



# ATTACHMENT 6

## Stream Summary and Field Forms



**LEGEND**

- - - ORDINARY HIGH WATER MARK
- STREAM CENTERLINE
- WETLAND
- RAILROAD



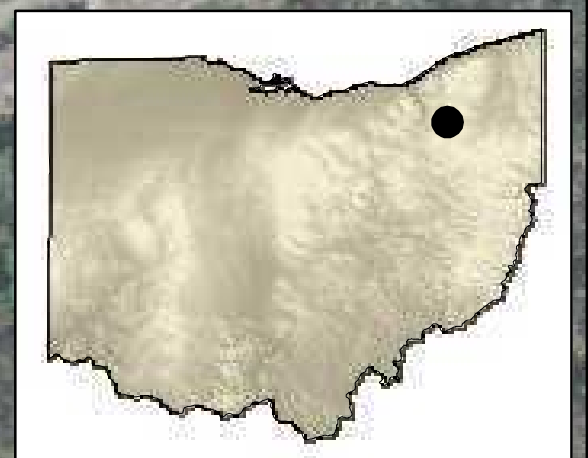
DATA SOURCES:  
 AERIAL IMAGE - SEAMLESS.USGS.GOV

CSX, TRANSPORTATION  
**NATIONAL GATEWAY**

**ABCR RR BRIDGE AND ABANDONED BRIDGE, KENT, OHIO**  
 RAISE BRIDGE SUPERSTRUCTURE  
 STREAMS AND WETLANDS



MILEPOSTS  
 BG  
 115.80 to  
 115.67



Stream & Location: \_\_\_\_\_ RM: \_\_\_\_\_ Date: \_\_\_/\_\_\_/06

Scorers Full Name & Affiliation: \_\_\_\_\_

River Code: \_\_\_\_\_ STORET #: \_\_\_\_\_ Lat./Long.: \_\_\_\_\_ Office verified location [ ]

1] SUBSTRATE Check ONLY Two substrate TYPE BOXES; estimate % or note every type present. Check ONE (Or 2 & average). BEST TYPES, OTHER TYPES, ORIGIN, QUALITY. Includes checkboxes for BLDR/SLABS, BOULDER, COBBLE, GRAVEL, SAND, BEDROCK, HARDPAN, DETRITUS, MUCK, SILT, ARTIFICIAL, LIMESTONE, TILLS, WETLANDS, SANDSTONE, RIP/RAP, LACUSTURINE, SHALE, COAL FINES, HEAVY, MODERATE, NORMAL, EXTENSIVE, FREE, MODERATE, NORMAL, NONE.

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. AMOUNT. Includes checkboxes for UNDERCUT BANKS, OVERHANGING VEGETATION, SHALLOWS, ROOTMATS, POOLS > 70cm, ROOTWADS, BOULDERS, OXBOWS, BACKWATERS, AQUATIC MACROPHYTES, LOGS OR WOODY DEBRIS, EXTENSIVE >75%, MODERATE 25-75%, SPARSE 5-25%, NEARLY ABSENT <5%.

3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average). SINUOSITY, DEVELOPMENT, CHANNELIZATION, STABILITY. Includes checkboxes for HIGH, MODERATE, LOW, NONE, EXCELLENT, GOOD, FAIR, POOR, NONE, RECOVERED, RECOVERING, RECENT OR NO RECOVERY, HIGH, MODERATE, LOW.

4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank & average). RIVER RIGHT LOOKING DOWNSTREAM. EROSION, RIPARIAN WIDTH, FLOOD PLAIN QUALITY, CONSERVATION TILLAGE, URBAN OR INDUSTRIAL, MINING / CONSTRUCTION. Includes checkboxes for NONE/LITTLE, MODERATE, HEAVY/SEVERE, WIDE, MODERATE, NARROW, VERY NARROW, NONE, FOREST, SWAMP, SHRUB OR OLD FIELD, RESIDENTIAL, PARK, NEW FIELD, FENCED PASTURE, OPEN PASTURE, ROWCROP, CONSERVATION TILLAGE, URBAN OR INDUSTRIAL, MINING / CONSTRUCTION.

5] POOL / GLIDE AND RIFFLE / RUN QUALITY MAXIMUM DEPTH, CHANNEL WIDTH, CURRENT VELOCITY, Recreation Potential. Includes checkboxes for > 1m, 0.7-1m, 0.4-0.7m, 0.2-0.4m, < 0.2m, POOL WIDTH > RIFFLE WIDTH, TORRENTIAL, VERY FAST, FAST, MODERATE, SLOW, INTERSTITIAL, INTERMITTENT, EDDIES.

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, RUN DEPTH, RIFFLE / RUN SUBSTRATE, RIFFLE / RUN EMBEDDEDNESS. Includes checkboxes for BEST AREAS > 10cm, 5-10cm, < 5cm, MAXIMUM > 50cm, < 50cm, STABLE, MOD. STABLE, UNSTABLE, NONE, LOW, MODERATE, EXTENSIVE.

6] GRADIENT (ft/mi) DRAINAGE AREA (mi^2) VERY LOW - LOW, MODERATE, HIGH - VERY HIGH. %POOL, %GLIDE, %RUN, %RIFFLE. Includes checkboxes for VERY LOW - LOW, MODERATE, HIGH - VERY HIGH.

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

Bg 115.80, 115.67 Abandoned and ABCR RR Bridge, Kent Portage Cnty, OH  
 - Breakneck Creek (200 m reach approx.)

**A] SAMPLED REACH**  
 Check ALL that apply

**METHOD**  
 BOAT   
 WADE   
 W/ LINE   
 OTHER   
 DISTANCE

**CLARITY**  
 1st - sample pass - 2nd   
 < 20 cm   
 20-40 cm   
 40-70 cm   
 > 70 cm / GTB   
 meters

**CANOPY**  
 > 85% - OPEN   
 55% - < 85%   
 30% - < 55%   
 10% - < 30%   
 < 10% - CLOSED

**C] RECREATION**  
 AREA DEPTH   
 POOL:  > 100ft  > 3ft

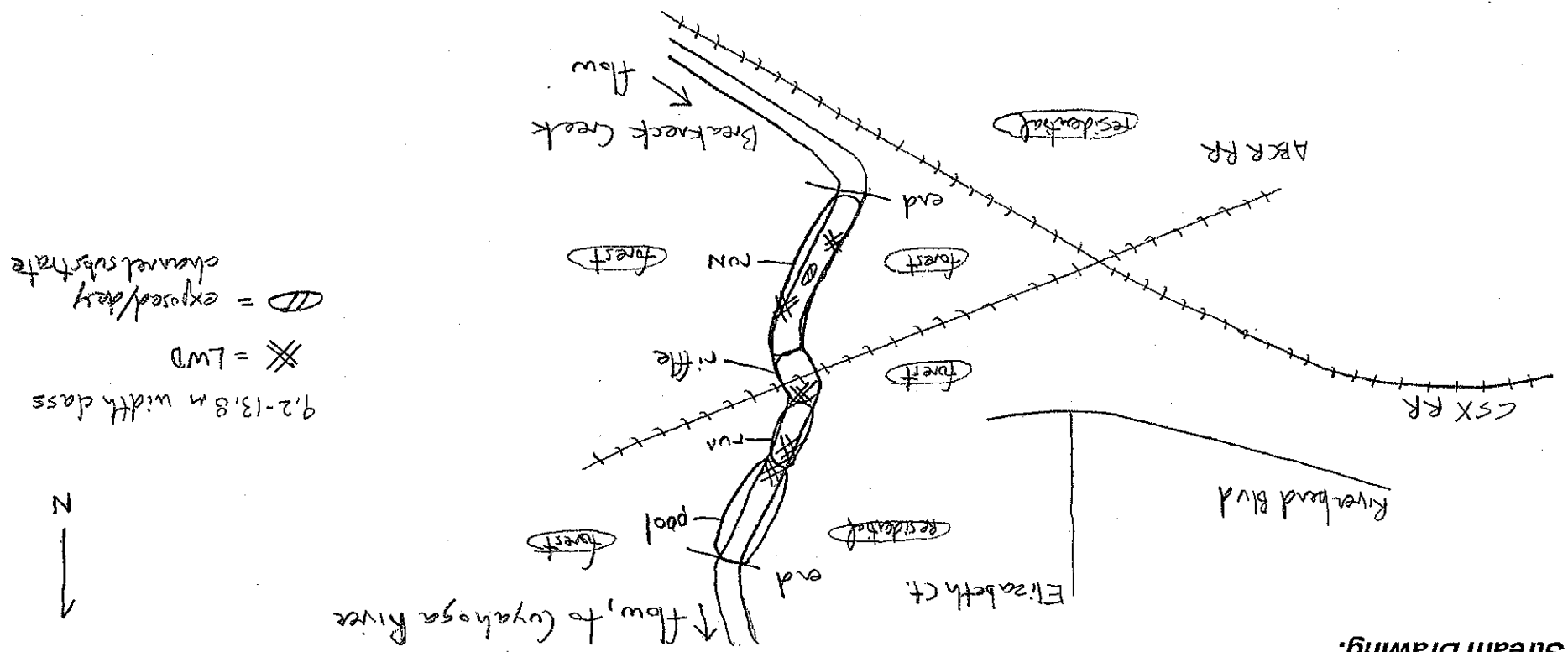
**B] AESTHETICS**  
 NUISANCE ALGAE   
 INVASIVE MACROPHYTES   
 EXCESS TURBIDITY   
 DISCOLORATION   
 FOAM / SCUM   
 OIL / SHEEN   
 TRASH / LITTER   
 NUISANCE ODOR   
 SLUDGE DEPOSITS   
 CSO / ISSUES / OUTFALLS

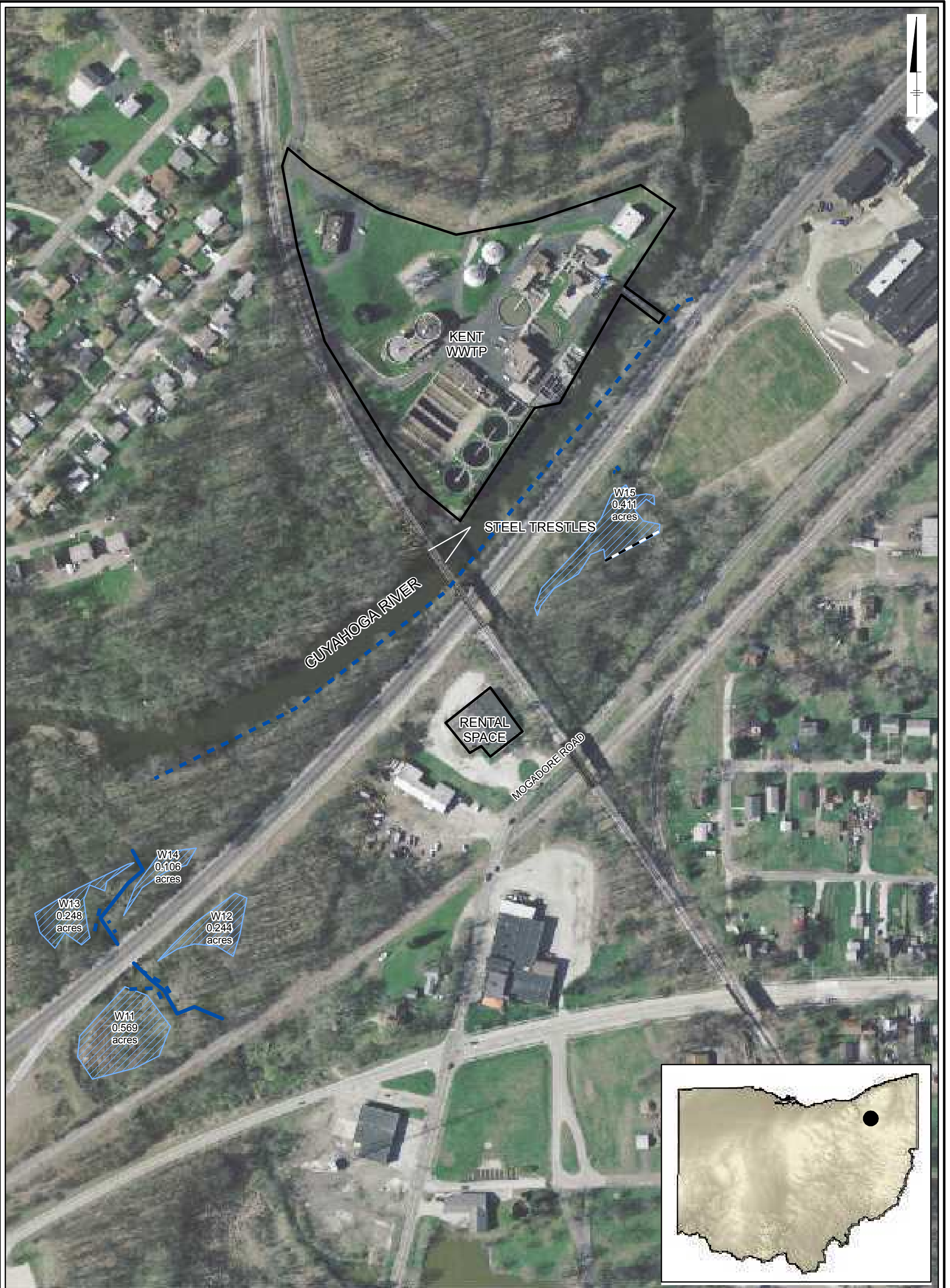
**D] MAINTENANCE**  
 PUBLIC / PRIVATE / BOTH / NA   
 ACTIVE / HISTORIC / BOTH / NA   
 YOUNG-SUCCESSION-OLD   
 SPRAY / SNAG / REMOVED   
 MODIFIED / DIPPED OUT / NA   
 LEAVED / ONE SIDED   
 RELOCATED / CUTOFFS   
 MOVING-BEDLOAD-STABLE   
 ARMORED / SLUMPS   
 ISLANDS / SCOURED   
 IMPOUNDED / DESICATED   
 FLOOD CONTROL / DRAINAGE

**E] ISSUES**  
 WWTP / CSO / NPDES / INDUSTRY   
 HARDENED / URBAN / DIRTY / GRIME   
 CONTAMINATED / LANDFILL   
 BMPs-CONSTRUCTION-SEDIMENT   
 LOGGING / IRRIGATION / COOLING   
 BANK / EROSION / SURFACE   
 FALSE BANK / MANURE / LAGOON   
 WASH H<sub>2</sub>O / TILE / H<sub>2</sub>O TABLE   
 ACID / MINE / QUARRY / FLOW   
 NATURAL / WETLAND / STAGNANT   
 PARK / GOLF / LAWN / HOME   
 ATMOSPHERE / DATA PAUCITY

**F] MEASUREMENTS**  
 Legacy Tree:   
 trench ratio   
 floodprone x width   
 bankfull max depth   
 W/D ratio   
 bankfull x depth   
 x bankfull width   
 max depth   
 x depth   
 x width   
 max depth   
 x bankfull width   
 bankfull x depth   
 W/D ratio   
 bankfull max depth   
 floodprone x width   
 trench ratio   
 Legacy Tree:

**Stream Drawing:**

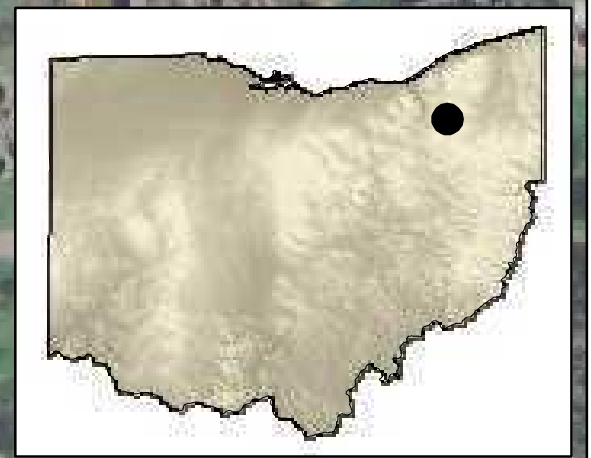




- LEGEND**
- ORDINARY HIGH WATER MARK
  - STREAM CENTERLINE
  - ▨ WETLAND
  - BUILDINGS
  - RAILROAD



DATA SOURCES:  
 AERIAL IMAGE - SEAMLESS.USGS.GOV



CSX, TRANSPORTATION  
**NATIONAL GATEWAY**

**W&LE RAILROAD BRIDGE, KENT, OHIO  
 LOWER TRACKS  
 STREAMS AND WETLANDS**



MILEPOSTS  
**BG  
 118.20**

Stream & Location: \_\_\_\_\_ RM: \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/06

Scorers Full Name & Affiliation: \_\_\_\_\_

River Code: \_\_\_\_\_ STORET #: \_\_\_\_\_ Lat./ Long.: \_\_\_\_\_ / 18 \_\_\_\_\_ Office verified location

**1] SUBSTRATE** Check ONLY Two substrate TYPE BOXES; estimate % or note every type present. Check ONE (Or 2 & average)

<b>BEST TYPES</b>	<b>POOL RIFFLE</b>	<b>OTHER TYPES</b>	<b>POOL RIFFLE</b>	<b>ORIGIN</b>	<b>QUALITY</b>
<input type="checkbox"/> BLDR /SLABS [10]	_____	<input type="checkbox"/> HARDPAN [4]	_____	<input type="checkbox"/> LIMESTONE [1]	<input type="checkbox"/> HEAVY [-2]
<input type="checkbox"/> BOULDER [9]	_____	<input type="checkbox"/> DETRITUS [3]	_____	<input type="checkbox"/> TILLS [1]	<input type="checkbox"/> MODERATE [-1]
<input type="checkbox"/> COBBLE [8]	_____	<input type="checkbox"/> MUCK [2]	_____	<input type="checkbox"/> WETLANDS [0]	<input type="checkbox"/> NORMAL [0]
<input type="checkbox"/> GRAVEL [7]	_____	<input type="checkbox"/> SILT [2]	_____	<input type="checkbox"/> HARDPAN [0]	<input type="checkbox"/> FREE [1]
<input type="checkbox"/> SAND [6]	_____	<input type="checkbox"/> ARTIFICIAL [0]	_____	<input type="checkbox"/> SANDSTONE [0]	<input type="checkbox"/> EXTENSIVE [-2]
<input type="checkbox"/> BEDROCK [5]	_____			<input type="checkbox"/> RIP/RAP [0]	<input type="checkbox"/> MODERATE [-1]
(Score natural substrates; ignore sludge from point-sources)				<input type="checkbox"/> LACUSTURINE [0]	<input type="checkbox"/> NORMAL [0]
<b>NUMBER OF BEST TYPES:</b> <input type="checkbox"/> 4 or more [2] <input type="checkbox"/> 3 or less [0]				<input type="checkbox"/> SHALE [-1]	<input type="checkbox"/> NONE [1]
<b>Comments</b>				<input type="checkbox"/> COAL FINES [-2]	

Substrate Maximum 20

**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). Check ONE (Or 2 & average)

<input type="checkbox"/> UNDERCUT BANKS [1]	<input type="checkbox"/> POOLS > 70cm [2]	<input type="checkbox"/> OXBOWS, BACKWATERS [1]	<input type="checkbox"/> EXTENSIVE >75% [11]
<input type="checkbox"/> OVERHANGING VEGETATION [1]	<input type="checkbox"/> ROOTWADS [1]	<input type="checkbox"/> AQUATIC MACROPHYTES [1]	<input type="checkbox"/> MODERATE 25-75% [7]
<input type="checkbox"/> SHALLOWS (IN SLOW WATER) [1]	<input type="checkbox"/> BOULDERS [1]	<input type="checkbox"/> LOGS OR WOODY DEBRIS [1]	<input type="checkbox"/> SPARSE 5-<25% [3]
<input type="checkbox"/> ROOTMATS [1]			<input type="checkbox"/> NEARLY ABSENT <5% [1]

**Comments** Cover Maximum 20

**3] CHANNEL MORPHOLOGY** Check ONE in each category (Or 2 & average)

<b>SINUOSITY</b>	<b>DEVELOPMENT</b>	<b>CHANNELIZATION</b>	<b>STABILITY</b>
<input type="checkbox"/> HIGH [4]	<input type="checkbox"/> EXCELLENT [7]	<input type="checkbox"/> NONE [6]	<input type="checkbox"/> HIGH [3]
<input type="checkbox"/> MODERATE [3]	<input type="checkbox"/> GOOD [5]	<input type="checkbox"/> RECOVERED [4]	<input type="checkbox"/> MODERATE [2]
<input type="checkbox"/> LOW [2]	<input type="checkbox"/> FAIR [3]	<input type="checkbox"/> RECOVERING [3]	<input type="checkbox"/> LOW [1]
<input type="checkbox"/> NONE [1]	<input type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]	

**Comments** Channel Maximum 20

**4] BANK EROSION AND RIPARIAN ZONE** Check ONE in each category for EACH BANK (Or 2 per bank & average)

River right looking downstream

<b>EROSION</b>	<b>RIPARIAN WIDTH</b>	<b>FLOOD PLAIN QUALITY</b>
<input type="checkbox"/> NONE / LITTLE [3]	<input type="checkbox"/> WIDE > 50m [4]	<input type="checkbox"/> FOREST, SWAMP [3]
<input type="checkbox"/> MODERATE [2]	<input type="checkbox"/> MODERATE 10-50m [3]	<input type="checkbox"/> SHRUB OR OLD FIELD [2]
<input type="checkbox"/> HEAVY / SEVERE [1]	<input type="checkbox"/> NARROW 5-10m [2]	<input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]
	<input type="checkbox"/> VERY NARROW < 5m [1]	<input type="checkbox"/> FENCED PASTURE [1]
	<input type="checkbox"/> NONE [0]	<input type="checkbox"/> OPEN PASTURE, ROWCROP [0]
		<input type="checkbox"/> CONSERVATION TILLAGE [1]
		<input type="checkbox"/> URBAN OR INDUSTRIAL [0]
		<input type="checkbox"/> MINING / CONSTRUCTION [0]

**Comments** Indicate predominant land use(s) past 100m riparian. Riparian Maximum 10

**5] POOL / GLIDE AND RIFFLE / RUN QUALITY**

<b>MAXIMUM DEPTH</b>	<b>CHANNEL WIDTH</b>	<b>CURRENT VELOCITY</b>	<b>Recreation Potential</b> Primary Contact Secondary Contact (circle one and comment on back)
Check ONE (ONLY!)	Check ONE (Or 2 & average)	Check ALL that apply	
<input type="checkbox"/> > 1m [6]	<input type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]	<input type="checkbox"/> TORRENTIAL [-1]	<b>Pool / Current</b> Maximum 12
<input type="checkbox"/> 0.7-<1m [4]	<input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]	<input type="checkbox"/> VERY FAST [1]	
<input type="checkbox"/> 0.4-<0.7m [2]	<input type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [0]	<input type="checkbox"/> INTERSTITIAL [-1]	
<input type="checkbox"/> 0.2-<0.4m [1]		<input type="checkbox"/> FAST [1]	
<input type="checkbox"/> < 0.2m [0]		<input type="checkbox"/> INTERMITTENT [-2]	
		<input type="checkbox"/> MODERATE [1]	

*Indicate for reach - pools and riffles.*

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average).  NO RIFFLE [metric=0]

<b>RIFFLE DEPTH</b>	<b>RUN DEPTH</b>	<b>RIFFLE / RUN SUBSTRATE</b>	<b>RIFFLE / RUN EMBEDDEDNESS</b>
<input type="checkbox"/> BEST AREAS > 10cm [2]	<input type="checkbox"/> MAXIMUM > 50cm [2]	<input type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]	<input type="checkbox"/> NONE [2]
<input type="checkbox"/> BEST AREAS 5-10cm [1]	<input type="checkbox"/> MAXIMUM < 50cm [1]	<input type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]	<input type="checkbox"/> LOW [1]
<input type="checkbox"/> BEST AREAS < 5cm [metric=0]		<input type="checkbox"/> UNSTABLE (e.g., Fine Gravel, Sand) [0]	<input type="checkbox"/> MODERATE [0]
			<input type="checkbox"/> EXTENSIVE [-1]

**Comments** Riffle / Run Maximum 8

**6] GRADIENT** (ft/mi)  VERY LOW - LOW [2-4]  MODERATE [6-10]  HIGH - VERY HIGH [10-6] **%POOL:** [ ] **%GLIDE:** [ ] **Gradient** Maximum 10

**DRAINAGE AREA** (mi<sup>2</sup>) **%RUN:** [ ] **%RIFFLE:** [ ]

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

**A] SAMPLED REACH**

Check ALL that apply

METHOD

BOAT  WADE  L. LINE  OTHER

DISTANCE

0.5 Km  0.2 Km  0.15 Km  0.12 Km  OTHER

CLARITY

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

STAGE

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

SECCI DEPTH

1st  2nd

CANOPY

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

AREA DEPTH

POOL:  >100ft  >3ft

**C] RECREATION**

NUISANCE ALGAE  INVASIVE MACROPHYTES  EXCESS TURBIDITY  DISCOLORATION  FOAM / SCUM  OIL SHEEN  TRASH / LITTER  NUISANCE ODOR  SLUDGE DEPOSITS  CSOSSOS/OUTFALLS

**D] 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  ARMORED / SLUMPS  IMPOUNDED / DESICATED  FLOOD CONTROL / DRAINAGE

**E] ISSUES**

WWTP / CSO / NPDES / INDUSTRY  HARDENED / URBAN / DIRTY&GRIME  CONTAMINATED / LANDFILL  BMPs-CONSTRUCTION-SEDIMENT  LOGGING / IRRIGATION / COOLING  BANK / EROSION / SURFACE  FALSE BANK / MANURE / LAGOON  WASH H<sub>2</sub>O / TILE / H<sub>2</sub>O TABLE  ACID / MINE / QUARRY / FLOW  NATURAL / WETLAND / STAGNANT  PARK / GOLF / LAWN / HOME  ATMOSPHERE / DATA PAUCITY

**F] MEASUREMENTS**

max. depth  x depth  x width

bankfull width  x bankfull width

bankfull x depth

W/D ratio

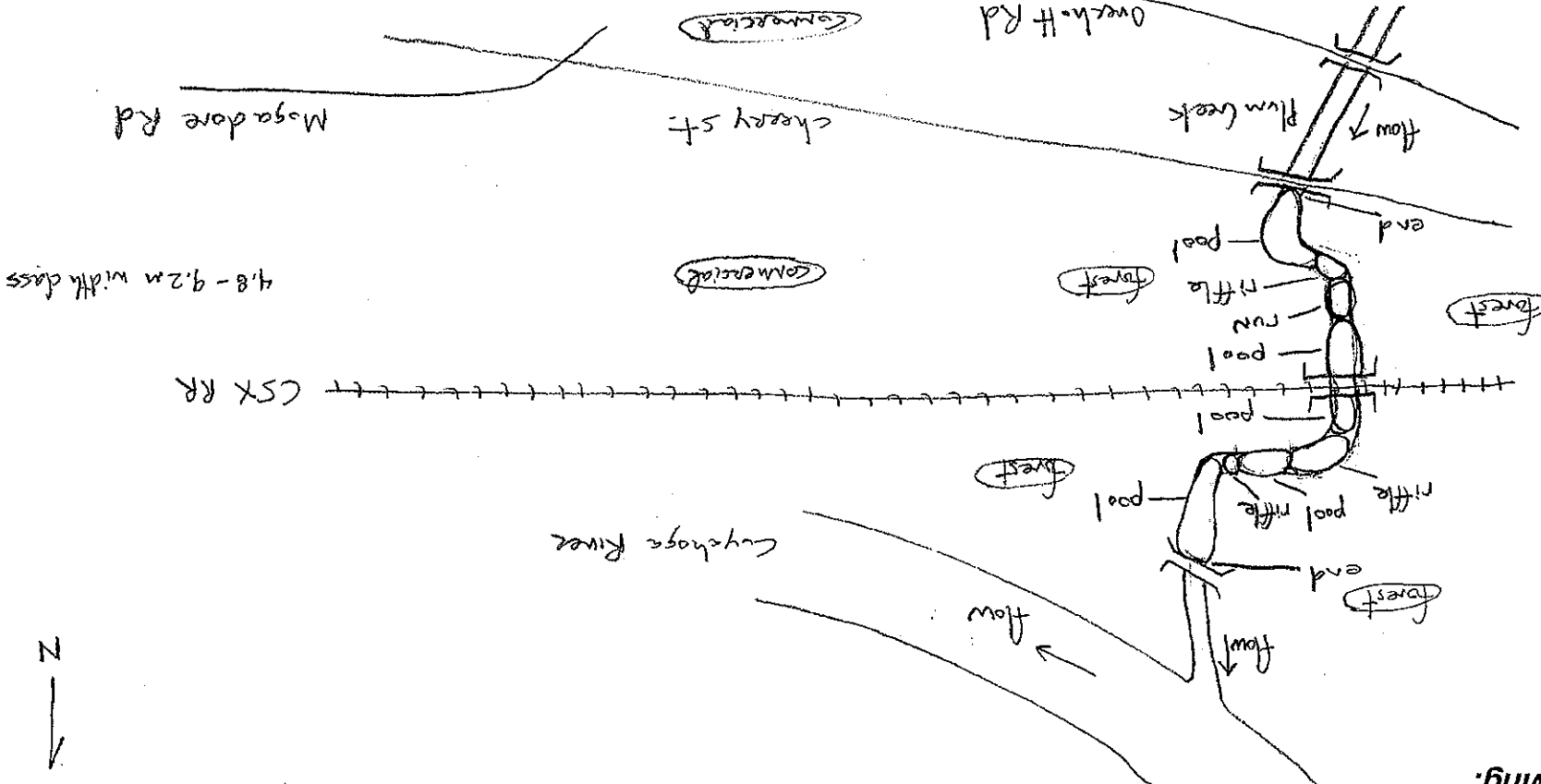
bankfull max. depth

floodprone x width

entrench. ratio

Legacy Tree:

**Stream Drawing:**



B6 118.20 Railroad Bridge, Kent/Portage County, OH  
 - Plum Creek (150 meter reach approx.)  
 Circle some & COMMENT

4.8-9.2 m width class

Stream & Location: \_\_\_\_\_ RM: \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/06

Scorers Full Name & Affiliation: \_\_\_\_\_

River Code: \_\_\_\_\_ STORET #: \_\_\_\_\_ Lat./ Long.: \_\_\_\_\_ /8 \_\_\_\_\_ Office verified location

**1] SUBSTRATE** Check ONLY Two substrate TYPE BOXES; estimate % or note every type present. Check ONE (Or 2 & average)

<b>BEST TYPES</b>	<b>POOL RIFFLE</b>	<b>OTHER TYPES</b>	<b>POOL RIFFLE</b>	<b>ORIGIN</b>	<b>QUALITY</b>
<input type="checkbox"/> BLDR /SLABS [10]	_____	<input type="checkbox"/> HARDPAN [4]	_____	<input type="checkbox"/> LIMESTONE [1]	<input type="checkbox"/> HEAVY [-2]
<input type="checkbox"/> BOULDER [9]	_____	<input type="checkbox"/> DETRITUS [3]	_____	<input type="checkbox"/> TILLS [1]	<input type="checkbox"/> MODERATE [-1]
<input type="checkbox"/> COBBLE [8]	_____	<input type="checkbox"/> MUCK [2]	_____	<input type="checkbox"/> WETLANDS [0]	<input type="checkbox"/> NORMAL [0]
<input type="checkbox"/> GRAVEL [7]	_____	<input type="checkbox"/> SILT [2]	_____	<input type="checkbox"/> HARDPAN [0]	<input type="checkbox"/> FREE [1]
<input type="checkbox"/> SAND [6]	_____	<input type="checkbox"/> ARTIFICIAL [0]	_____	<input type="checkbox"/> SANDSTONE [0]	<input type="checkbox"/> EXTENSIVE [-2]
<input type="checkbox"/> BEDROCK [5]	_____			<input type="checkbox"/> RIP/RAP [0]	<input type="checkbox"/> MODERATE [-1]
				<input type="checkbox"/> LACUSTURINE [0]	<input type="checkbox"/> NORMAL [0]
				<input type="checkbox"/> SHALE [-1]	<input type="checkbox"/> NONE [1]
				<input type="checkbox"/> COAL FINES [-2]	

NUMBER OF BEST TYPES:  4 or more [2]  3 or less [0]

Comments \_\_\_\_\_

**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. Check ONE (Or 2 & average)

<input type="checkbox"/> UNDERCUT BANKS [1]	<input type="checkbox"/> POOLS > 70cm [2]	<input type="checkbox"/> OXBOWS, BACKWATERS [1]	<input type="checkbox"/> EXTENSIVE >75% [11]
<input type="checkbox"/> OVERHANGING VEGETATION [1]	<input type="checkbox"/> ROOTWADS [1]	<input type="checkbox"/> AQUATIC MACROPHYTES [1]	<input type="checkbox"/> MODERATE 25-75% [7]
<input type="checkbox"/> SHALLOWS (IN SLOW WATER) [1]	<input type="checkbox"/> BOULDERS [1]	<input type="checkbox"/> LOGS OR WOODY DEBRIS [1]	<input type="checkbox"/> SPARSE 5-<25% [3]
<input type="checkbox"/> ROOTMATS [1]			<input type="checkbox"/> NEARLY ABSENT <5% [1]

Comments \_\_\_\_\_

**3] CHANNEL MORPHOLOGY** Check ONE in each category (Or 2 & average)

<b>SINUOSITY</b>	<b>DEVELOPMENT</b>	<b>CHANNELIZATION</b>	<b>STABILITY</b>
<input type="checkbox"/> HIGH [4]	<input type="checkbox"/> EXCELLENT [7]	<input type="checkbox"/> NONE [6]	<input type="checkbox"/> HIGH [3]
<input type="checkbox"/> MODERATE [3]	<input type="checkbox"/> GOOD [5]	<input type="checkbox"/> RECOVERED [4]	<input type="checkbox"/> MODERATE [2]
<input type="checkbox"/> LOW [2]	<input type="checkbox"/> FAIR [3]	<input type="checkbox"/> RECOVERING [3]	<input type="checkbox"/> LOW [1]
<input type="checkbox"/> NONE [1]	<input type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]	

Comments \_\_\_\_\_

**4] BANK EROSION AND RIPARIAN ZONE** Check ONE in each category for EACH BANK (Or 2 per bank & average)

<b>EROSION</b>	<b>RIPARIAN WIDTH</b>	<b>FLOOD PLAIN QUALITY</b>
<input type="checkbox"/> NONE / LITTLE [3]	<input type="checkbox"/> WIDE > 50m [4]	<input type="checkbox"/> FOREST, SWAMP [3]
<input type="checkbox"/> MODERATE [2]	<input type="checkbox"/> MODERATE 10-50m [3]	<input type="checkbox"/> SHRUB OR OLD FIELD [2]
<input type="checkbox"/> HEAVY / SEVERE [1]	<input type="checkbox"/> NARROW 5-10m [2]	<input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]
	<input type="checkbox"/> VERY NARROW < 5m [1]	<input type="checkbox"/> FENCED PASTURE [1]
	<input type="checkbox"/> NONE [0]	<input type="checkbox"/> OPEN PASTURE, ROWCROP [0]
		<input type="checkbox"/> CONSERVATION TILLAGE [1]
		<input type="checkbox"/> URBAN OR INDUSTRIAL [0]
		<input type="checkbox"/> MINING / CONSTRUCTION [0]

Comments \_\_\_\_\_

**5] POOL / GLIDE AND RIFFLE / RUN QUALITY**

<b>MAXIMUM DEPTH</b>	<b>CHANNEL WIDTH</b>	<b>CURRENT VELOCITY</b>	<b>Recreation Potential</b> Primary Contact Secondary Contact (circle one and comment on back)
Check ONE (ONLY!)	Check ONE (Or 2 & average)	Check ALL that apply	
<input type="checkbox"/> > 1m [6]	<input type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]	<input type="checkbox"/> TORRENTIAL [-1]	<b>Pool / Current</b> Maximum 12
<input type="checkbox"/> 0.7-<1m [4]	<input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]	<input type="checkbox"/> VERY FAST [1]	
<input type="checkbox"/> 0.4-<0.7m [2]	<input type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [0]	<input type="checkbox"/> FAST [1]	
<input type="checkbox"/> 0.2-<0.4m [1]		<input type="checkbox"/> MODERATE [1]	
<input type="checkbox"/> < 0.2m [0]		<input type="checkbox"/> SLOW [1]	
		<input type="checkbox"/> INTERSTITIAL [-1]	
		<input type="checkbox"/> INTERMITTENT [-2]	
		<input type="checkbox"/> EDDIES [1]	

Comments \_\_\_\_\_

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average).  NO RIFFLE [metric=0]

<b>RIFFLE DEPTH</b>	<b>RUN DEPTH</b>	<b>RIFFLE / RUN SUBSTRATE</b>	<b>RIFFLE / RUN EMBEDDEDNESS</b>
<input type="checkbox"/> BEST AREAS > 10cm [2]	<input type="checkbox"/> MAXIMUM > 50cm [2]	<input type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]	<input type="checkbox"/> NONE [2]
<input type="checkbox"/> BEST AREAS 5-10cm [1]	<input type="checkbox"/> MAXIMUM < 50cm [1]	<input type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]	<input type="checkbox"/> LOW [1]
<input type="checkbox"/> BEST AREAS < 5cm [metric=0]		<input type="checkbox"/> UNSTABLE (e.g., Fine Gravel, Sand) [0]	<input type="checkbox"/> MODERATE [0]
			<input type="checkbox"/> EXTENSIVE [-1]

Comments \_\_\_\_\_

**6] GRADIENT** (ft/mi)  VERY LOW - LOW [2-4]  MODERATE [6-10]  HIGH - VERY HIGH [10-6]

**DRAINAGE AREA** (mi<sup>2</sup>)

%POOL: [ ] %GLIDE: [ ] %RUN: [ ] %RIFFLE: [ ]

Comments \_\_\_\_\_



**A) SAMPLED REACH**

Check ALL that apply

**METHOD**

BOAT    
 WADE    
 L. LINE    
 OTHER    
 DISTANCE

0.5 Km    
 0.2 Km    
 0.15 Km    
 0.12 Km    
 OTHER

CLARITY

1st sample pass-2nd    
 2nd sample pass-2nd

SECHI DEPTH meters

< 20 cm    
 20-40 cm    
 40-70 cm    
 > 70 cm/CTB

CANOPY

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

1st pass cm    
 2nd pass cm

**C) RECREATION**

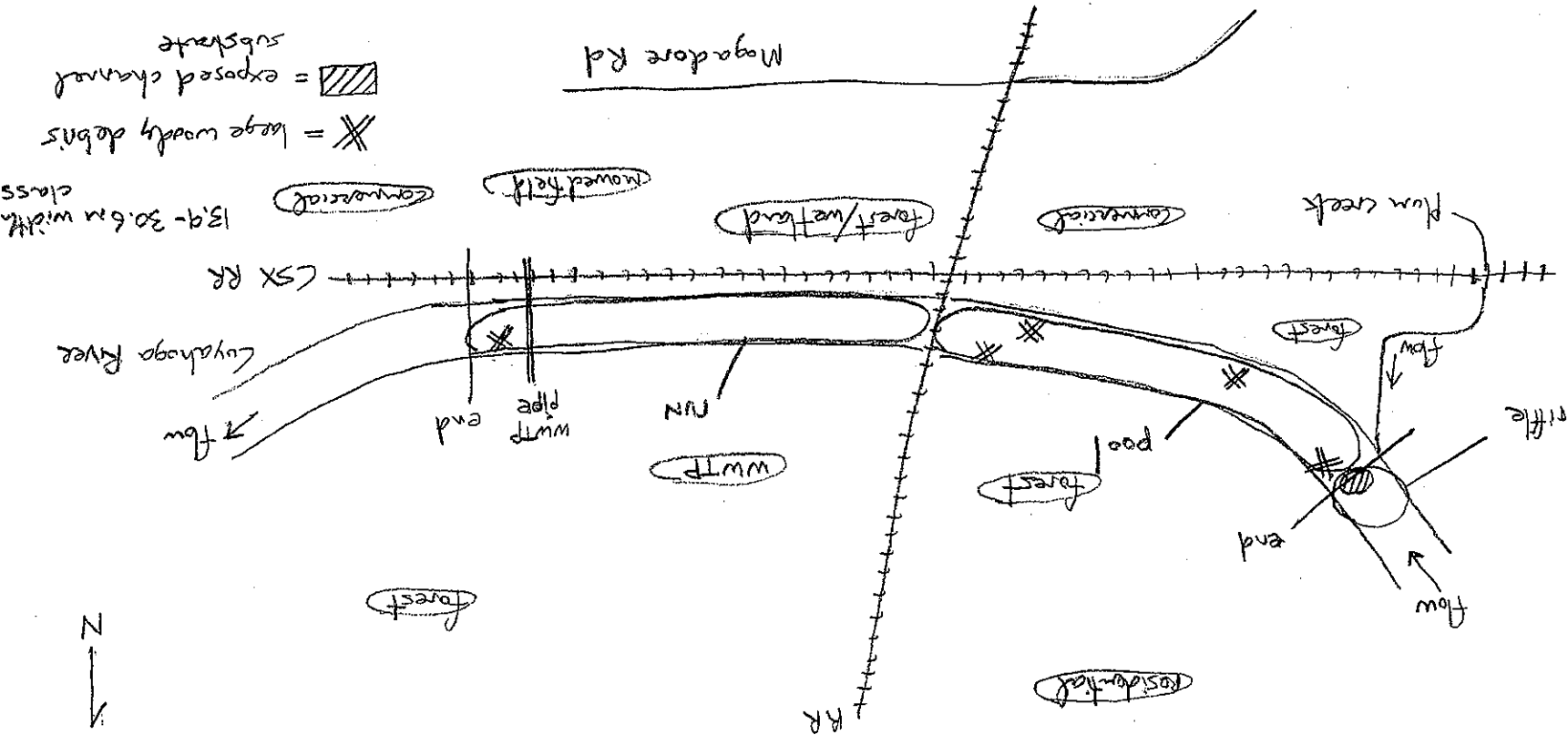
AREA DEPTH POOL:  >100ft  >3ft

**Stream Drawing:**

F) MEASUREMENTS	E) ISSUES	D) MAINTENANCE	B) AESTHETICS
x width <input type="checkbox"/> x depth <input type="checkbox"/> max. depth <input type="checkbox"/> x bankfull width <input type="checkbox"/> x bankfull x depth <input type="checkbox"/> W/D ratio <input type="checkbox"/> bankfull max. depth <input type="checkbox"/> floodprone x width <input type="checkbox"/> entrench. ratio <input type="checkbox"/> Legacy Tree: <input type="checkbox"/>	WWTP / CSO / NPDES / INDUSTRY <input type="checkbox"/> HARDENED / URBAN / DIRT&GRIME <input type="checkbox"/> CONTAMINATED / LANDFILL <input type="checkbox"/> BMPs-CONSTRUCTION-SEDIMENT <input type="checkbox"/> LOGGING / IRRIGATION / COOLING <input type="checkbox"/> BANK / EROSION / SURFACE <input type="checkbox"/> FALSE BANK / MANURE / LAGOON <input type="checkbox"/> WASH H <sub>2</sub> O / TILE / H <sub>2</sub> O TABLE <input type="checkbox"/> ACID / MINE / QUARRY / FLOW <input type="checkbox"/> NATURAL / WETLAND / STAGNANT <input type="checkbox"/> PARK / GOLF / LAWN / HOME <input type="checkbox"/> ATMOSPHERE / DATA PAUCITY <input type="checkbox"/>	PUBLIC / PRIVATE / BOTH / NA <input type="checkbox"/> ACTIVE / HISTORIC / BOTH / NA <input type="checkbox"/> YOUNG-SUCCESSION-OLD <input type="checkbox"/> SPRAY / SNAG / REMOVED <input type="checkbox"/> MODIFIED / DIPPED OUT / NA <input type="checkbox"/> LEAVED / ONE SIDED <input type="checkbox"/> RELOCATED / CUTOFFS <input type="checkbox"/> MOVING-BEDLOAD-STABLE <input type="checkbox"/> ARMORED / SLUMPS <input type="checkbox"/> ISLANDS / SCOURED <input type="checkbox"/> IMPOUNDED / DESICATED <input type="checkbox"/> FLOOD CONTROL / DRAINAGE <input type="checkbox"/>	NUISANCE ALGAE <input type="checkbox"/> INVASIVE MACROPHYTES <input type="checkbox"/> EXCESS TURBIDITY <input type="checkbox"/> DISCOLORATION <input type="checkbox"/> FOAM / SCUM <input type="checkbox"/> OIL SHEEN <input type="checkbox"/> TRASH / LITTER <input type="checkbox"/> NUISANCE ODOR <input type="checkbox"/> SLUDGE DEPOSITS <input type="checkbox"/> CSOS/SOIS/OUTFALLS <input type="checkbox"/>

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





Bq 118.20 Railroad Bridge, Kent, Portage County, OH - Cuyahoga River (500 meter reach approx.)



13.9-30.6 m width class    
 = large woody debris    
 = exposed channel    
 substrate



**LEGEND**

-  ORDINARY HIGH WATER MARK
-  STREAM CENTERLINE
-  WETLAND
-  RAILROAD



DATA SOURCES:  
AERIAL IMAGE - SEAMLESS.USGS.GOV

CSX, TRANSPORTATION  
**NATIONAL GATEWAY**

**MAIN STREET, KENT, OHIO  
LOWER TRACKS  
STREAMS AND WETLANDS**



MILEPOST  
**BG**  
117.30

Stream & Location: \_\_\_\_\_ RM: \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/06

Scorers Full Name & Affiliation: \_\_\_\_\_

River Code: \_\_\_\_\_ STORET #: \_\_\_\_\_ Lat./ Long.: \_\_\_\_\_ /8 \_\_\_\_\_ Office verified location

1] **SUBSTRATE** Check **ONLY Two** substrate **TYPE BOXES**; estimate % or note every type present. Check ONE (Or 2 & average)

<b>BEST TYPES</b>	<b>POOL RIFFLE</b>	<b>OTHER TYPES</b>	<b>POOL RIFFLE</b>	<b>ORIGIN</b>	<b>QUALITY</b>
<input type="checkbox"/> BLDR /SLABS [10]	_____	<input type="checkbox"/> HARDPAN [4]	_____	<input type="checkbox"/> LIMESTONE [1]	<input type="checkbox"/> HEAVY [-2]
<input type="checkbox"/> BOULDER [9]	_____	<input type="checkbox"/> DETRITUS [3]	_____	<input type="checkbox"/> TILLS [1]	<input type="checkbox"/> MODERATE [-1]
<input type="checkbox"/> COBBLE [8]	_____	<input type="checkbox"/> MUCK [2]	_____	<input type="checkbox"/> WETLANDS [0]	<input type="checkbox"/> NORMAL [0]
<input type="checkbox"/> GRAVEL [7]	_____	<input type="checkbox"/> SILT [2]	_____	<input type="checkbox"/> HARDPAN [0]	<input type="checkbox"/> FREE [1]
<input type="checkbox"/> SAND [6]	_____	<input type="checkbox"/> ARTIFICIAL [0]	_____	<input type="checkbox"/> SANDSTONE [0]	<input type="checkbox"/> EXTENSIVE [-2]
<input type="checkbox"/> BEDROCK [5]	_____			<input type="checkbox"/> RIP/RAP [0]	<input type="checkbox"/> MODERATE [-1]
				<input type="checkbox"/> LACUSTURINE [0]	<input type="checkbox"/> NORMAL [0]
				<input type="checkbox"/> SHALE [-1]	<input type="checkbox"/> NONE [1]
				<input type="checkbox"/> COAL FINES [-2]	

NUMBER OF BEST TYPES:  4 or more [2]  3 or less [0]

Comments \_\_\_\_\_

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. Check ONE (Or 2 & average)

<input type="checkbox"/> UNDERCUT BANKS [1]	<input type="checkbox"/> POOLS > 70cm [2]	<input type="checkbox"/> OXBOWS, BACKWATERS [1]	<input type="checkbox"/> EXTENSIVE >75% [11]
<input type="checkbox"/> OVERHANGING VEGETATION [1]	<input type="checkbox"/> ROOTWADS [1]	<input type="checkbox"/> AQUATIC MACROPHYTES [1]	<input type="checkbox"/> MODERATE 25-75% [7]
<input type="checkbox"/> SHALLOWS (IN SLOW WATER) [1]	<input type="checkbox"/> BOULDERS [1]	<input type="checkbox"/> LOGS OR WOODY DEBRIS [1]	<input type="checkbox"/> SPARSE 5-<25% [3]
<input type="checkbox"/> ROOTMATS [1]			<input type="checkbox"/> NEARLY ABSENT <5% [1]

Comments \_\_\_\_\_

3] **CHANNEL MORPHOLOGY** Check ONE in each category (Or 2 & average)

<b>SINUOSITY</b>	<b>DEVELOPMENT</b>	<b>CHANNELIZATION</b>	<b>STABILITY</b>
<input type="checkbox"/> HIGH [4]	<input type="checkbox"/> EXCELLENT [7]	<input type="checkbox"/> NONE [6]	<input type="checkbox"/> HIGH [3]
<input type="checkbox"/> MODERATE [3]	<input type="checkbox"/> GOOD [5]	<input type="checkbox"/> RECOVERED [4]	<input type="checkbox"/> MODERATE [2]
<input type="checkbox"/> LOW [2]	<input type="checkbox"/> FAIR [3]	<input type="checkbox"/> RECOVERING [3]	<input type="checkbox"/> LOW [1]
<input type="checkbox"/> NONE [1]	<input type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]	

Comments \_\_\_\_\_

4] **BANK EROSION AND RIPARIAN ZONE** Check ONE in each category for EACH BANK (Or 2 per bank & average)

<b>EROSION</b>	<b>RIPARIAN WIDTH</b>	<b>FLOOD PLAIN QUALITY</b>	<b>CONSERVATION TILLAGE</b>
<input type="checkbox"/> NONE / LITTLE [3]	<input type="checkbox"/> WIDE > 50m [4]	<input type="checkbox"/> FOREST, SWAMP [3]	<input type="checkbox"/> URBAN OR INDUSTRIAL [0]
<input type="checkbox"/> MODERATE [2]	<input type="checkbox"/> MODERATE 10-50m [3]	<input type="checkbox"/> SHRUB OR OLD FIELD [2]	<input type="checkbox"/> MINING / CONSTRUCTION [0]
<input type="checkbox"/> HEAVY / SEVERE [1]	<input type="checkbox"/> NARROW 5-10m [2]	<input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]	
	<input type="checkbox"/> VERY NARROW < 5m [1]	<input type="checkbox"/> FENCED PASTURE [1]	
	<input type="checkbox"/> NONE [0]	<input type="checkbox"/> OPEN PASTURE, ROWCROP [0]	

Comments \_\_\_\_\_

5] **POOL / GLIDE AND RIFFLE / RUN QUALITY**

<b>MAXIMUM DEPTH</b>	<b>CHANNEL WIDTH</b>	<b>CURRENT VELOCITY</b>	<b>Recreation Potential</b> Primary Contact Secondary Contact (circle one and comment on back)
Check ONE (ONLY!)	Check ONE (Or 2 & average)	Check ALL that apply	
<input type="checkbox"/> > 1m [6]	<input type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]	<input type="checkbox"/> TORRENTIAL [-1]	<b>Pool / Current</b> Maximum 12
<input type="checkbox"/> 0.7-<1m [4]	<input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]	<input type="checkbox"/> SLOW [1]	
<input type="checkbox"/> 0.4-<0.7m [2]	<input type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [0]	<input type="checkbox"/> VERY FAST [1]	
<input type="checkbox"/> 0.2-<0.4m [1]		<input type="checkbox"/> INTERSTITIAL [-1]	
<input type="checkbox"/> < 0.2m [0]		<input type="checkbox"/> FAST [1]	
		<input type="checkbox"/> MODERATE [1]	
		<input type="checkbox"/> INTERMITTENT [-2]	
		<input type="checkbox"/> EDDIES [1]	

Comments \_\_\_\_\_

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average).  NO RIFFLE [metric=0]

<b>RIFFLE DEPTH</b>	<b>RUN DEPTH</b>	<b>RIFFLE / RUN SUBSTRATE</b>	<b>RIFFLE / RUN EMBEDDEDNESS</b>
<input type="checkbox"/> BEST AREAS > 10cm [2]	<input type="checkbox"/> MAXIMUM > 50cm [2]	<input type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]	<input type="checkbox"/> NONE [2]
<input type="checkbox"/> BEST AREAS 5-10cm [1]	<input type="checkbox"/> MAXIMUM < 50cm [1]	<input type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]	<input type="checkbox"/> LOW [1]
<input type="checkbox"/> BEST AREAS < 5cm [metric=0]		<input type="checkbox"/> UNSTABLE (e.g., Fine Gravel, Sand) [0]	<input type="checkbox"/> MODERATE [0]
			<input type="checkbox"/> EXTENSIVE [-1]

Comments \_\_\_\_\_

6] **GRADIENT** (ft/mi)  VERY LOW - LOW [2-4]  MODERATE [6-10]  HIGH - VERY HIGH [10-6] %POOL: [ ] %GLIDE: [ ]

**DRAINAGE AREA** (mi<sup>2</sup>) %RUN: [ ] %RIFFLE: [ ]

Comments \_\_\_\_\_

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

Bq 117.30 Main Street, Kent, Portage County, OH  
 - Cuyahoga River (500 m reach approx.)

**A] SAMPLED REACH**

Check ALL that apply

**METHOD**

BOAT  
 WADE  
 L. LINE  
 OTHER

**DISTANCE**

0.5 Km  
 0.2 Km  
 0.15 Km  
 0.12 Km  
 OTHER

**CLARITY**

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

**CANOPY**

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

**STAGE**

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

**SECCI DEPTH**

1st  
 2nd

**AREA DEPTH**

> 100ft  > 3ft

**RECREATION**

FLOOD CONTROL / DESICATED  
 IMPOUNDED / SCOURED  
 ISLANDS / SCOURED  
 ARMOURD / SLUMPS  
 MOVING-BED/LOAD-STABLE  
 RELOCATED / CUTOFFS  
 LEVED / ONE SIDED  
 MODIFIED / DIPPED OUT / NA  
 SPRAY / SNAG / REMOVED  
 YOUNG-SUCCESSION-OLD  
 ACTIVE / HISTORIC / BOTH / NA  
 PUBLIC / PRIVATE / BOTH / NA  
 INVASIVE MACROPHYTES  
 EXCESS TURBIDITY  
 DISCOLORATION  
 FOAM / SCUM  
 OIL SHEEN  
 TRASH / LITTER  
 NUISANCE ODOR  
 SLUDGE DEPOSITS  
 CSO/SO/SO/OUTFALLS

**MAINTENANCE**

WTP / CSO / NPDES / INDUSTRY  
 HARDENED / URBAN / DIRT&GRIME  
 CONTAMINATED / LANDFILL  
 BMPs-CONSTRUCTION-SEDIMENT  
 LOGGING / IRRIGATION / COOLING  
 BANK / EROSION / SURFACE  
 FALSE BANK / MANNURE / LAGOON  
 WASH H<sub>2</sub>O / TILE / H<sub>2</sub>O TABLE  
 ACID / MINE / QUARRY / FLOW  
 NATURAL / WETLAND / STAGNANT  
 PARK / GOLF / LAWN / HOME  
 ATMOSPHERE / DATA PAUCITY

**ISSUES**

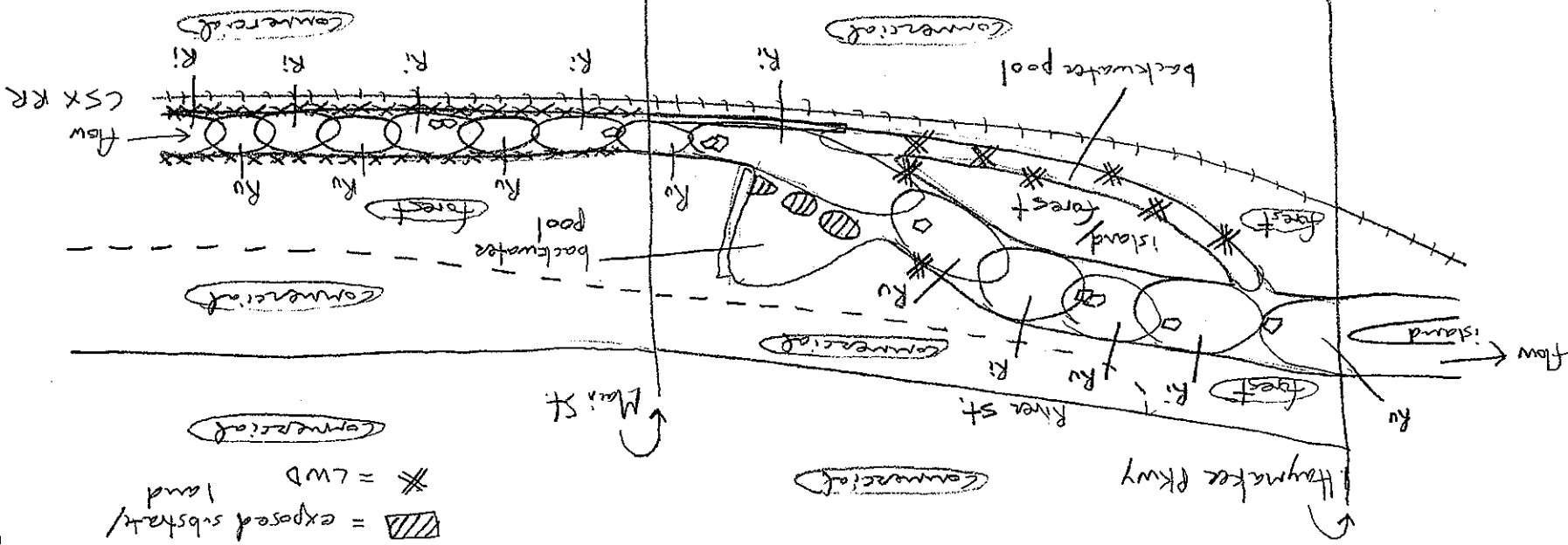
Legacy Tree:  
 entrench. ratio  
 floodprone x width  
 bankfull max. depth  
 W/D ratio  
 bankfull x depth  
 max. depth  
 x depth  
 x width

**MEASUREMENTS**

**Stream Drawing:**

13.9-30.6 m width class

- xxx = riprap
- == = retaining wall
- o = large boulder
- ▨ = exposed substrate/land
- \* = LWD



Note: River is fast flowing, with primarily large numbers of riffle (Ri) and run (Ru) sequences.



**LEGEND**

- - - ORDINARY HIGH WATER MARK
- STREAM CENTERLINE
- WETLAND
- RAILROAD\_DIGITIZED
- BUILDINGS



DATA SOURCES:  
 AERIAL IMAGE - SEAMLESS.USGS.GOV  
 ROAD, BUILDING AND RAILROAD DATA - MAHONING  
 COUNTY ONLINE GIS

CSX, TRANSPORTATION  
**NATIONAL GATEWAY**

**ABANDONED RAILROAD BRIDGE, YOUNGSTOWN, OHIO**  
 REMOVE PORTION OF EXISTING BRIDGE  
 STREAMS AND WETLANDS



MILEPOST  
**BG**  
 76.60

Stream & Location: \_\_\_\_\_ RM: \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/06

Scorers Full Name & Affiliation: \_\_\_\_\_

River Code: \_\_\_\_\_ STORET #: \_\_\_\_\_ Lat./ Long.: \_\_\_\_\_ /8 \_\_\_\_\_ Office verified location

**1] SUBSTRATE** Check ONLY Two substrate TYPE BOXES; estimate % or note every type present. Check ONE (Or 2 & average)

<b>BEST TYPES</b>	<b>POOL RIFFLE</b>	<b>OTHER TYPES</b>	<b>POOL RIFFLE</b>	<b>ORIGIN</b>	<b>QUALITY</b>
<input type="checkbox"/> BLDR /SLABS [10]	_____	<input type="checkbox"/> HARDPAN [4]	_____	<input type="checkbox"/> LIMESTONE [1]	<input type="checkbox"/> HEAVY [-2]
<input type="checkbox"/> BOULDER [9]	_____	<input type="checkbox"/> DETRITUS [3]	_____	<input type="checkbox"/> TILLS [1]	<input type="checkbox"/> MODERATE [-1]
<input type="checkbox"/> COBBLE [8]	_____	<input type="checkbox"/> MUCK [2]	_____	<input type="checkbox"/> WETLANDS [0]	<input type="checkbox"/> NORMAL [0]
<input type="checkbox"/> GRAVEL [7]	_____	<input type="checkbox"/> SILT [2]	_____	<input type="checkbox"/> HARDPAN [0]	<input type="checkbox"/> FREE [1]
<input type="checkbox"/> SAND [6]	_____	<input type="checkbox"/> ARTIFICIAL [0]	_____	<input type="checkbox"/> SANDSTONE [0]	<input type="checkbox"/> EXTENSIVE [-2]
<input type="checkbox"/> BEDROCK [5]	_____			<input type="checkbox"/> RIP/RAP [0]	<input type="checkbox"/> MODERATE [-1]
				<input type="checkbox"/> LACUSTURINE [0]	<input type="checkbox"/> NORMAL [0]
				<input type="checkbox"/> SHALE [-1]	<input type="checkbox"/> NONE [1]
				<input type="checkbox"/> COAL FINES [-2]	

NUMBER OF BEST TYPES:  4 or more [2]  3 or less [0]

Comments \_\_\_\_\_

**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. Check ONE (Or 2 & average)

<input type="checkbox"/> UNDERCUT BANKS [1]	<input type="checkbox"/> POOLS > 70cm [2]	<input type="checkbox"/> OXBOWS, BACKWATERS [1]	<input type="checkbox"/> EXTENSIVE >75% [11]
<input type="checkbox"/> OVERHANGING VEGETATION [1]	<input type="checkbox"/> ROOTWADS [1]	<input type="checkbox"/> AQUATIC MACROPHYTES [1]	<input type="checkbox"/> MODERATE 25-75% [7]
<input type="checkbox"/> SHALLOWS (IN SLOW WATER) [1]	<input type="checkbox"/> BOULDERS [1]	<input type="checkbox"/> LOGS OR WOODY DEBRIS [1]	<input type="checkbox"/> SPARSE 5-<25% [3]
<input type="checkbox"/> ROOTMATS [1]			<input type="checkbox"/> NEARLY ABSENT <5% [1]

Comments \_\_\_\_\_

**3] CHANNEL MORPHOLOGY** Check ONE in each category (Or 2 & average)

<b>SINUOSITY</b>	<b>DEVELOPMENT</b>	<b>CHANNELIZATION</b>	<b>STABILITY</b>
<input type="checkbox"/> HIGH [4]	<input type="checkbox"/> EXCELLENT [7]	<input type="checkbox"/> NONE [6]	<input type="checkbox"/> HIGH [3]
<input type="checkbox"/> MODERATE [3]	<input type="checkbox"/> GOOD [5]	<input type="checkbox"/> RECOVERED [4]	<input type="checkbox"/> MODERATE [2]
<input type="checkbox"/> LOW [2]	<input type="checkbox"/> FAIR [3]	<input type="checkbox"/> RECOVERING [3]	<input type="checkbox"/> LOW [1]
<input type="checkbox"/> NONE [1]	<input type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]	

Comments \_\_\_\_\_

**4] BANK EROSION AND RIPARIAN ZONE** Check ONE in each category for EACH BANK (Or 2 per bank & average)

<b>EROSION</b>	<b>RIPARIAN WIDTH</b>	<b>FLOOD PLAIN QUALITY</b>
<input type="checkbox"/> NONE / LITTLE [3]	<input type="checkbox"/> WIDE > 50m [4]	<input type="checkbox"/> FOREST, SWAMP [3]
<input type="checkbox"/> MODERATE [2]	<input type="checkbox"/> MODERATE 10-50m [3]	<input type="checkbox"/> SHRUB OR OLD FIELD [2]
<input type="checkbox"/> HEAVY / SEVERE [1]	<input type="checkbox"/> NARROW 5-10m [2]	<input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]
	<input type="checkbox"/> VERY NARROW < 5m [1]	<input type="checkbox"/> FENCED PASTURE [1]
	<input type="checkbox"/> NONE [0]	<input type="checkbox"/> OPEN PASTURE, ROWCROP [0]
		<input type="checkbox"/> CONSERVATION TILLAGE [1]
		<input type="checkbox"/> URBAN OR INDUSTRIAL [0]
		<input type="checkbox"/> MINING / CONSTRUCTION [0]

Comments \_\_\_\_\_

**5] POOL / GLIDE AND RIFFLE / RUN QUALITY**

<b>MAXIMUM DEPTH</b>	<b>CHANNEL WIDTH</b>	<b>CURRENT VELOCITY</b>	<b>Recreation Potential</b> Primary Contact Secondary Contact (circle one and comment on back)
Check ONE (ONLY!)	Check ONE (Or 2 & average)	Check ALL that apply	
<input type="checkbox"/> > 1m [6]	<input type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]	<input type="checkbox"/> TORRENTIAL [-1]	<b>Pool / Current</b> Maximum 12
<input type="checkbox"/> 0.7-<1m [4]	<input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]	<input type="checkbox"/> SLOW [1]	
<input type="checkbox"/> 0.4-<0.7m [2]	<input type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [0]	<input type="checkbox"/> VERY FAST [1]	
<input type="checkbox"/> 0.2-<0.4m [1]		<input type="checkbox"/> INTERSTITIAL [-1]	
<input type="checkbox"/> < 0.2m [0]		<input type="checkbox"/> FAST [1]	
		<input type="checkbox"/> MODERATE [1]	
		<input type="checkbox"/> INTERMITTENT [-2]	
		<input type="checkbox"/> EDDIES [1]	

Comments \_\_\_\_\_

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average).  NO RIFFLE [metric=0]

<b>RIFFLE DEPTH</b>	<b>RUN DEPTH</b>	<b>RIFFLE / RUN SUBSTRATE</b>	<b>RIFFLE / RUN EMBEDDEDNESS</b>
<input type="checkbox"/> BEST AREAS > 10cm [2]	<input type="checkbox"/> MAXIMUM > 50cm [2]	<input type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]	<input type="checkbox"/> NONE [2]
<input type="checkbox"/> BEST AREAS 5-10cm [1]	<input type="checkbox"/> MAXIMUM < 50cm [1]	<input type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]	<input type="checkbox"/> LOW [1]
<input type="checkbox"/> BEST AREAS < 5cm [metric=0]		<input type="checkbox"/> UNSTABLE (e.g., Fine Gravel, Sand) [0]	<input type="checkbox"/> MODERATE [0]
			<input type="checkbox"/> EXTENSIVE [-1]

Comments \_\_\_\_\_

**6] GRADIENT** (ft/mi)  VERY LOW - LOW [2-4]  MODERATE [6-10]  HIGH - VERY HIGH [10-6]

**DRAINAGE AREA** (mi<sup>2</sup>)

%POOL: [ ] %GLIDE: [ ]  
%RUN: [ ] %RIFFLE: [ ]

**Gradient** Maximum 10

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

Bq 76.60 Abandoned RR bridge, Youngstown, OH - Mahoning River (500m reach approx.)

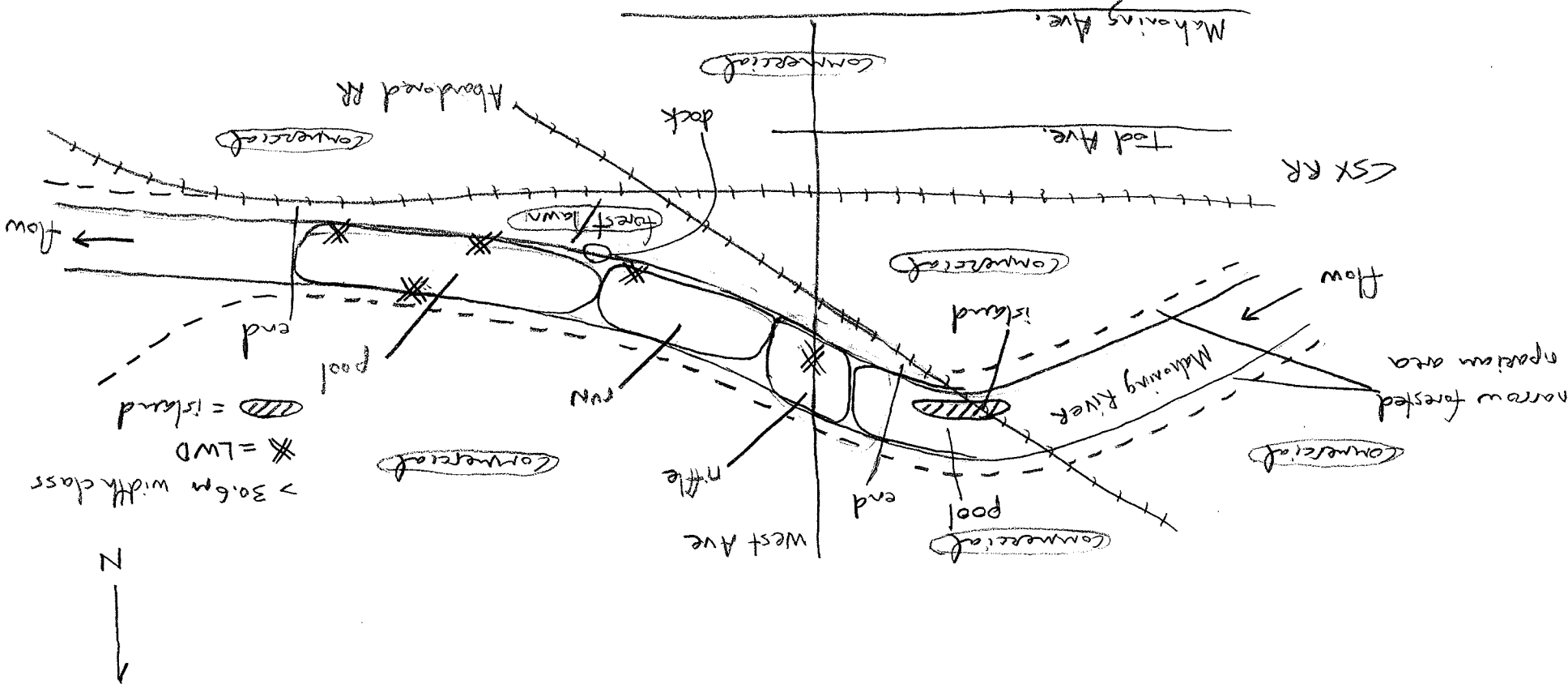
**A] SAMPLED REACH**

Check ALL that apply

- METHOD**
- BOAT
  - WADE
  - UP
  - L. LINE
  - OTHER
  - DISTANCE
- CLARITY**
- 1st -sample pass-- 2nd
  - < 20 cm
  - 20-40 cm
  - 40-70 cm
  - > 70 cm/ CTB
  - SECCHI DEPTH

- C] RECREATION**
- NUISANCE ALGAE
  - PUBLIC / PRIVATE / BOTH / NA
  - ACTIVE / HISTORIC / BOTH / NA
  - YOUNG-SUCCESSION-OLD
  - SPRAY / SNAG / REMOVED
  - MODIFIED / DIPPED OUT / NA
  - LEAVED / ONE SIDED
  - RELOCATED / CUTOFFS
  - MOVING-BEDLOAD-STABLE
  - ARMOURD / SLUMPS
  - ISLANDS / SCOURD
  - IMPOUNDED / DESICCATED
  - FLOOD CONTROL / DRAINAGE
- D] MAINTENANCE**
- WWT / CSO / NPDES / INDUSTRY
  - HARDENED / URBAN / DIRT&GRIME
  - CONTAMINATED / LANDFILL
  - BMPs-CONSTRUCTION-SEDIMENT
  - LOGGING / IRRIGATION / COOLING
  - BANK / EROSION / SURFACE
  - FALSE BANK / MANURE / LAGOON
  - WASH H<sub>2</sub>O / TILE / H<sub>2</sub>O TABLE
  - ACID / MINE / QUARRY / FLOW
  - NATURAL / WETLAND / STAGNANT
  - PARK / GOLF / LAWN / HOME
  - ATMOSPHERE / DATA PAUCITY
- E] ISSUES**
- F] MEASUREMENTS**
- < 0.5 Km
  - 0.2 Km
  - 0.15 Km
  - 0.12 Km
  - OTHER
- CANOPY**
- > 85%- OPEN
  - 55%-<85%
  - 30%-<55%
  - 10%-<30%
  - <10%- CLOSED
- AREA DEPTH**
- POOL:  >100ft  >3ft

**Stream Drawing:**



> 30.6m width class  
 \* = LWD  
 [ ] = island