A & B.	HHE! Metric
TYPE BLOR SLABS [16 pts]	PERCENT TYPE SILT (3 pg 25	Points
BOULDER (>256 mm) [16 pts]	LEAF PACKWOODY DEBRIS [3 pts]	· Onne
SEDROCK [16 pt]	FINE DETRITUS (3 pts)	Substrate
	5 OFO CLAY OF HARDPAN (Q PK) 50	Max = 40
	IO II MUCK (D pis)	7
□ □ SAND (<2 mm) [6 pts]	O ARTIFICIAL (3 pis)	0
Total of Danson to a set		
Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	(A) 7	A + B
CORE OF TWO MOST PREDOMINATE SUBS	TRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES:	
		Pool Depth Max = 30
DANK FULL WIDTH (Measured as the > 4.0 maters (> 13') [30 pts]	average of 3-4 measurements) (Check ONLY one box): > 1.0 m - 1.5 m (> 3'3" - 4'8") [15 pts]	Bankfull Width
> 3.0 m · 4.0 m (> 9/7 - 13) [26 pte]		Max=30
> 1.5 m - 3.0 m (> 4° 8" - 9" 7") [20 pts]	0.7	1- II
COMMENTS	AVERAGE BANKFULL WIDTH (meters)	>
	TALLINGE BANK GEE THE IT (III)	-
RIPARIAN ZONE AND FLOODP	This information must also be completed PLAIN QUALITY 公內OTE: River Left (L) and Right (R) as looking downstream分 FLOODPLAIN QUALITY	
L R (Per Bank)	L R (Most Predominant per Bank) L R	
☐ ☐ Wide >10m	☐ ☐ Mature Forest, Wetland ☐ ☐ Conservation Tillage	
Moderate 5-10m	Immature Forest, Shrub or Old Urban or Industrial	
CICI Marrow Ser	Comp Dactives David	
Narrow <5m	Crop	
None COMMENTS	Fenced Pasture Mining or Construction	
FLOW REGIME (At Time of Evalu	· · ·	
Stream Flowing Subsurface flow with isolated pools COMMENTS F 17 CC	is (Interstitial) Moist Channel, isolated pools, no flow (Intermittent) Dry channel, no water (Ephemeral)	
COMMENTS E 17 CC		
	ar C1 m (200 ft) of channel) (Chack ONE V and Level)	
SINUOSITY (Number of bends pe		
	er 61 m (200 ft) of channel) (Check ONLY one box): 1.0	

	No QHEI Score(If	Yes, Attach Completed OHF	l Form)
DOWNSTREAM DESIGNATED USE		e.	À ₂
JWWH Name: Scio to Bous	Sh Creek	Distance from F	valuated Stream
CWH Name:	- Contract		/aluated Stream
J EWH Name:			/aluated Stream
MAPPING: ATTACH COPIES OF MAI			WARK THE SITE LOCATION OS Soil Map Stream Order
A 1	Township / City		
	(Ownship / City		
MISCELLANEOUS Base Flow Conditions? (Y/N): Date of	of last precipitation: 3/2	6/17 Quantity:	0.61
Photograph Information:	- 6.		
Elevated Turbidity? (Y/N): N Can	10py (% open): 90%		
Were samples collected for water chemistry? ((Y/N): (Note lab sample	no. or id. and attach results)	Lab Number:
Fleid Measures: Temp (°C) Dissol	olved Oxygen (mg/l) pl	H (S.U.) Conductiv	ity (µmhos/cm)
s the sampling reach representative of the stre	ream (Y/N)(If not, please e	xplain:	The second second
200	± .7	e of the second	
- 4	marter latential	Δ.	CO a m Tay
Additional comments/description of pollution in	mpacts: 10+Ch-1151	My tuna	71
	17. 16.		
	d all observations. Voucher collection		
Fish Observed? (Y/N) Voucher? (Y/N	N) Salamanders Observed oucher? (Y/N) Aquatic Macro	? (Y/N) Voucher? (Y/ vinvertebrates Observed? (Y/	N) Voucher? (Y/N)
Frogs or Tadpoles Observed? (Y/N) Voi Comments Regarding Biology: Vov-U			
	1		
Comments Regarding Biology: 1000	FIVE DESCRIPTION OF S	TREAM REACH (This	must be completed):
Comments Regarding Biology: 1000	TIVE DESCRIPTION OF S		
Comments Regarding Biology: 1000000000000000000000000000000000000			
DRAWING AND NARRAT		aluation and a narrative de-	cciption of the stream's location
DRAWING AND NARRAT			cciption of the stream's location
DRAWING AND NARRAT		aluation and a narrative de-	
DRAWING AND NARRAT Include important landmarks and other		aluation and a narrative de-	cciption of the stream's location
DRAWING AND NARRAT Include important landmarks and other		aluation and a narrative de-	cciption of the stream's location
DRAWING AND NARRAT Include important landmarks and other		aluation and a narrative de-	cciption of the stream's location
DRAWING AND NARRAT Include important landmarks and other		aluation and a narrative des	cciption of the stream's location
DRAWING AND NARRAT Include Important landmarks and other FLOW		aluation and a narrative des	cciption of the stream's location
DRAWING AND NARRAT Include important landmarks and other properties.		aluation and a narrative des	cciption of the stream's location
DRAWING AND NARRAT Include important landmarks and other		aluation and a narrative des	cciption of the stream's location

ChicEPA

Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

OHFI	Scol	ro.	49	5
21111		C.	-	2

Stream & Location:	Ware Rd - Seaman	138kV Transmission	Line Project	RM: Date.	021291067
	Stream 74		ull Name & Affiliation:	Kwolek / 5ta	ntec
River Code:			lal./Long.38.985	3 183.3461	Office verified location
DECT TYDES	POOL RIFFLE OT	HER TYPES HARDPAN [4] DETRITUS [3] MUCK [2] SILT [2] ARTIFICIAL [0] (Score natural substrates; is a [2] sludge from point-sou	ORIGIN TOLIMESTONE [1] TILLS [1] WETLANDS [0]	SILT MODER DEON MODER FREE [MODER EXTEN MODER MODER NONE	[-2] RATE [-1] Substrate AL [0]
quality: 3-Highest quality i	quality: 2-Moderate in moderate or greater at well developed rootwards [1]	amounts, but not of highes amounts (e.g., very large b ad in deep / fast water, or d	all amounts or if more common st quality or in small amounts o loulders in deep or fast water, leep, well-defined, functional p OXBOWS, BACKWATER AQUATIC MACROPHYTI LOGS OR WOODY DEBI	f highest arge Check ONE ools. Check ONE MODERATES [1] SPARSE 5	E 25-75% [7]
SINUOSITY DEV HIGH [4]	/ELOPMENT EXCELLENT [7] Ø N GOOD [5] Ø F FAIR [3]	E in each category (Or 2 & CHANNELIZATION NONE [6] RECOVERED [4] RECOVERING [3] RECENT OR NO RECOVE	STABILITY HIGH [3] MODERATE [2] LOW [1]		Channel Maximum 20
BANK EROSION / River right looking downstrea EROSION NONE / LITTLE [3] MODERATE [2] HEAVY / SEVERE [1]	RIPARIAN WIDE > 50m [MODERATE 1	WIDTH 4]	category for EACH BANK (Or 2 FLOOD PLAIN QUALIT SF, SWAMP [3] B OR OLD FIELD [2] DENTIAL, PARK, NEW FIELD [ED PASTURE [1] PASTURE, ROWCROP [0]	Y R CONSERVATI	ON TILLAGE [1] IDUSTRIAL [0] ISTRUCTION [0] Iand use(s) Riparian Maximum 10
POOL / GLIDE AN. MAXIMUM DEPTH	ID RIFFLE / RUN C CHANNEL Check ONE (Or	. WIDTH 2 & average) FFLE WIDTH [2]	CURRENT VELOCITY Check ALL that apply RENTIAL [-1] SLOW [1]: Y FAST [1] INTERSTITION T [1] INTERMITTE DERATE [1] EDDIES [1] dicate for reach - pools and riffle	Primar Seconda (circle one and	Pool / Current Maximum 12
Indicate for function of riffle-obligate in RIFFLE DEPTH BEST AREAS > 10cm [2] BEST AREAS < 5cm [metric=0]	Species: RUN DEPTI MAXIMUM > 500 MAXIMUM < 500	Check ONE (Or 2 H RIFFLE / RU cm [2] STABLE (e.g., (cm [1] MOD, STABLE	N SUBSTRATE RIFFL Cobble, Boulder) [2]	Population LE / RUN EMBEDE NONE [2] LOW [1] MODERATE [0] EXTENSIVE [-1	RIFFLE [metric=0] PEDNESS Riffle
GRADIENT (71.7	· —	W - LOW [2-4]	%POOL: 25	%GLIDE:	Gradient U
DRAINAGE AREA		ERY HIGH [10-6]	%RUN: (25)%	RIFFLE:(50)	Maximum 10

Street in 4

FI MEASUREMENTS bankfull max. depth floodprone x2 width bankfull x depth X bankfull width Comment RE: Reach consistency/ Is reach typical of steam?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc. entrench. ratio Legacy Tree: max. depth W/D ratio x width x depth HARDENED / URBAN / DIRT&GRIME WWTP / CSO / NPDES / INDUSTRY LOGGING / IRRIGATION / COOLING FALSE BANK / MANURE / LAGOON NATURAL / WETLAND / STAGNANT BMPs-CONSTRUCTION-SEDIMENT 1 WASH H₂0 / TILE / H₂0 TABLE ACID / MINE / QUARRY / FLOW + Tos: **BANK / EROSION / SURFACE** ATMOSPHERE / DATA PAUCITY PARK / GOLF / LAWN / HOME い上のラ **CONTAMINATED / LANDFILL** Circle some & COMMENT (.. her teo PUBLIC / PRIVATE / BOTH / NA ACTIVE (HISTORIC/BOTH / NA FLOOD CONTROL / DRAINAGE MODIFIED / DIPPED OUT / NA MOVING-BEDLOAD-STABLE IMPOUNDED / DESICCATED YOUNG-SUCCESSION-OLD SPRAY / SNAG / REMOVED DIMANIENANCE RELOCATED / CUTOFFS **ARMOURED / SLUMPS** LEVEED / ONE SIDED ISLANDS / SCOURED Jan Jan Jan 100 So lamon □ INVASIVE MACROPHYTES CSOs/SSOs/OUTFALLS **BIAESTHETICS** ☐ NUISANCE ALGAE □ EXCESS TURBIDITY SLUDGE DEPOSITS AREA DEPTH 00 ☐ TRASH / LITTER ☐ NUISANCE ODOR ☐ DISCOLORATION ☐ FOAM / SCUM OIL SHEEN y luck trop 2000 CJ RECREATION E ☐ SECCHI DEPTH☐ 1st -sample pass- 2nd D'NORMAL'D □ > 70 cm/ CTB --sample pass--CLARITY STAGE □ 20-<40 cm AJ SAMPLED REACH Stream Drawing. 1st -sample p Check ALL that apply HIGH | D LOW O DRY 1 2 sass 2 C+10%-CLOSED □ > 85%- OPEN CANOPY DISTANCE 30%-<55% □ 55%-<85% Z 10%-<30% METHOD WADE OTHER 0.15 Km 0.12 Km □ 0.5 Km OTHER 0,2 Km meters D BOAT

AKMDZ0170329504

Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

	LENGTH OF STREAM REACH (ff)
	SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. TYPE BLOR SLABS [16 pts] BLOR SLABS [16 pts]
	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): 30 centimeters [28 pts]
	BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): > 4.0 maters (> 13') [30 pts]
B= 6'	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 L R (Per Bank) L R (Most Predominant per Bank) L R Wide >10m Mature Forest, Wetland Conservation Tillage
B= Z' H=1.Z	Wide > 10m
	FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Subsurface flow with isolated pools (Interstitial) COMMENTS Dry channel, no water (Ephemeral)
	SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

OHEI DEDEVENEL	No. Flyer Flyer original
	2? - Tyes T No QHEI Score (If Yes, Attach Completed QHEI Form)
DOWNSTREAM DE	SIGNATED USE(S)
CWH Name:	to Boush Creek Distance from Evaluated Stream
DEWH Name;	Distance from Evaluated Stream
P LIVIT NEITH,	Distance from Evaluated Stream
MAPPING: ATTACH	COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
JSGS Quadrangle Name:	1011.1
	NRCS Soll Map Page: NRCS Soil Map Stream Order
County: Adams	Township/City. Yeesles
MISCELLANEOUS	
2 122 25 70	3/0///2
ase Flow Conditions? (Y/N):	Date of last precipitation: 3/26/17 Quantity: Och
hotograph Information:	
*	N
	Canopy (% open): 5°/C
Vere samples collected for wa	ater chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:
	Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
the sampling reach represer	ntative of the stream (Y/N) If not, please explain;
Additional comments/description	on of pollution impacts:
DIOTES TO LESS	15.00
BIOTIC EVALUATI	<u>ion</u>
BIOTIC EVALUATION Performed? (Y/N):	(If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the
Y	(If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)
Performed? (Y/N):	(If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Voucher? (V/N) Salamanders Observed? (V/N)
Performed? (Y/N): Sish Observed? (Y/N) Performed? (Y/N)	(If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
Performed? (Y/N):	(If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
reformed? (Y/N): Sish Observed? (Y/N) Frogs or Tadpoles Observed?	(If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
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erformed? (Y/N): Sh Observed? (Y/N)	(If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
reformed? (Y/N):	(If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? Voucher? (Y/N) Voucher? Voucher? (Y/N) Voucher? (Y/N
Performed? (Y/N):	(If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) NO NO NO NO NO NO NO
Performed? (Y/N):	(If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? Voucher? (Y/N) Voucher? Voucher? (Y/N) Voucher? (Y/N
Performed? (Y/N):	(If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (
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Performed? (Y/N):	(If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Voucher? (Y/N) Salarnanders Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Outher? (Y/N) Out
Performed? (Y/N):	(If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Voucher? (Y/N) \(\text{V} \) Salamanders Observed? (Y/N) \(\text{V} \) Voucher? (Y/N)
Performed? (Y/N): Sish Observed? (Y/N) Frogs or Tadpoles Observed? Comments Regarding Biology: Sicke Flys DRAWING AI Include Important land	(If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (
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Performed? (Y/N): Sish Observed? (Y/N) Frogs of Tadpoles Observed? Comments Regarding Biology: Siche Flys DRAWING AI Include important land	(If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Voucher? (Y/N)
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sh Observed? (Y/N)	(If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Voucher? (Y/N)
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OnicePA Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

I	2/
ı	35

,	SITE NUMBER STYCHM TO RIVER BASIN 0 10 DRAINAGE AREA (m²) LENGTH OF STREAM REACH (ft) 60 LAT. 38, 9868 LONG. 83.3454 RIVER CODE RIVER MILE DATE 63/29/17 SCORER ATK COMMENTS NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions STREAM CHANNEL NONE / NATURAL CHANNEL D RECOVERED D RECOVERING D RECENT OR NO RECOVERY MODIFICATIONS:
	1. SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. TYPE BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts] BEDROCK [16 pts] COBBLE (65-256 mm) [12 pts] 10
	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): > 30 centimeters (28 pts] > 5 cm - 10 cm [15 pts] > 5 cm [30 pts] > 10 - 22.5 cm [30 pts] NO WATER OR MOIST CHANNEL (0 pts] S comments MAXIMUM FOOL DEPTH (centimeters):
	3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): > 4.0 meters (> 13') [30 pts]
TOD = 3' OH = 1.5' TOB= 1' TOH = 0.5	This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY \$\text{NOTE}\$: River Left (L) and Right (R) as looking downstream \$\text{RIPARIAN WIDTH}\$ RIPARIAN WIDTH FLOODPLAIN QUALITY (Per Bank) L R (Most Predominant per Bank) Wide >10m
, , , , , , , , , , , , , , , , , , , ,	FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing
	SANUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 3.0 5TREAM GRADIENT ESTIMATE Flat to Moderate Moderate (2 \$1/100 ft) Moderate to Severe

ADDITIONAL STREAM INFORMATION (This Information M	lust Also be Completed):
GHEI PERFORMED? - TYES NO QHEI SEC	ore(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	Additional and the second and the se
DWWH Name: Scioto Brush C	Distance from Evaluated Stream
☐ CWH Name:	
	Distance from Evaluated Stream
	G THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: Peebles	NRCS Soil Map Page; NRCS Soil Map Stream Order
A 1	Township/City. Deebles
	_ Lownship / City:
MISCELLANEOUS	the state of the s
Base Flow Conditions? (Y/N): Date of last precipital	tion: 3/26/17 Quantity: 0.6/
Photograph Information:	
	CO.
Elevated Turbidity? (Y/N): Canopy (% open):	3 %
Nere samples collected for water chemistry? (Y/N):	(Note lab sample no. or id. and attach results) Lab Number:
Disserved Oxygen (ii	ng/l) pH (S.U.) Conductivity (µmhos/cm)
s the sampling reach representative of the stream (Y/N)	If not, please explain:
Additional comments/description of pollution impacts:	
The state of policion impacts.	
Performed? (Y/N): (If Yes, Record all observations	s. Voucher collections optional. NOTE: all voucher samples must be labeled with the site
Fish Observed? (Y/N) Voucher? (Y/N) Salam	te field data sheets from the Primary Headwater Habitat Assessment Manual) nanders Observed? (Y/N) Voucher? (Y/N)
Comments Regarding Biology. Scud	
The second second	
	A TABLE OF THE PARTY OF THE PAR
DRAWING AND NARRATIVE DESCR	RIPTION OF STREAM REACH (This must be completed):
	nterest for site evaluation and a narrative description of the stream's location
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Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

OHEI Score:	64.5
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Stream & Location: Wase Rd - Seeman 138 KV transmission RM: Date: 03/28/16
Live Project Stram 77 /Betty's Creek Scorers Full Name & Affillation: Knolek / Stantec
River Code: - STORET#: Lat./Long.: \8.996 \ 18 \]. \355 Office verified location
1] SUBSTRATE Check ONLYTwo substrate TYPE BOXES; estimate % or note every type present BEST TYPES POOL RIFFLE OTHER TYPES POOL RIFFLE HARDPAN [4] LIMESTONE [1] HEAVY [-2] HEAVY [
2] INSTREAM COVER Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools. 2 UNDERCUT BANKS [1] POOLS > 70cm.[2] OXBOWS, BACKWATERS [1] MODERATE 25-75% [7] 5 OVERHANGING VEGETATION [1] ROOTWADS [1] AQUATIC MACROPHYTES [1] SPARSE 5-<25% [3] SHALLOWS (IN SLOW WATER) [1] BOULDERS [1] LOGS OR WOODY DEBRIS [1] NEARLY ABSENT <5% [1] Comments
3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average) SINUOSITY DEVELOPMENT CHANNELIZATION STABILITY HIGH [4]
4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank & average) River right looking downstream RIPARIAN WIDTH FLOOD PLAIN QUALITY FLOOD PLAIN QUALITY FLOOD PLAIN QUALITY CONSERVATION TILLAGE [1] CONSERVATION
5] POOL / GLIDE AND RIFFLE / RUN QUALITY MAXIMUM DEPTH CHANNEL WIDTH CHANNEL WIDTH Check ONE (ONLY!) Check ONE (Or 2 & average) Note: Im [6] Pool wiDTH > RIFFLE WIDTH [2] TORRENTIAL [-1] SLOW [1] O.7-< Im [4] Pool wiDTH = RIFFLE WIDTH [1] VERY FAST [1] INTERSTITIAL [-1] O.2-<0.4m [1] Pool wiDTH > RIFFLE WIDTH [0] FAST [1] INTERMITTENT [-2] MODERATE [1] DEDDIES [1] Current Maximum Maximum Comments
Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average). Check ONE (Or
6] GRADIENT (-17.2 ft/mi) VERY LOW - LOW [2-4] %POOL: TO %GLIDE: Gradient Maximum Maximum 10 Maxi

FI MEASUREMENTS Stream bankfull max. depth floodprone x2 width bankfull x depth X bankfull width Comment RE: Reach consistency/ Is reach typical of steam?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc. entrench. ratio Legacy Tree. max. depth W/D ratio x depth x width 000 HARDENED / URBAN / DIRT&GRIME WWTP / CSO / NPDES / INDUSTRY BMPs-CONSTRUCTION-SEDIMENT LOGGING / IRRIGATION / COOLING FALSE BANK / MANURE / LAGOON NATURAL / WETLAND / STAGNANT ATMOSPHERE / DATA PAUCITY ACID / MINE / QUARRY / FLOW BANK / EROSION / SURFACE WASH H20 / TILE / H20 TABLE PARK / GOLF / LAWN / HOME CONTAMINATED / LANDFILL *El ISSUES* Circle some & COMMENT Called 7 ما المح PUBLIC / PRIVATE / BOTH / NA ACTIVE / HISTORIC/BOTH / NA FLOOD CONTROL / DRAINAGE MODIFIED / DIPPED OUT / NA MOVING-BEDLOAD-STABLE IMPOUNDED / DESICCATED YOUNG-SUCCESSION-OLD SPRAY / SNAG / REMOVED RELOCATED / CUTOFFS DIMAINTENANCE **ARMOURED / SLUMPS** LEVEED / ONE SIDED **ISLANDS / SCOURED** T TOB 士の ☐ NUISANCE ALGAE ☐ INVASIVE MACROPHYTES ☐ SLUBGE DEPOSITS
☐ CSOs/SSOs/OUTFALLS **BIAESTHETICS** ☐ EXCESS TURBIDITY ☐ DISCOLORATION ☐ FOAM / SCUM ☐ NUISANCE ODOR TRASH / LITTER OIL SHEEN 70B= 20 11 CJ RECREATION TO E □ SECCHI DEPTH□ 62, □ NORMAL□ □ LOW □ 1st -sample pass- 2nd --sample pass--Stream Drawing: - 70 cm/ CTB CLARITY STAGE □ 29-<40 cm AJ SAMPLED REACH ☑ 40-70 cm Check ALL that apply 0 < 20 cm DRY dn D ☐ 10%-<30% ☐ <10%-CLOSED ☐ > 85%-OPEN ☐ 55%-<85% CANOPY DISTANCE M30%-<55% METHOD .0.15 Km 0.12 Km WADE O L. LINE OTHER OTHER □ 0.5 Km 0.2 Km meters D BOAT

Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

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. (1	

OLITEMAMEN CONTION AND ASSESSMENT AND ASSESSMENT OF A SECOND ASSESSM	eamon 138 KV Transmission Lin	of metrics 1, 2, 3):
LENGTH OF STREAM REACH (#) 200 LUDATE 3917 SCORER 6470	AT 39,011116" LONG 83.31 8063 RIVER COMMENTS	DRAINAGE AREA (mi²) 0,05 m 2 ODE RIVER MILE
STREAM CHANNEL NONE / NATU MODIFICATIONS:	RAL CHANNEL RECOVERED RECOVER	RING DRECENT OR NO RECOVERY
(Max of 40). Add total number of significant TYPE BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts] BEDROCK [16 pt]	type of substrate present. Check ONLY two predocts ubstrate types found (Max of 8). Final metric score RCENT TYPE SILT [3 pt] LEAF PACKWOODY DEBT FINE DETRITUS [3 pts] CLAY or HARDPAN [0 pt] MUCK [0 pts] ARTIFICIAL [3 pts]	PERCENT O Substrate Max = 40
Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBSTR	(A) RATE TYPES: TOTAL NUMBER OF	SUBSTRATE TYPES:
	wimum pool depth within the 61 meter (200 ft) evaluations or storm water pipes) (Check ONLY one bound of the control of the co	Max = 30 CHANNEL [0 pts]
3. BANK FULL WIDTH (Measured as the av > 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] COMMENTS 8 3 - 5.9 / O.4 /		Y one box): 8") [15 pts] Bankfull Width Max=30
RIPARIAN ZONE AND FLOODPLA RIPARIAN WIDTH L R (Per Bank) Wide > 10m Moderate 5-10m Narrow < 5m None COMMENTS	FLOODPLAIN QUALITY L R (Most Predominant per Bank) Mature Forest, Wetland Immature Forest, Shrub or Old Field Residential, Park, New Field	(R) as looking downstream R Conservation Tillage Urban or Industrial Open Pasture, Row Crop Mining or Construction
FLOW REGIME (At Time of Evalua Stream Flowing Subsurface flow with isolated pools COMMENTS	Moist Channel, iso	olated pools, no flow (intermittent) vater (Ephemeral)
SINUOSITY (Number of bends per None 0.5	61 m (200 ft) of channel) (Check <i>ONLY</i> one box): 1.0	□ 3.0 □ >3
STREAM GRADIENT ESTIMATE Flat (0.5 n/100 n) Flat to Moderate	Moderate (2 ft/100 ft)	ere Severe (10 ft/100 ft)

ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N)	WWDED	- SETUNES
DOWNSTREAM DESIGNATED USE(S) WHYN Name: Sciole Brush (reak Distance from Evaluated Stream Distance from Evaluation Distance from Evaluated Stream Distance from Evaluation Distance from Evaluated Stream Distance from Evaluation Dis	FLOW DEY OF	Gravel Drive
DOWNSTREAM DESIGNATED USE(S) WWH Name: Scipto Brush Creek Distance from Evaluated Stream Order Distance from Evaluated Stream MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA CLEARLY MARK THE SITE LOCATION USGS Quadrangle Name: Hills DOVO NRCS Soil Map Page: NRCS Soil Map Stream Order Township / City: Peebles MISCELLANEOUS Base Flow Conditions? (Y/N): Date of last precipitation: 3 28 2017 Quantity. 0.05" Photograph Information: 22 ul 27 dum 24 5 July 40 5 Elevated Turbidity? (Y/N): Canopy (% open): (Note lab sample no. or id. and attach results) Lab Number: Field Measures: Temp ("C) Dissolved Oxygen (mg/l) pH (SU) Conductivity (umhos/cm) Is the sampling reach representative of the stream (Y/N) If not, please explain: BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the si ID number: Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)		
DOWNSTREAM DESIGNATED USE(S) WWH Name: Sciols Brush Creek Distance from Evaluated Stream NAMPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA CLEARLY MARK THE SITE LOCATION NRCS Soil Map Page: NRCS Soil Map Stream Order NRCS Soil Map Page: NRCS Soil Map Stream Order Distance From Evaluated Stream Order NRCS Soil Map Page: NRCS Soil Map Stream Order NRCS Soil Map Page: NRCS Soil Map Stream Order Distance From Evaluated Stream Order NRCS Soil Map Page: NRCS Soil Map Stream Order NRCS Soil Map Page: NRCS Soil Map Stream Order NRCS Soil Map Page: NRCS Soil Map Stream Order NRCS Soil Map Page: NRC	Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Aquatic M Comments Regarding Biology:	erved? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Sciols Brush Creek Distance from Evaluated Stream Distance from Evaluated Stream Distance from Evaluated Stream MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION USGS Quadrangle Name: Hills boro NRCS Soil Map Page: NRCS Soil Map Stream Order County: Adams MISCELLANEOUS Base Flow Conditions? (Y/N): Date of last precipitation: 3 28 2017 Quantity: 0.05 Photograph Information: 20 up 27 dum 24 5 15 4 5 5 5 6 6 7 6 7 6 7 6 7 7 7 7 7 7 7 7 7	Performed? (Y/N): (If Yes, Record all observations. Voucher co	neets from the Primary Headwater Habitat Assessment Manual)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Sciols Brush Creek Distance from Evaluated Stream NAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION NRCS Soil Map Page: NRCS Soil Map Stream Order County: Adams Township / City: Peebles MISCELLANEOUS Base Flow Conditions? (Y/N): Date of last precipitation: 3 28 2017 Quantity: 0.05" Photograph Information: 20 10 27 dams 24 5 3 3 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Additional comments/description of pollution impacts:_([[[]]])	conched account & Dawn an gravel don't
DOWNSTREAM DESIGNATED USE(S) WWH Name: Sciols Brush Creek Distance from Evaluated Stream NAMPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA CLEARLY MARK THE SITE LOCATION USGS Quadrangle Name: Hills DOYO NRCS Soil Map Page: NRCS Soil Map Stream Order County: Adams Miscellaneous Base Flow Conditions? (Y/N): Date of last precipitation: 3 28 2017 Photograph Information: 22 4 2017 Photograph Information: 23 4 2017 Canopy (% open): 10 Were samples collected for water chemistry? (Y/N): Note lab sample no. or id. and attach results) Lab Number:	s the sampling reach representative of the stream (Y/N)_Y If not, ple	ase explain:
DOWNSTREAM DESIGNATED USE(S) WWH Name: Sciolo Brush Creek Distance from Evaluated Stream Mile	ield Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (µmhos/cm)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Sciols Brush Creek Distance from Evaluated Stream Distance from Evaluated Stream Distance from Evaluated Stream Distance from Evaluated Stream NAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA CLEARLY MARK THE SITE LOCATION USGS Quadrangle Name: Hillsboro NRCS Soil Map Page: NRCS Soil Map Stream Order County: Adams MISCELLANEOUS Date of last precipitation: 3 28 2017 Quantity: 0.05 Photograph Information 20 10 27 June 24 5 Justices	Vere samples collected for water chemistry? (Y/N): (Note lab sa	imple no, or id, and attach results) Lab Number:
DOWNSTREAM DESIGNATED USE(S) WWH Name: Sciolo Brush Creek Distance from Evaluated Stream NAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA CLEARLY MARK THE SITE LOCATION DISGS Quadrangle Name: Hillsboro NRCS Soil Map Page: NRCS Soil Map Stream Order County: Adams Township / City: Pebles Base Flow Conditions? (Y/N): Date of last precipitation: 3 28 2017 Quantity: 0.0511	70	
DOWNSTREAM DESIGNATED USE(S) WWH Name: Sciols Brush Creek Distance from Evaluated Stream NAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION DISGS Quadrangle Name: Hills boro NRCS Soil Map Page: NRCS Soil Map Stream Order County: Adams Township / City: Peebles MISCELLANEOUS		
DOWNSTREAM DESIGNATED USE(S) WWH Name: Scioto Brush Creek Distance from Evaluated Stream MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA CLEARLY MARK THE SITE LOCATION USGS Quadrangle Name: Hilsboro NRCS Soil Map Page: NRCS Soil Map Stream Order County: Adams Township / City: Peebles	V	0.001
DOWNSTREAM DESIGNATED USE(S) WWH Name: Sciolo Brush Creek Distance from Evaluated Stream Distance from Evaluated Stream Distance from Evaluated Stream Distance from Evaluated Stream MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA CLEARLY MARK THE SITE LOCATION DISCO Quadrangle Name: Hills DOVO NRCS Soil Map Page: NRCS Soil Map Stream Order	County: Adams Township	o/city: Peebles
DOWNSTREAM DESIGNATED USE(S) WWH Name: Sciolo Brush Creek Distance from Evaluated Stream Dis	^ •	
DOWNSTREAM DESIGNATED USE(S) WWH Name: Sciote Brush Creek Distance from Evaluated Stream Distance from Evaluated Stream Distance from Evaluated Stream		
DOWNSTREAM DESIGNATED USE(S) WWH Name: Scioto Brush Creek Distance from Evaluated Stream ~ Mi	DEWH Name:	Distance from Evaluated Stream
, DOWNSTREAM DESIGNATED USE(S)	WWH Name: Scioto Brush Creek	Distance from Evaluated Stream
OHELPERFORMED2 - Tyes Tho OHELSome (If Yes Attach Completed OHELSom)		(II Fes, Atlacti Completed QHEI Form)
DDITIONAL STREAM INFORMATION (This information Must Also be Completed):	OHELPERFORMEDS - TIVES THE COURT STATE	(If Yes, Attach Completed OHEL Form)

0,4° OHur: 4,1° 0,2°

One Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):



SITE NAMELOCATION Date Roll Seamon 138 KV FERMINGTON LINE 1970 P(+ SITE NUMBER STYCH MT PRIVER BASIN SCIOTO OF DRAINAGE AREA (mf) 4011 LENGTH OF STREAM REACH (ff) 30 LAT. 39.01074 ONG. 833174 RIVER CODE RIVER MILE DATE 3/79/7019 SCORER NO/SN COMMENTS NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction	
STREAM CHANNEL ONONE / NATURAL CHANNEL PRECOVERED OF RECOVERING OF RECEIPT OF NO RECOVERY MODIFICATIONS:	Υ
Mex of 40). Add total number of significant substate types found (files of 6). This metric score is suit of box of 7). TYPE BLDR SLABS [16 pts] BOULDER (>250 mm) [16 pts] BEDROCK [16 pt] COBBLE (65-256 mm) [12 pts] COBBLE (65-256 mm) [12 pts] GRAVEL (2-64 mm) [9 pts] SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts]	HEI etric pints
/ Waxingtin Foot Depth newsorte the maximum poor depth with the crime to a motor than the	Depth ax = 30
3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): > 4.0 maters (> 13) [30 pts] > 1.0 m (≤ 3' 3") [5 pts] W > 3.0 m · 4.0 m (> 9' T' - 13) [26 pts] ≤ 1.0 m (≤ 3' 3") [5 pts]	enkfuli Jidth
This information must also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY RIPARIAN WIDTH L R (Per Bank) L R (Most Predominant per Bank) Wide >10m Mature Forest, Wetland Conservation Tillage Moderate 5.10m	
Field Narrow <5m Residential, Park, New Field Open Pasture, Row Crop None COMMENTS Fenced Pasture Mining or Construction	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Subsurface flow with isolated pools (Interstitial) COMMENTS THE PURPLE OF EVALUATION OF BOX (Intermittent) Dry channel, no water (Ephemeral)	
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None	
STREAM GRADIENT ESTIMATE Severe (10 R/100 R) Moderate (2 4/100 R) Moderate to Severe Moderate to Severe	

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? - Tyes No QHEI Score (If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Sciols Isrush Orce HDWTR 3Z Distance from Evaluated Stream - 1, 0 M O CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
USGS Quadrangle Name: Sy Nato No. NRCS Soil Map Page: NRCS Soil Map Stream Order Township / City: Sinking Sylvation
MISCELLANEOUS Base Flow Conditions? (Y/N): Date of last precipitation: 3/25/2019 Quantity:
Photograph Information:
Elevated Turbidity? (Y/N): W Canopy (% open): 401.
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmnos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain:
Additional comments/description of pollution impacts:
BIOTIC EVALUATION
Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the samples must be labeled
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) Comments Regarding Biology: Vonce
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
Ag field
3 5 6
FLOW - Pour
Mixed Forest mixed Forest
5 2

CrieFPA Primary Headwater Habitat Evaluation Form

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

SITE NAME LOCATION WAS ROUND - SEAMON 158 KV Transmission Line Project SITE NUMBER Stream 80 RIVER BASIN Scrope DRAINAGE AREA (ml²) 40 I.L. LENGTH OF STREAM REACH (ft) 40 LAT. 34.08648 LONG. 83.1778 RIVER CODE RIVER MILE DATE 3/26/2019 SCORER NN/3N COMMENTS	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction	 IS
STREAM CHANNEL	
TYPE PERCENT TYPE PERCENT 70 BLDR SLABS [16 pts] SILT [3 pt] 70 BOULDER (>256 mm) [16 pts] LEAF PACKWOODY DEBRIS [3 pts] Subs	HEI tric ints strate = 40
	Depth = 30
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 L R (Per Bank) L R (Most Predominant per Bank) L R Wide >10m	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Subsurface flow with isolated pools (Interstitial) COMMENTS Dry channel, no water (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 ft/100 ft) ☐ Flat to Moderate ☐ Moderate (2 ft/100 ft) ☐ Moderate to Severe (10 ft/100 ft)	

QHEI PERFORMED? - Tyes No QHEI Score	(If Yes, Attach Completed QHEI Form)
CWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE EN	TIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
JSGS Quadrangle Name: Latham	NRCS Soil Map Page: NRCS Soil Map Stream Order
county: Pile Co. Towns	hip/city. Latham
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation:	27/2017 Quantity: 0.6
Photograph Information:	
Elevated Turbidity? (Y/N): N Canopy (% open): 18'/	
Nere samples collected for water chemistry? (Y/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)
s the sampling reach representative of the stream (Y/N) If not,	please explain:
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
N.	r collections optional. NOTE: all voucher samples must be labeled with the s
	a sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders O Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquat	bserved? (Y/N) _ Voucher? (Y/N) _ V
Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquat Comments Regarding Biology: When Comments Regarding Biology: When Comments Regarding Biology: Regarding Biology	
Confinents regarding bloody.	
	OF STREAM REACH (This must be completed):
A / /	r site evaluation and a narrative description of the stream's location
* (Mix	ed 25/36
1	17
C.L.	
-LOW -	2 my good us
FLOW -	5 my row with
FLOW •	
FLOW •	
-LOW -	ed RS/SG

Chief PA Primary Headwater Habitat Evaluation Form

7	6
	10

		sum of metrics 1, 2, 3):
SITE NAME/LOCATION WATE KOU	d-Seaman 138 KV Transm	Ission Line Project
	Stream 81 RIVER BASIN Sciolo - OC	
	LAT. 39 104979 LONG83.757242 RIVE	
	COMMENTS	
NOTE: Complete All Items On This Fo	rm - Refer to "Field Evaluation Manual for O	hio's PHWH Streams" for Instructions
STREAM CHANNEL NONE / N.	ATURAL CHANNEL RECOVERED RECO	VERING TRECENT OR NO RECOVERY
MODIFICATIONS:		
	very type of substrate present. Check <i>ONLY</i> <u>two</u> pr ficant substrate types found (Max of 8). Final metric s	
TYPE	PERCENT TYPE	PERCENT Metric
☐ ☐ BLDR SLABS [16 pts] ☐ ☐ BOULDER (>256 mm) [16 pts]	SILT [3 pt]	
BEDROCK [16 pt]	☐ ☐ FINE DETRITUS [3 pt	Substrat
OBBLE (65-256 mm) [12 pts]	CLAY or HARDPAN [0) pt] Max = 40
☐ ☑ GRAVEL (2-64 mm) [9 pts] ☐ ☐ SAND (<2 mm) [6 pts]	MUCK [0 pts] ARTIFICIAL [3 pts]	- 116
	1 2 D ARTIFICIAL [3 pis]	
Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	(A) 17c	(B) 4 + B
SCORE OF TWO MOST PREDOMINATE SUB		OF SUBSTRATE TYPES:
2. Maximum Pool Depth (Measure the	maximum pool depth within the 61 meter (200 ft) e	evaluation reach at the time of Pool Dept
evaluation. Avoid plunge pools from ro	pad culverts or storm water pipes) (Check ONLY or	ne box): Max = 30
> 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts]	> 5 cm - 10 cm [15 pt < 5 cm [5 pts]	si C
> 10 - 22.5 cm [25 pts]	NO WATER OR MOIS	ST CHANNEL [0 pts]
COMMENTS	MAXIMUM POO	OL DEPTH (centimeters):
3. BANK FULL WIDTH (Measured as the	ne average of 3-4 measurements) (Check	ONLY one box): Bankfull
> 4.0 meters (> 13') [30 pts]	> 1.0 m - 1.5 m (> 3' 3'	
> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	Ø ≤ 1.0 m (≤ 3' 3") [5 pts	
COMMENTS ATTUME 1.5	, U, Z Pepth AVERAGE BAN	NKEULI WIDTH (meters)
TOB = 3.0'		The second secon
	This information must also be completed	
RIPARIAN ZONE AND FLOOI	DPLAIN QUALITY ☆NOTE: River Left (L) and R FLOODPLAIN QUALITY	Right (R) as looking downstream☆
RIPARIAN WIDTH L. R. (Per Bank)	L R (Most Predominant per Bank)	L R
Ø Ø Wide >10m	Mature Forest, Wetland	Conservation Tillage
☐ ☐ Moderate 5-10m	☐ ☐ Immature Forest, Shrub or Old Field	Urban or Industrial
☐ ☐ Narrow <5m	Residential, Park, New Field	Open Pasture, Row Crop
☐ ☐ None	☐ ☐ Fenced Pasture	☐ ☐ Mining or Construction
COMMENTS		
<u> </u>	valuation) (Check ONLY one box):	Literatura and a section of the sect
Stream Flowing Subsurface flow with isolated por COMMENTS	ools (Interstitial)	I, isolated pools, no flow (Intermittent) no water (Ephemeral)
SINUOSITY (Number of bends	sper 61 m (200 ft) of channel) (Check ONLY one bo	ox):
☐ None	9 1.0 2.0	3.0
□ 0,5	J 1.5	□ >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)

OUEL BEDEODMEDO V. V. OVELO	
QHEI PERFORMED? - Tyes No QHEI Score(If Yes	
DOWNSTREAM DESIGNATED USE(S) WWH Name:	~1,3Mi
OWNH Name: CREADURET TO TE	Distance from Evaluated Stream 1177
D CWH Name:	Distance from Evaluated Stream
J EVVH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATER:	
SGS Quadrangle Name: By in the NRCS Soil I	
ounty: Tike County Township/City.	latham
MISCELLANEOUS	
ase Flow Conditions? (Y/N) : Y Date of last precipitation: $3/27/70$	Quantity: 0.6
notograph Information:	
levated Turbidity? (Y/N): Canopy (% open):	
/ere samples collected for water chemistry? (Y/N): (Note lab sample no. c	or id. and attach results) Lab Number:
ield Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.	U.) Conductivity (µmhos/cm)
the sampling reach representative of the stream (Y/N)_Y If not, please explai	n:
dditional comments/description of pollution impacts:	
BIOTIC EVALUATION	
reformed? (Y/N): (If Yes, Record all observations. Voucher collections of ID number. Include appropriate field data sheets from the ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinver	the Primary Headwater Habitat Assessment Manual) N) Voucher? (Y/N) tebrates Observed? (Y/N) Voucher? (Y/N)
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Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3): SITE NAMELOCATION WARE-ROAD-SEAMAN 139 by TRANSMITSION LINE PROJECT SITE NUMBER Stream 82 RIVER BASIN Scioto - OF DRAINAGE AREA (mi2) 401 MI LAT. 39 1087803 LONG. -83, 179 6 RIVER CODE RIVER MILE LENGTH OF STREAM REACH (ft) (00 DATE 28 MARCH201 SCORER NOLAND NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions □ NONE / NATURAL CHANNEL □ RECOVERED ☑ RECOVERING □ RECENT OR NO RECOVERY STREAM CHANNEL **MODIFICATIONS:** SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes HHEI (Max of 40), Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. Metric TYPE **Points** BLDR SLABS [16 pts] SILT [3 pt] BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] Substrate BEDROCK [16 pt] FINE DETRITUS [3 pts] Max = 40COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt] GRAVEL (2-64 mm) [9 pts] MUCK [0 pts] SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] Total of Percentages of (B) A+B Bldr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES: Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of **Pool Depth** evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max = 30> 5 cm - 10 cm [15 pts] > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5 pts] \Box > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): 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 一 > 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] AVERAGE BANKFULL WIDTH (meters) 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 (Per Bank) R (Most Predominant per Bank) Wide >10m Mature Forest, Wetland Conservation Tillage Immeture Forest, Shrub or Old 中図 Moderate 5-10m Urban or Industrial Open Pasture, Row Narrow <5m Residential, Park, New Field 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 1 nterm, Hent SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): 1.0 None 3.0 0.5

☐ Moderate to Severe

Severe (10 ft/100 ft)

Moderate (2 ft/100 ft)

Flat (0 5 ft/100 ft)

STREAM GRADIENT ESTIMATE

☐ Flat to Moderate

QHEI PERFORMED? - Tyes Do QHEI Score(If Yes, Attr	ach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: CWH Name: DEWH Name:	Distance from Evaluated Stream Distance from Evaluated Stream Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHEE	DAREA. CLEARLY MARK THE SITE LOCATION
ISGS Quadrangle Name: Latham NRCS Soil Map	Page: NRCS Soil Map Stream Order
county: Tike County Township/City:	Latham
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation: 27 MARCH 201	Quantity: 0 · 6
Photograph Information:	
Elevated Turbidity? (Y/N): N Canopy (% open): 50 %	
Nere samples collected for water chemistry? (Y/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)
s 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): V (If Yes, Record all observations, Voucher collections option	
ID number Include appropriate field data sheets from the Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebr	Voucher? (Y/N)
Comments Regarding Biology. None Observed	
DRAWING AND NADDATIVE DESCRIPTION OF STREAM	A DEACH (This must be completed):
DRAWING AND NARRATIVE DESCRIPTION OF STREAM	
DRAWING AND NARRATIVE DESCRIPTION OF STREAM Include Important landmarks and other features of interest for site evaluation	
Include Important landmarks and other features of interest for site evaluation	and a narrative description of the stream's location
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FLOW	and a narrative description of the stream's location

This foregoing document was electronically filed with the Public Utilities

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5/5/2017 1:52:28 PM

in

Case No(s). 17-0813-EL-BLN

Summary: Letter of Notification electronically filed by Mr. Hector Garcia on behalf of AEP Ohio Transmission Company