Exhibit 7

Qualitative Habitat Evaluation Index Field Sheet QHEI Score: ☐

River Code: 95654 **RM:** 20.1 **Stream:** Des Plaines / Grant Creek
Station ID: DP-10 **Location:** Grant Creek
Date: 7-23-06 **Scorer:** AAV **Latitude:** 41 38 34.0 **Longitude:** -88.22.40.0

1] SUBSTRATE (Check ONLY Two SubstrateTYPE BOXES; Estimate % present

TYPE	POOL	RIFFLE
☐☐-BLDR /SLBS[10]	___	___
☐☐-Lg BOULD. [10]	___	___
☐☐-BOULDER [9]	___	___
☒☐-COBBLE [8]	✓	___
☐☐-HARDPAN [4]	___	___
☐☐-MUCK [2]	✓	___
☐☐-GRAVEL [7]	___	___
☐☐-SAND [6]	✓	___
☐☐-BEDROCK[5]	___	___
☐☐-DETRITUS[3]	✓	___
☐☐-ARTIFICIAL[0]	___	___
☐☒-SILT [2]	✓	___

SUBSTRATE ORIGIN Check ONE (OR 2 & AVERAGE)
☐ -LIMESTONE [1] SILT:
☒-TILLS [1]
☐ -WETLANDS[0]
☐ -HARDPAN [0]
☐ -SANDSTONE [0] EMBEDDED
☐ -RIP/RAP [0] NESS:
☐ -LACUSTRINE [0]
☐ -SHALE [-1]
☐-COAL FINES [-2]

SUBSTRATE QUALITY Check ONE (OR 2 & AVERAGE)
☐- SILT HEAVY [-2]
☒-SILT MODERATE [-1]
☐ -SILT NORMAL [0]
☐ -SILT FREE [1]
☐ -EXTENSIVE [-2]
☒-MODERATE [-1]
☐ -NORMAL [0]
☐ -NONE [1]

Substrate ☐ Max 20

NUMBER OF SUBSTRATE TYPES: (High Quality Only, Score 5 or >)
☐-4 or More [2]
☒-3 or Less [0]

COMMENTS

2] INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

0 (Structure)
0 UNDERCUT BANKS [1]
1 OVERHANGING VEGETATION [1]
2 SHALLOWS (IN SLOW WATER) [1]
1 ROOTMATS [1]

TYPE: Score All That Occur
1 POOLS> 70 cm [2]
1 ROOTWADS [1]
0 BOULDERS [1]
0 OXBOWS, BACKWATERS [1]
1 AQUATIC MACROPHYTES [1]
1 LOGS OR WOODY DEBRIS [1]

AMOUNT: (Check ONLY One or check 2 and AVERAGE)
☐ - EXTENSIVE > 75% [11]
☒ - MODERATE 25-75% [7]
☐ - SPARSE 5-25% [3]
☐ - NEARLY ABSENT < 5%[1]

Cover ☐ Max 20

COMMENTS:

3] CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER	
☐ - HIGH [4]	☐ - EXCELLENT [7]	☐ - NONE [6]	☐ - HIGH [3]	☐ - SNAGGING	☐ - IMPOUND.
☐ - MODERATE [3]	☐ - GOOD [5]	☐ - RECOVERED [4]	☒ - MODERATE [2]	☐ - RELOCATION	☐ - ISLANDS
☒ - LOW [2]	☒ - FAIR [3]	☐ - RECOVERING [3]	☐ - LOW [1]	☐ - CANOPY REMOVAL	☐ - LEVEED
☐ - NONE [1]	☐ - POOR [1]	☐ - RECENT OR NO RECOVERY [1]		☐ - DREDGING	☐ - BANK SHAPING
		☒ - IMPOUNDED [-1]		☐ - ONE SIDE CHANNEL MODIFICATIONS	

Channel ☐ Max 20

COMMENTS:

4]. RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) ℙ River Right Looking Downstream ℙ

RIPARIAN WIDTH L R (Per Bank)	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN) L R (Most Predominant Per Bank)		BANK EROSION L R (Per Bank)
☒☒- VERY WIDE > 100m [5]	☒☒-FOREST, SWAMP [3]	☐☐-CONSERVATION TILLAGE [1]	☒☒-NONE/LITTLE [3]
☐☐- WIDE > 50m [4]	☐☐-SHRUB OR OLD FIELD [2]	☐☐-URBAN OR INDUSTRIAL [0]	☐☐-MODERATE [2]
☐☐- MODERATE 10-50m [3]	☐☐-RESIDENTIAL,PARK,NEW FIELD [1]	☐☐-OPEN PASTURE,ROWCROP [0]	☐☐-HEAVY/SEVERE[1]
☐☐- NARROW 5-10 m [2]	☐☐-FENCED PASTURE [1]	☐☐-MINING/CONSTRUCTION [0]	
☐☐- VERY NARROW <5 m[1]			
☐☐- NONE [0]			

Riparian ☐ Max 10

Comments:

5.]POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY!)
☒ - >1m [6]
☐ - 0.7-1m [4]
☐ - 0.4-0.7m [2]
☐ - 0.2- 0.4m [1]
☐ - < 0.2m [POOL=0]

MORPHOLOGY (Check 1 or 2 & AVERAGE)
☐-POOL WIDTH > RIFFLE WIDTH [2]
☐-POOL WIDTH = RIFFLE WIDTH [1]
☐-POOL WIDTH < RIFFLE W. [0]
☒-IMPOUNDED [-1]
COMMENTS:

CURRENT VELOCITY [POOLS & RIFFLES!] (Check All That Apply)
☐ -EDDIES[1]
☐ -FAST[1]
☐ -MODERATE [1]
☒ -SLOW [1]
☐ -NONE [-1]
☐ -TORRENTIAL[-1]
☐ -INTERSTITIAL[-1]
☐ -INTERMITTENT[-2]
☐ -VERY FAST[1]

Pool/ Current ☐ Max 12

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH
☐ - Best Areas >10 cm [2]
☐ - Best Areas 5-10 cm[1]
☐ - Best Areas < 5 cm
☒ - NO RIFFLE [Metric=0]

RUN DEPTH
☐ - MAX > 50 [2]
☐ - MAX < 50[1]

RIFFLE/RUN SUBSTRATE
☐-STABLE (e.g.,Cobble, Boulder) [2]
☐-MOD. STABLE (e.g.,Large Gravel) [1]
☐-UNSTABLE (Fine Gravel,Sand) [0]

RIFFLE/RUN EMBEDDEDNESS
☐ - NONE [2]
☐ - LOW [1]
☐ - MODERATE [0]
☐ - EXTENSIVE [-1]

Riffle/Run ☐ Max 8
Gradient ☐ Max 10

COMMENTS

6] GRADIENT (ft/mi): _____ DRAINAGE AREA (sq.mi.) :_____ %POOL: 100 %GLIDE: ☐ %RIFFLE: ☐ %RUN: ☐

* Best areas must be large enough to support a population of riffle-obligate species

Modified 06/01/2005

Exhibit 7
ROS-9
1/28/08
Met

Is Sampling Reach Representative of the Stream (Y/N)___ If Not, Explain:

Lat/Long (Beg):
Lat/Long (Mid):
Lat/Long (End):
Lat/Long(X-Loc):

Major Suspected Sources of Impacts (Check All That Apply):
- None ☐
- Industrial ☑
- WWTP ☑
- Ag ☐
- Livestock ☐
- Silviculture ☐
- Construction ☐
- Urban Runoff ☑
- CSOs ☐
- Suburban Impacts ☐
- Mining ☐
- Channelization ☐
- Riparian Removal ☐
- Landfills ☐
- Natural ☐
- Dams ☑
- Other Flow Alteration ☐
- Other:_____

	Gear:	Distance:	Water Clarity:	Water Stage:	Canopy -% Open
First Sampling Pass	A	5 km	25 cm	normal	0/100

Subjective Rating (1-10): 5

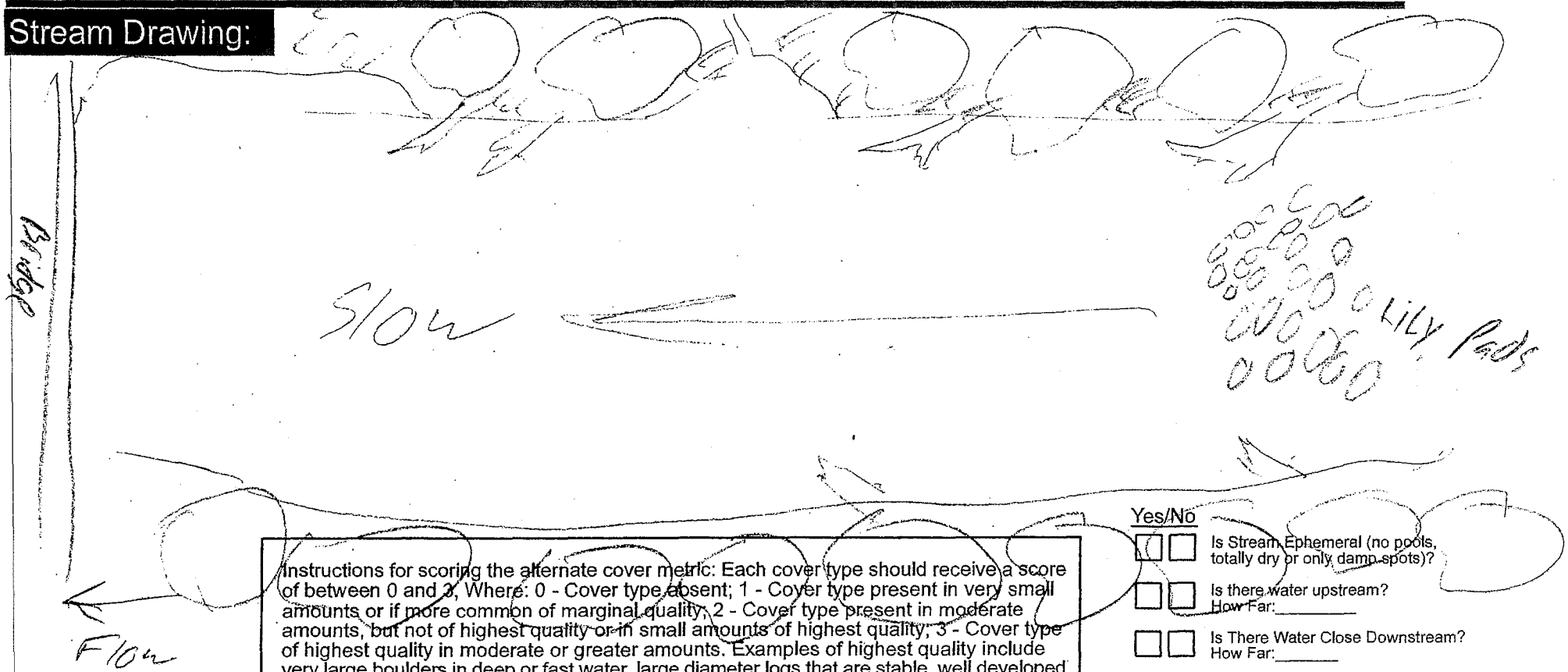
Aesthetic Rating (1-10): 5

Gradient: ☐ - Low, ☐ - Moderate, ☐ -High

Stream Measurements:

Average Width	Average Depth	Maximum Depth	Av. Bankfull Width	Bankfull Mean Depth	W/D Ratio	Bankfull Max Depth	Floodprone Area Width	Entrench. Ratio

Stream Drawing:



Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Yes/No	
☐ ☐	Is Stream Ephemeral (no pools, totally dry or only damp spots)?
☐ ☐	Is there water upstream? How Far:_____
☐ ☐	Is There Water Close Downstream? How Far:_____
☐ ☐	Is Dry Channel Mostly Natural?

MBI 95654 Qualitative Habitat Evaluation Index Field Sheet QHEI Score: ____

River Code: 95-660 **RM:** 39[illegible] **Stream:** Des Plaines
Station ID: Site 93 **Location:** DST Lemont Rd
Date: 7-28-06 **Scorer:** AAJ **Latitude:** 41.667320 **Longitude:** -88.064910

1] SUBSTRATE (Check ONLY Two SubstrateTYPE BOXES; Estimate % present

TYPE	POOL	RIFFLE
☐☐-BLDR /SLBS[10]	___	___
☐☐-Lg BOULD. [10]	___	___
☐☐-BOULDER [9]	___	___
☐☐-COBBLE [8]	___	___
☐☐-HARDPAN [4]	___	___
☐☐-MUCK [2]	___	___
☐☐-GRAVEL [7]	___	___
☐☐-SAND [6]	___	___
☑☐-BEDROCK[5]	✓	___
☐☐-DETRITUS[3]	___	___
☐☐-ARTIFICIAL[0]	___	___
☐☑-SILT [2]	✓	___

SUBSTRATE ORIGIN (Check ONE (OR 2 & AVERAGE)): ☑-LIMESTONE [1] ☐-TILLS [1] ☐-WETLANDS[0] ☐-HARDPAN [0] ☐-SANDSTONE [0] ☐-RIP/RAP [0] ☐-LACUSTRINE [0] ☐-SHALE [-1] ☐-COAL FINES [-2]

SUBSTRATE QUALITY (Check ONE (OR 2 & AVERAGE)) — SILT: ☐-SILT HEAVY [-2] ☑-SILT MODERATE [-1] ☐-SILT NORMAL [0] ☐-SILT FREE [1]; EMBEDDEDNESS: ☐-EXTENSIVE [-2] ☑-MODERATE [-1] ☐-NORMAL [0] ☐-NONE [1]

Substrate: ____ Max 20

NUMBER OF SUBSTRATE TYPES: (High Quality Only, Score 5 or >) ☐-4 or More [2] ☑-3 or Less [0]

COMMENTS: _____

2] INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

(Structure): 0 UNDERCUT BANKS [1]; 1 OVERHANGING VEGETATION [1]; 1 SHALLOWS (IN SLOW WATER) [1]; 1 ROOTMATS [1]

TYPE: Score All That Occur: 1 POOLS> 70 cm [2]; 1 ROOTWADS [1]; 0 BOULDERS [1]; 0 OXBOWS, BACKWATERS [1]; 2 AQUATIC MACROPHYTES [1]; 1 LOGS OR WOODY DEBRIS [1]

COMMENTS: _____

AMOUNT: (Check ONLY One or check 2 and AVERAGE) ☐- EXTENSIVE > 75% [11] ☑- MODERATE 25-75% [7] ☑- SPARSE 5-25% [3] ☐- NEARLY ABSENT < 5%[1]

Cover: ____ Max 20

3] CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER	
☐- HIGH [4]	☐- EXCELLENT [7]	☑- NONE [6]	☑- HIGH [3]	☐- SNAGGING	☐- IMPOUND.
☐- MODERATE [3]	☑- GOOD [5]	☐- RECOVERED [4]	☐- MODERATE [2]	☐- RELOCATION	☐- ISLANDS
☑- LOW [2]	☐- FAIR [3]	☐- RECOVERING [3]	☐- LOW [1]	☐- CANOPY REMOVAL	☐- LEVEED
☐- NONE [1]	☐- POOR [1]	☐- RECENT OR NO RECOVERY [1]		☐- DREDGING	☐- BANK SHAPING
		☐- IMPOUNDED [-1]		☐- ONE SIDE CHANNEL MODIFICATIONS	

Channel: ____ Max 20

COMMENTS: _____

4]. RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) River Right Looking Downstream

RIPARIAN WIDTH (L R Per Bank)	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN) (L R Most Predominant Per Bank)		BANK EROSION (L R Per Bank)	
☑☑- VERY WIDE > 100m [5]	☑☑-FOREST, SWAMP [3]	☐☐-CONSERVATION TILLAGE [1]	☑☑-NONE/LITTLE [3]	
☐☐- WIDE > 50m [4]	☐☐-SHRUB OR OLD FIELD [2]	☐☐-URBAN OR INDUSTRIAL [0]	☐☐-MODERATE [2]	
☐☐- MODERATE 10-50m [3]	☐☐-RESIDENTIAL,PARK,NEW FIELD [1]	☐☐-OPEN PASTURE,ROWCROP [0]	☐☐-HEAVY/SEVERE[1]	
☐☐- NARROW 5-10 m [2]	☐☐-FENCED PASTURE [1]	☐☐-MINING/CONSTRUCTION [0]		
☐☐- VERY NARROW <5 m[1]				
☐☐- NONE [0]				

Riparian: ____ Max 10

Comments: _____

5.]POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY!)	MORPHOLOGY (Check 1 or 2 & AVERAGE)	CURRENT VELOCITY (POOLS & RIFFLES!] (Check All That Apply)	
☑- >1m [6]	☑-POOL WIDTH > RIFFLE WIDTH [2]	☐-EDDIES[1]	☐-TORRENTIAL[-1]
☐- 0.7-1m [4]	☐-POOL WIDTH = RIFFLE WIDTH [1]	☐-FAST[1]	☐-INTERSTITIAL[-1]
☐- 0.4-0.7m [2]	☐-POOL WIDTH < RIFFLE W. [0]	☑-MODERATE [1]	☐-INTERMITTENT[-2]
☐- 0.2- 0.4m [1]	☐-IMPOUNDED [-1]	☑-SLOW [1]	☐-VERY FAST[1]
☐- < 0.2m [POOL=0]		☐-NONE [-1]	

Pool/Current: ____ Max 12

COMMENTS: _____

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
☐- Best Areas >10 cm [2]	☐- MAX > 50 [2]	☐-STABLE (e.g.,Cobble, Boulder) [2]	☐- NONE [2]
☐- Best Areas 5-10 cm[1]	☐- MAX < 50[1]	☐-MOD. STABLE (e.g.,Large Gravel) [1]	☐- LOW [1]
☐- Best Areas < 5 cm		☐-UNSTABLE (Fine Gravel,Sand) [0]	☐- MODERATE [0]
☑- NO RIFFLE [Metric=0]			☐- EXTENSIVE [-1]

Riffle/Run: ____ Max 8

COMMENTS _____

Gradient: ____ Max 10

6] GRADIENT (ft/mi): _____ DRAINAGE AREA (sq.mi.) : _____ %POOL: 5 %GLIDE: 95 %RIFFLE: 0 %RUN: 0

** Best areas must be large enough to support a population of riffle-obligate species

Modified 06/01/2005

Is Sampling Reach Representative of the Stream (Y/N)___ If Not, Explain:

Lat/Long (Beg):
Lat/Long (Mid):
Lat/Long (End):
Lat/Long(X-Loc):

Major Suspected Sources of Impacts (Check All That Apply):
- None ☐
- Industrial ☑
- WWTP ☑
- Ag ☐
- Livestock ☐
- Silviculture ☐
- Construction ☐
- Urban Runoff ☑
- CSOs ☐
- Suburban Impacts ☐
- Mining ☐
- Channelization ☐
- Riparian Removal ☐
- Landfills ☐
- Natural ☐
- Dams ☐
- Other Flow Alteration ☐
- Other:_____

	Gear:	Distance:	Water Clarity:	Water Stage:	Canopy -% Open
First Sampling Pass	A	.5 Km	50cm	normal	% 100

Subjective Rating (1-10): 5

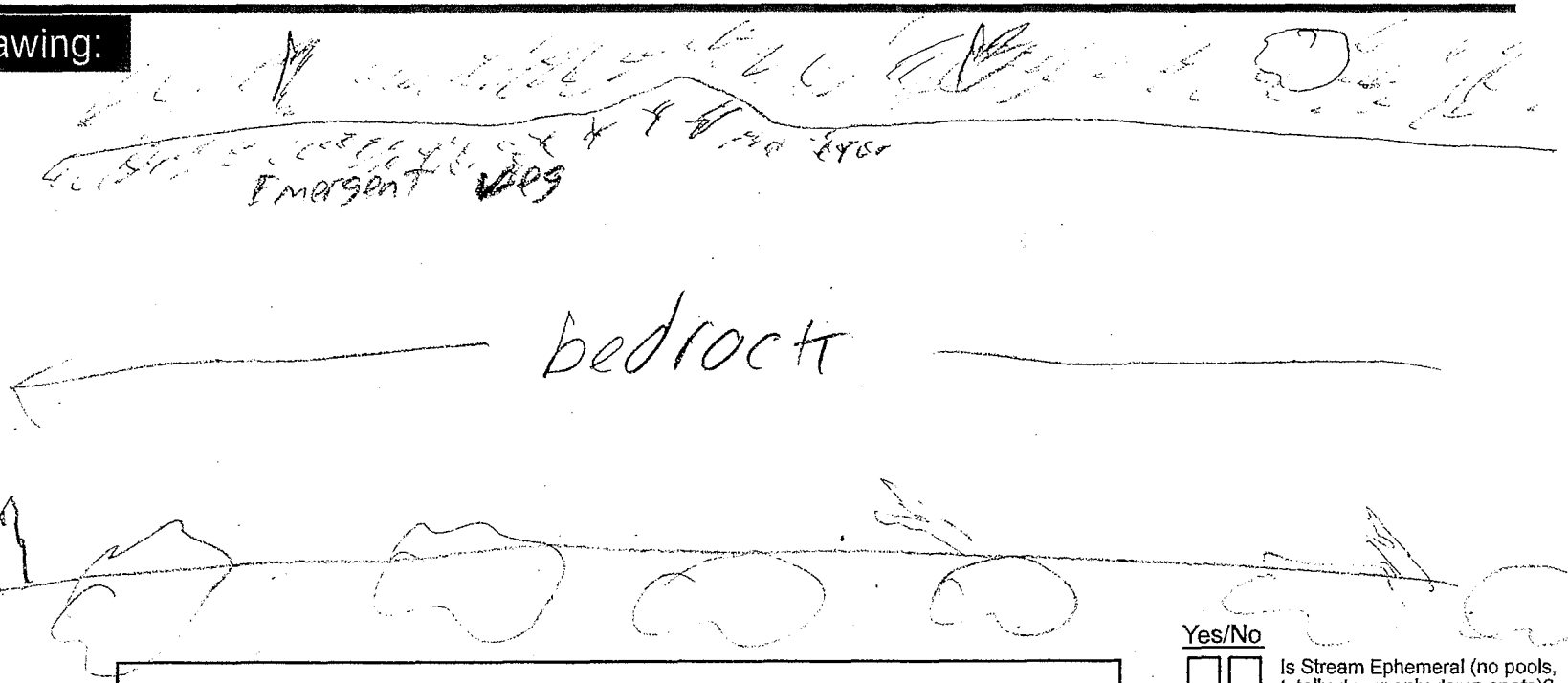
Aesthetic Rating (1-10): 5

Gradient: ☐ - Low, ☐ - Moderate, ☐ -High

Stream Measurements:

Average Width	Average Depth	Maximum Depth	Av. Bankfull Width	Bankfull Mean Depth	W/D Ratio	Bankfull Max Depth	Floodprone Area Width	Entrench. Ratio

Stream Drawing:



Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Yes/No	
☐☐	Is Stream Ephemeral (no pools, totally dry or only damp spots)?
☐☐	Is there water upstream? How Far:_____
☐☐	Is There Water Close Downstream? How Far:_____
☐☐	Is Dry Channel Mostly Natural?

MBI

Qualitative Habitat Evaluation Index Field Sheet QHEI Score: ☐

River Code: 95 656 **RM:** 29.1 **Stream:** Des Plaines

Station ID: DP-01 (09-95) **Location:**

Date: 7-21-06 **Scorer:** KMW **Latitude:** 41, 55 936 **Longitude:** -88, 086920

1] SUBSTRATE (Check ONLY Two SubstrateTYPE BOXES; Estimate % present

TYPE	POOL	RIFFLE
☐☐-BLDR /SLBS[10]	___	___
☐☐-Lg BOULD. [10]	___	___
☐☐-BOULDER [9]	✓	✓
☐☐-COBBLE [8]	✓	✓
☐☐-HARDPAN [4]	___	___
☐☐-MUCK [2]	✓	___
☑☐-GRAVEL [7]	✓	✓
☐☐-SAND [6]	___	___
☐☑-BEDROCK[5]	✓	✓
☐☐-DETRITUS[3]	___	___
☐☐-ARTIFICIAL[0]	___	___
☑☐-SILT [2]	✓	✓

SUBSTRATE ORIGIN Check ONE (OR 2 & AVERAGE)

- ☐ -LIMESTONE [1]
- ☑ -TILLS [1]
- ☐ -WETLANDS[0]
- ☐ -HARDPAN [0]
- ☐ -SANDSTONE [0]
- ☐ -RIP/RAP [0]
- ☐ -LACUSTRINE [0]
- ☐ -SHALE [-1]
- ☐ -COAL FINES [-2]

SILT:

- ☐ -SILT HEAVY [-2]
- ☑ -SILT MODERATE [-1]
- ☑ -SILT NORMAL [0]
- ☐ -SILT FREE [1]

EMBEDDEDNESS:

- ☐ -EXTENSIVE [-2]
- ☐ -MODERATE [-1]
- ☑ -NORMAL [0]
- ☐ -NONE [1]

Substrate ☐ Max 20

NUMBER OF SUBSTRATE TYPES: (High Quality Only, Score 5 or >)

- ☑ 4 or More [2]
- ☐ 3 or Less [0]

COMMENTS

2] INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

(Structure) **TYPE:** Score All That Occur

0 UNDERCUT BANKS [1]	0 POOLS> 70 cm [2]	0 OXBOWS, BACKWATERS [1]	
1 OVERHANGING VEGETATION [1]	0 ROOTWADS [1]	1 AQUATIC MACROPHYTES [1]	
3 SHALLOWS (IN SLOW WATER) [1]	1 BOULDERS [1]	1 LOGS OR WOODY DEBRIS [1]	
1 ROOTMATS [1]			

COMMENTS:

AMOUNT: (Check ONLY One or check 2 and AVERAGE)

- ☐ - EXTENSIVE > 75% [11]
- ☐ - MODERATE 25-75% [7]
- ☑ - SPARSE 5-25% [3]
- ☐ - NEARLY ABSENT < 5%[1]

Cover ☐ Max 20

3] CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER	
☐ - HIGH [4]	☐ - EXCELLENT [7]	☑ - NONE [6]	☑ - HIGH [3]	☐ - SNAGGING	☐ - IMPOUND.
☐ - MODERATE [3]	☐ - GOOD [5]	☐ - RECOVERED [4]	☐ - MODERATE [2]	☐ - RELOCATION	☐ - ISLANDS
☑ - LOW [2]	☑ - FAIR [3]	☐ - RECOVERING [3]	☐ - LOW [1]	☐ - CANOPY REMOVAL	☐ - LEVEED
☐ - NONE [1]	☐ - POOR [1]	☐ - RECENT OR NO RECOVERY [1]		☐ - DREDGING	☐ - BANK SHAPING
		☐ - IMPOUNDED [-1]		☐ - ONE SIDE CHANNEL MODIFICATIONS	

COMMENTS:

Channel ☐ Max 20

4]. RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) ← River Right Looking Downstream →

RIPARIAN WIDTH (L R Per Bank)	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN) (L R Most Predominant Per Bank)		BANK EROSION (L R Per Bank)	
☐☐ - VERY WIDE > 100m [5]	☑☑ - FOREST, SWAMP [3]	☐☐ - CONSERVATION TILLAGE [1]	☑☑ - NONE/LITTLE [3]	
☐☐ - WIDE > 50m [4]	☐☐ - SHRUB OR OLD FIELD [2]	☑☑ - URBAN OR INDUSTRIAL [0]	☐☐ - MODERATE [2]	
☑☑ - MODERATE 10-50m [3]	☐☐ - RESIDENTIAL,PARK,NEW FIELD [1]	☐☐ - OPEN PASTURE,ROWCROP [0]	☐☐ - HEAVY/SEVERE[1]	
☑☑ - NARROW 5-10 m [2]	☐☐ - FENCED PASTURE [1]	☐☐ - MINING/CONSTRUCTION [0]		
☐☐ - VERY NARROW <5 m[1]				
☐☐ - NONE [0]				

Comments:

Riparian ☐ Max 10

5.]POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY!)	MORPHOLOGY (Check 1 or 2 & AVERAGE)	CURRENT VELOCITY [POOLS & RIFFLES!] (Check All That Apply)	
☑ - >1m [6]	☐ - POOL WIDTH > RIFFLE WIDTH [2]	☐ - EDDIES[1]	☐ - TORRENTIAL[-1]
☐ - 0.7-1m [4]	☐ - POOL WIDTH = RIFFLE WIDTH [1]	☑ - FAST[1]	☐ - INTERSTITIAL[-1]
☐ - 0.4-0.7m [2]	☑ - POOL WIDTH < RIFFLE W. [0]	☑ - MODERATE [1]	☐ - INTERMITTENT[-2]
☐ - 0.2- 0.4m [1]	☐ - IMPOUNDED [-1]	☑ - SLOW [1]	☐ - VERY FAST[1]
☐ - < 0.2m [POOL=0]	COMMENTS:	☐ - NONE [-1]	

Pool/ Current ☐ Max 12

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
☑* - Best Areas >10 cm [2]	☑ - MAX > 50 [2]	☑ STABLE (e.g.,Cobble, Boulder) [2]	☐ - NONE [2]
☐ - Best Areas 5-10 cm[1]	☐ - MAX < 50[1]	☐ MOD. STABLE (e.g.,Large Gravel) [1]	☑ - LOW [1]
☐ - Best Areas < 5 cm		☐ UNSTABLE (Fine Gravel,Sand) [0]	☐ - MODERATE [0]
☐ - NO RIFFLE [Metric=0]			☐ - EXTENSIVE [-1]

COMMENTS

Riffle/Run ☐ Max 8

Gradient ☐ Max 10

6] GRADIENT (ft/mi): _____ DRAINAGE AREA (sq.mi.) : _____

%POOL: 10 %GLIDE: 40

%RIFFLE: 20 %RUN: 30

* Best areas must be large enough to support a population of riffle-obligate species

Modified 06/01/2005

Is Sampling Reach Representative of the Stream (Y/N) ___ If Not, Explain: _____

Lat/Long (Beg): _____
Lat/Long (Mid): _____
Lat/Long (End): _____
Lat/Long(X-Loc): _____

Major Suspected Sources of Impacts (Check All That Apply):
- None ☐
- Industrial ☑
- WWTP ☐
- Ag ☐
- Livestock ☐
- Silviculture ☐
- Construction ☐
- Urban Runoff ☑
- CSOs ☐
- Suburban Impacts ☐
- Mining ☐
- Channelization ☐
- Riparian Removal ☐
- Landfills ☐
- Natural ☐
- Dams ☐
- Other Flow Alteration ☐
- Other: _____

	Gear:	Distance:	Water Clarity:	Water Stage:	Canopy -% Open
First Sampling Pass	A	.5 km	95 cm	normal	% 100

Subjective Rating (1-10): 5

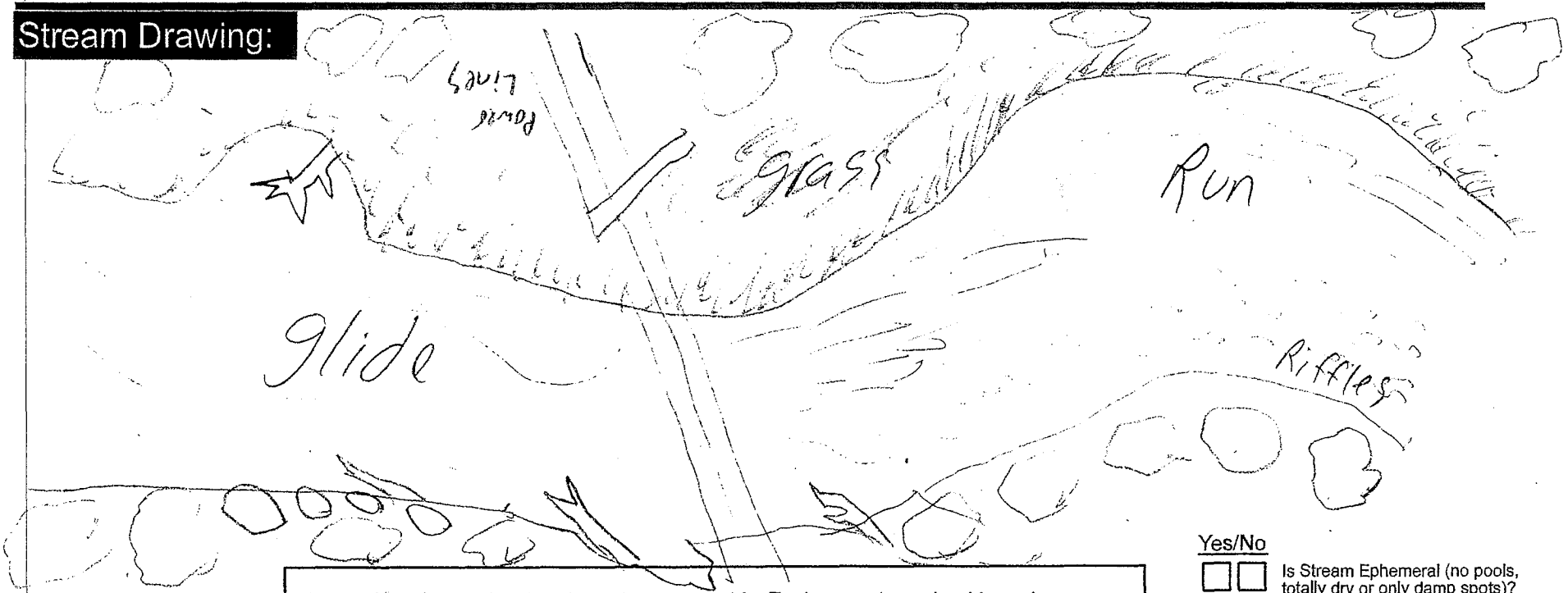
Aesthetic Rating (1-10): 5

Gradient: ☐ - Low, ☐ - Moderate, ☐ -High

Stream Measurements:

Average Width	Average Depth	Maximum Depth	Av. Bankfull Width	Bankfull Mean Depth	W/D Ratio	Bankfull Max Depth	Floodprone Area Width	Entrench. Ratio

Stream Drawing:



Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Yes/No	
☐ ☐	Is Stream Ephemeral (no pools, totally dry or only damp spots)?
☐ ☐	Is there water upstream? How Far: _____
☐ ☐	Is There Water Close Downstream? How Far: _____
☐ ☐	Is Dry Channel Mostly Natural?

MPE 95656 Qualitative Habitat Evaluation Index Field Sheet QHEI Score: ☐

River Code: 95656 **RM:** 285.8 **Stream:** Des Plaines

Station ID: DP-05 **Location:** Brandon Dam Tailwater

Date: 7-22-06 **Scorer:** AAV **Latitude:** 41.999196 **Longitude:** -88.106954

1] SUBSTRATE (Check ONLY Two SubstrateTYPE BOXES; Estimate % present

TYPE	POOL	RIFFLE
☐☐-BLDR /SLBS[10]	___	___
☐☐-Lg BOULD. [10]	___	___
☐☐-BOULDER [9]	✓	✓
☐■-COBBLE [8]	✓	✓
☐☐-HARDPAN [4]	✓	✓
☐☐-MUCK [2]	✓	___
☐■-GRAVEL [7]	✓	✓
☐☐-SAND [6]	___	___
☐☐-BEDROCK[5]	___	✓
☐☐-DETRITUS[3]	___	___
☐☐-ARTIFICIAL[0]	___	___
☐☐-SILT [2]	✓	✓

SUBSTRATE ORIGIN (Check ONE (OR 2 & AVERAGE)): ☐-LIMESTONE [1] ☐-TILLS [1] ☐-WETLANDS[0] ☐-HARDPAN [0] ☐-SANDSTONE [0] ☐-RIP/RAP [0] ☐-LACUSTRINE [0] ☐-SHALE [-1] ☐-COAL FINES [-2]

SUBSTRATE QUALITY (Check ONE (OR 2 & AVERAGE)): ☐-SILT HEAVY [-2] ☐■-SILT MODERATE [-1] ☐■-SILT NORMAL [0] ☐-SILT FREE [1]

EMBEDDEDNESS: ☐-EXTENSIVE [-2] ☐-MODERATE [-1] ☐■-NORMAL [0] ☐-NONE [1]

Substrate ☐ Max 20

NUMBER OF SUBSTRATE TYPES: (High Quality Only, Score 5 or >) ☐■-4 or More [2] ☐-3 or Less [0]

COMMENTS: _____

2] INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

(Structure): 0 UNDERCUT BANKS [1]; 1 OVERHANGING VEGETATION [1]; 1 SHALLOWS (IN SLOW WATER) [1]; 0 ROOTMATS [1]

TYPE: Score All That Occur: 1 POOLS> 70 cm [2]; 2 ROOTWADS [1]; 2 BOULDERS [1]; 2 OXBOWS, BACKWATERS [1]; 2 AQUATIC MACROPHYTES [1]; 1 LOGS OR WOODY DEBRIS [1]

AMOUNT: (Check ONLY One or check 2 and AVERAGE) ☐-EXTENSIVE > 75% [11] ☐■-MODERATE 25-75% [7] ☐■-SPARSE 5-25% [3] ☐-NEARLY ABSENT < 5%[1]

COMMENTS: _____

Cover ☐ Max 20

3] CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER	
☐-HIGH [4]	☐-EXCELLENT [7]	☐■-NONE [6]	☐■-HIGH [3]	☐-SNAGGING	☐-IMPOUND.
☐-MODERATE [3]	☐■-GOOD [5]	☐-RECOVERED [4]	☐-MODERATE [2]	☐-RELOCATION	☐-ISLANDS
☐■-LOW [2]	☐-FAIR [3]	☐-RECOVERING [3]	☐-LOW [1]	☐-CANOPY REMOVAL	☐-LEVEED
☐-NONE [1]	☐-POOR [1]	☐-RECENT OR NO RECOVERY [1]		☐-DREDGING	☐-BANK SHAPING
		☐-IMPOUNDED [-1]		☐-ONE SIDE CHANNEL MODIFICATIONS	

COMMENTS: _____

Channel ☐ Max 20

4]. RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) ℙ River Right Looking Downstream ℙ

RIPARIAN WIDTH (L R Per Bank)	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN) (L R Most Predominant Per Bank)		BANK EROSION (L R Per Bank)	
☐☐- VERY WIDE > 100m [5]	■■-FOREST, SWAMP [3]	☐☐-CONSERVATION TILLAGE [1]	■■-NONE/LITTLE [3]	
■☐- WIDE > 50m [4]	☐☐-SHRUB OR OLD FIELD [2]	■■-URBAN OR INDUSTRIAL [0]	☐☐-MODERATE [2]	
☐■- MODERATE 10-50m [3]	☐☐-RESIDENTIAL,PARK,NEW FIELD [1]	☐☐-OPEN PASTURE,ROWCROP [0]	☐☐-HEAVY/SEVERE[1]	
☐☐- NARROW 5-10 m [2]	☐☐-FENCED PASTURE [1]	☐☐-MINING/CONSTRUCTION [0]		
☐☐- VERY NARROW <5 m[1]				
☐☐- NONE [0]				

Comments: _____

Riparian ☐ Max 10

5.]POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY!)	MORPHOLOGY (Check 1 or 2 & AVERAGE)	CURRENT VELOCITY [POOLS & RIFFLES!] (Check All That Apply)	
■- >1m [6]	■-POOL WIDTH > RIFFLE WIDTH [2]	■-EDDIES[1]	☐-TORRENTIAL[-1]
☐- 0.7-1m [4]	☐-POOL WIDTH = RIFFLE WIDTH [1]	■-FAST[1]	☐-INTERSTITIAL[-1]
☐- 0.4-0.7m [2]	☐-POOL WIDTH < RIFFLE W. [0]	■-MODERATE [1]	☐-INTERMITTENT[-2]
☐- 0.2- 0.4m [1]	☐-IMPOUNDED [-1]	■-SLOW [1]	■-VERY FAST[1]
☐- < 0.2m [POOL=0]	COMMENTS: _____	☐-NONE [-1]	

Pool/ Current ☐ Max 12

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
■- Best Areas >10 cm [2]	■- MAX > 50 [2]	■-STABLE (e.g.,Cobble, Boulder) [2]	☐- NONE [2]
☐- Best Areas 5-10 cm[1]	☐- MAX < 50[1]	☐-MOD. STABLE (e.g.,Large Gravel) [1]	■- LOW [1]
☐- Best Areas < 5 cm		☐-UNSTABLE (Fine Gravel,Sand) [0]	☐- MODERATE [0]
☐- NO RIFFLE [Metric=0]			☐- EXTENSIVE [-1]

COMMENTS _____

Riffle/Run ☐ Max 8

Gradient ☐ Max 10

6] GRADIENT (ft/mi): _____ DRAINAGE AREA (sq.mi.) : _____ %POOL: 40 %GLIDE: 15 %RIFFLE: 15 %RUN: 30

** Best areas must be large enough to support a population of riffle-obligate species

Modified 06/01/2005

Is Sampling Reach Representative of the Stream (Y/N)___ If Not, Explain:_____

Lat/Long (Beg):	
Lat/Long (Mid):	
Lat/Long (End):	
Lat/Long(X-Loc):	

Major Suspected Sources of Impacts (Check All That Apply):
- None ☐
- Industrial ☑
- WWTP ☐
- Ag ☐
- Livestock ☐
- Silviculture ☐
- Construction ☐
- Urban Runoff ☑
- CSOs ☐
- Suburban Impacts ☐
- Mining ☐
- Channelization ☐
- Riparian Removal ☐
- Landfills ☐
- Natural ☐
- Dams ☐
- Other Flow Alteration ☐
- Other:_____

	Gear:	Distance:	Water Clarity:	Water Stage:	Canopy -% Open
First Sampling Pass	A	5 Km	50cm	normal	% 160

Subjective Rating (1-10): 4

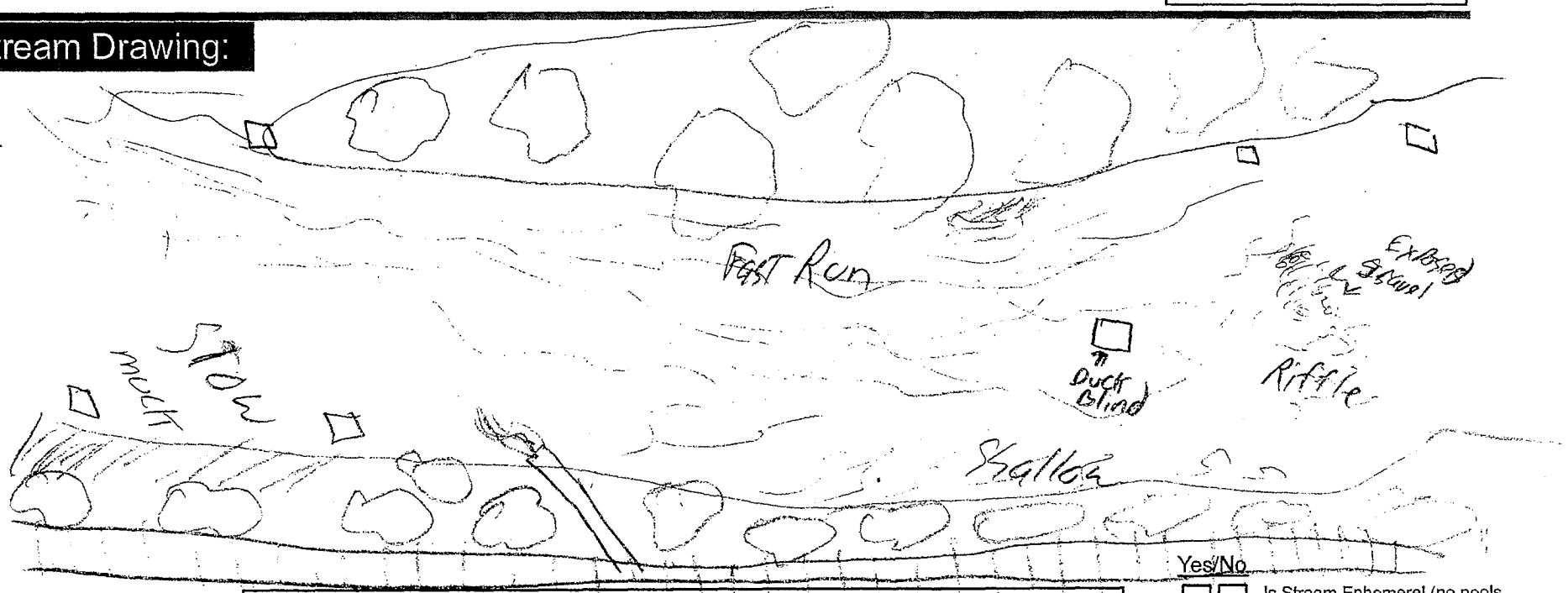
Aesthetic Rating (1-10): 4

Gradient: ☐ - Low, ☐ - Moderate, ☐ -High

Stream Measurements:

Average Width	Average Depth	Maximum Depth	Av. Bankfull Width	Bankfull Mean Depth	W/D Ratio	Bankfull Max Depth	Floodprone Area Width	Entrench. Ratio

Stream Drawing:



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Yes/No	
☐☐	Is Stream Ephemeral (no pools, totally dry or only damp spots)?
☐☐	Is there water upstream? How Far:_____
☐☐	Is There Water Close Downstream? How Far:_____
☐☐	Is Dry Channel Mostly Natural?

macrophytes throughout

95656

Qualitative Habitat Evaluation Index Field Sheet QHEI Score: ____

River Code: 95 656 **RM:** 299.0 **Stream:** Des Plaines
Station ID: Site # 107 **Location:**
Date: 7-08-05 **Scorer:** AAS **Latitude:** 41.65449 **Longitude:** -88.06121

1] SUBSTRATE (Check ONLY Two SubstrateTYPE BOXES; Estimate % present

TYPE	POOL	RIFFLE
☐☐-BLDR /SLBS[10]	___	___
☐☐-Lg BOULD. [10]	___	___
☐☐-BOULDER [9]	✓	___
☐☐-COBBLE [8]	✓	___
☐☐-HARDPAN [4]	___	___
☐☐-MUCK [2]	___	___
☐☐-GRAVEL [7]	✓	___
☐☐-SAND [6]	___	___
☐☐-BEDROCK[5]	✓	___
☐☐-DETRITUS[3]	___	___
☐☐-ARTIFICIAL[0]	___	___
☐☐-SILT [2]	✓	___

SUBSTRATE ORIGIN (Check ONE (OR 2 & AVERAGE)): ☐☐-LIMESTONE [1] ☐☐-TILLS [1] ☐☐-WETLANDS[0] ☐☐-HARDPAN [0] ☐☐-SANDSTONE [0] ☐☐-RIP/RAP [0] ☐☐-LACUSTRINE [0] ☐☐-SHALE [-1] ☐☐-COAL FINES [-2]

SUBSTRATE QUALITY (Check ONE (OR 2 & AVERAGE)): ☐☐- SILT HEAVY [-2] ☐☐-SILT MODERATE [-1] ☐☐-SILT NORMAL [0] ☐☐-SILT FREE [1]

EMBEDDEDNESS: ☐☐-EXTENSIVE [-2] ☐☐-MODERATE [-1] ☐☐-NORMAL [0] ☐☐-NONE [1]

Substrate ____ Max 20

NUMBER OF SUBSTRATE TYPES: (High Quality Only, Score 5 or >) ☐☐-4 or More [2] ☐☐-3 or Less [0]

COMMENTS _____

2] INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

(Structure) 0 UNDERCUT BANKS [1] 1 OVERHANGING VEGETATION [1] 1 SHALLOWS (IN SLOW WATER) [1] 1 ROOTMATS [1]

TYPE: Score All That Occur 1 POOLS> 70 cm [2] 1 ROOTWADS [1] 0 BOULDERS [1]

1 OXBOWS, BACKWATERS [1] 2 AQUATIC MACROPHYTES [1] 1 LOGS OR WOODY DEBRIS [1]

COMMENTS: _____

AMOUNT: (Check ONLY One or check 2 and AVERAGE) ☐☐-EXTENSIVE > 75% [11] ☐☐- MODERATE 25-75% [7] ☐☐- SPARSE 5-25% [3] ☐☐- NEARLY ABSENT < 5%[1]

Cover ____ Max 20

3] CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER	
☐ - HIGH [4]	☐ - EXCELLENT [7]	☐ - NONE [6]	☐ - HIGH [3]	☐ - SNAGGING	☐ - IMPOUND.
☐ - MODERATE [3]	☐ - GOOD [5]	☐ - RECOVERED [4]	☐ - MODERATE [2]	☐ - RELOCATION	☐ - ISLANDS
☐ - LOW [2]	☐ - FAIR [3]	☐ - RECOVERING [3]	☐ - LOW [1]	☐ - CANOPY REMOVAL	☐ - LEVEED
☐ - NONE [1]	☐ - POOR [1]	☐ - RECENT OR NO RECOVERY [1]		☐ - DREDGING	☐ - BANK SHAPING
		☐ - IMPOUNDED [-1]		☐ - ONE SIDE CHANNEL MODIFICATIONS	

Channel ____ Max 20

COMMENTS: _____

4]. RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) ☞ River Right Looking Downstream ☜

RIPARIAN WIDTH (L R Per Bank)	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN) (L R Most Predominant Per Bank)		BANK EROSION (L R Per Bank)
☐☐- VERY WIDE > 100m [5]	☐☐-FOREST, SWAMP [3]	☐☐-CONSERVATION TILLAGE [1]	☐☐-NONE/LITTLE [3]
☐☐- WIDE > 50m [4]	☐☐-SHRUB OR OLD FIELD [2]	☐☐-URBAN OR INDUSTRIAL [0]	☐☐-MODERATE [2]
☐☐- MODERATE 10-50m [3]	☐☐-RESIDENTIAL,PARK,NEW FIELD [1]	☐☐-OPEN PASTURE,ROWCROP [0]	☐☐-HEAVY/SEVERE[1]
☐☐- NARROW 5-10 m [2]	☐☐-FENCED PASTURE [1]	☐☐-MINING/CONSTRUCTION [0]	
☐☐- VERY NARROW <5 m[1]			
☐☐- NONE [0]			

Riparian ____ Max 10

Comments: _____

5.]POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY!)	MORPHOLOGY (Check 1 or 2 & AVERAGE)	CURRENT VELOCITY (POOLS & RIFFLES!) (Check All That Apply)	
☐ - >1m [6]	☐-POOL WIDTH > RIFFLE WIDTH [2]	☐-EDDIES[1]	☐-TORRENTIAL[-1]
☐ - 0.7-1m [4]	☐-POOL WIDTH = RIFFLE WIDTH [1]	☐-FAST[1]	☐-INTERSTITIAL[-1]
☐ - 0.4-0.7m [2]	☐-POOL WIDTH < RIFFLE W. [0]	☐-MODERATE [1]	☐-INTERMITTENT[-2]
☐ - 0.2- 0.4m [1]	☐-IMPOUNDED [-1]	☐-SLOW [1]	☐-VERY FAST[1]
☐ - < 0.2m [POOL=0]	COMMENTS: _____	☐-NONE [-1]	

Pool/ Current ____ Max 12

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
☐ - Best Areas >10 cm [2]	☐ - MAX > 50 [2]	☐-STABLE (e.g.,Cobble, Boulder) [2]	☐ - NONE [2]
☐ - Best Areas 5-10 cm[1]	☐ - MAX < 50[1]	☐-MOD. STABLE (e.g.,Large Gravel) [1]	☐ - LOW [1]
☐ - Best Areas < 5 cm		☐-UNSTABLE (Fine Gravel,Sand) [0]	☐ - MODERATE [0]
☐ - NO RIFFLE [Metric=0]			☐ - EXTENSIVE [-1]

Riffle/Run ____ Max 8

COMMENTS _____

Gradient ____ Max 10

6] GRADIENT (ft/mi): _____ DRAINAGE AREA (sq.mi.) : _____ %POOL: 65 %GLIDE: 10 %RIFFLE: 10 %RUN: 15

** Best areas must be large enough to support a population of riffle-obligate species*

Modified 06/01/2005

Is Sampling Reach Representative of the Stream (Y/N)___ If Not, Explain:

Lat/Long (Beg):
Lat/Long (Mid):
Lat/Long (End):
Lat/Long(X-Loc):

Major Suspected Sources of Impacts (Check All That Apply):
- None ☐
- Industrial ☑
- WWTP ☑
- Ag ☐
- Livestock ☐
- Silviculture ☐
- Construction ☐
- Urban Runoff ☑
- CSOs ☐
- Suburban Impacts ☐
- Mining ☐
- Channelization ☐
- Riparian Removal ☐
- Landfills ☐
- Natural ☐
- Dams ☑
- Other Flow Alteration ☐
- Other:_____

	Gear:	Distance:	Water Clarity:	Water Stage:	Canopy -% Open
First Sampling Pass	A	51m	[illegible]	normal	%100

Subjective Rating (1-10): 5

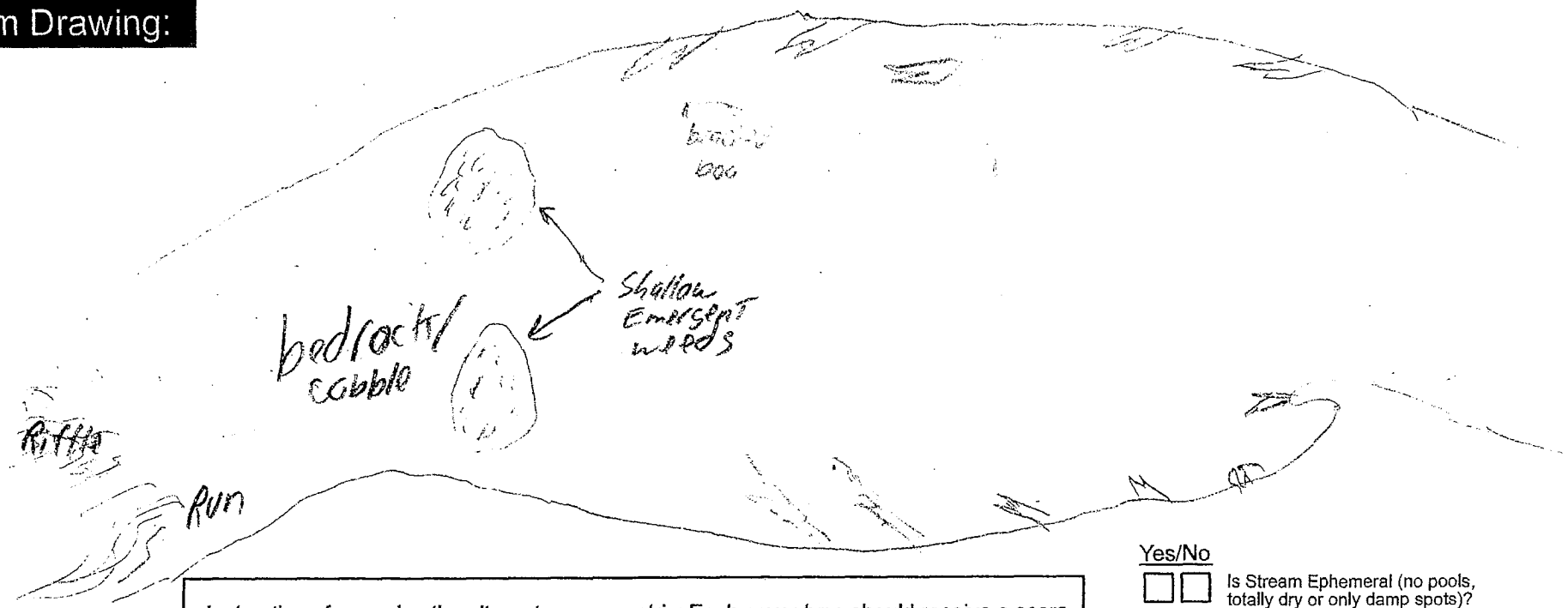
Aesthetic Rating (1-10): 5

Gradient: ☐ - Low, ☐ - Moderate, ☐ -High

Stream Measurements:

Average Width	Average Depth	Maximum Depth	Av. Bankfull Width	Bankfull Mean Depth	W/D Ratio	Bankfull Max Depth	Floodprone Area Width	Entrench. Ratio

Stream Drawing:



Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Yes/No	
☐ ☐	Is Stream Ephemeral (no pools, totally dry or only damp spots)?
☐ ☐	Is there water upstream? How Far:_____
☐ ☐	Is There Water Close Downstream? How Far:_____
☐ ☐	Is Dry Channel Mostly Natural?

Qualitative Habitat Evaluation Index Field Sheet QHEI Score: ☐

River Code: 95 [illegible] **RM:** 273.5 **Stream:** Illinois River Des Plaines River
Station ID: DP-18 **Location:** UBT Ingraham Rive DP-18
Date: 7-26-06 **Scorer:** AAJ **Latitude:** 41.38731 **Longitude:** -88.25261

1] SUBSTRATE (Check ONLY Two SubstrateTYPE BOXES; Estimate % present

TYPE	POOL	RIFFLE
☐☐-BLDR /SLBS[10]	___	___
☐☐-Lg BOULD. [10]	___	___
☐☐-BOULDER [9]	✓	___
☐☐-COBBLE [8]	✓	___
☐☐-HARDPAN [4]	___	___
☐☐-MUCK [2]	✓	___
☒☐-GRAVEL [7]	✓	___
☐☐-SAND [6]	✓	___
☐☐-BEDROCK[5]	___	___
☐☐-DETRITUS[3]	✓	___
☐☐-ARTIFICIAL[0]	___	___
☐☒-SILT [2]	✓	___

SUBSTRATE ORIGIN (Check ONE (OR 2 & AVERAGE)): ☐-LIMESTONE [1] ☒-TILLS [1] ☐-WETLANDS[0] ☐-HARDPAN [0] ☐-SANDSTONE [0] ☐-RIP/RAP [0] ☐-LACUSTRINE [0] ☐-SHALE [-1] ☐-COAL FINES [-2]

SUBSTRATE QUALITY (Check ONE (OR 2 & AVERAGE)): SILT: ☐-SILT HEAVY [-2] ☒-SILT MODERATE [-1] ☐-SILT NORMAL [0] ☐-SILT FREE [1]; EMBEDDEDNESS: ☐-EXTENSIVE [-2] ☒-MODERATE [-1] ☐-NORMAL [0] ☐-NONE [1]

Substrate ☐ Max 20

NUMBER OF SUBSTRATE TYPES: (High Quality Only, Score 5 or >) ☒-4 or More [2] ☐-3 or Less [0]

COMMENTS: _____

2] INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

(Structure): 0 UNDERCUT BANKS [1]; 1 OVERHANGING VEGETATION [1]; 1 SHALLOWS (IN SLOW WATER) [1]; 0 ROOTMATS [1]

TYPE: Score All That Occur: 1 POOLS> 70 cm [2]; 1 ROOTWADS [1]; 2 BOULDERS [1]; 1 OXBOWS, BACKWATERS [1]; 2 AQUATIC MACROPHYTES [1]; 2 LOGS OR WOODY DEBRIS [1]

COMMENTS: _____

AMOUNT: (Check ONLY One or check 2 and AVERAGE) ☐ - EXTENSIVE > 75% [11] ☒ - MODERATE 25-75% [7] ☐ - SPARSE 5-25% [3] ☐ - NEARLY ABSENT < 5%[1]

Cover ☐ Max 20

3] CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER	
☐ - HIGH [4]	☐ - EXCELLENT [7]	☐ - NONE [6]	☐ - HIGH [3]	☐ - SNAGGING	☐ - IMPOUND.
☒ - MODERATE [3]	☒ - GOOD [5]	☐ - RECOVERED [4]	☒ - MODERATE [2]	☐ - RELOCATION	☐ - ISLANDS
☐ - LOW [2]	☐ - FAIR [3]	☐ - RECOVERING [3]	☐ - LOW [1]	☐ - CANOPY REMOVAL	☐ - LEVEED
☐ - NONE [1]	☐ - POOR [1]	☐ - RECENT OR NO RECOVERY [1]		☐ - DREDGING	☐ - BANK SHAPING
		☒ - IMPOUNDED [-1]		☐ - ONE SIDE CHANNEL MODIFICATIONS	

Channel ☐ Max 20

COMMENTS: _____

4]. RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) ☞ River Right Looking Downstream ☜

RIPARIAN WIDTH (L R Per Bank)	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN) (L R Most Predominant Per Bank)		BANK EROSION (L R Per Bank)
☒☒ - VERY WIDE > 100m [5]	☒☐-FOREST, SWAMP [3]	☐☐-CONSERVATION TILLAGE [1]	☒☐-NONE/LITTLE [3]
☐☐ - WIDE > 50m [4]	☐☐-SHRUB OR OLD FIELD [2]	☐☐-URBAN OR INDUSTRIAL [0]	☐☐-MODERATE [2]
☐☐ - MODERATE 10-50m [3]	☐☐-RESIDENTIAL,PARK,NEW FIELD [1]	☐☐-OPEN PASTURE,ROWCROP [0]	☐☐-HEAVY/SEVERE[1]
☐☐ - NARROW 5-10 m [2]	☐☐-FENCED PASTURE [1]	☐☐-MINING/CONSTRUCTION [0]	
☐☐ - VERY NARROW <5 m[1]			
☐☐ - NONE [0]			

Riparian ☐ Max 10

Comments: _____

5.]POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY!)	MORPHOLOGY (Check 1 or 2 & AVERAGE)	CURRENT VELOCITY [POOLS & RIFFLES!] (Check All That Apply)	
☒ - >1m [6]	☒-POOL WIDTH > RIFFLE WIDTH [2]	☐-EDDIES[1]	☐-TORRENTIAL[-1]
☐ - 0.7-1m [4]	☐-POOL WIDTH = RIFFLE WIDTH [1]	☐-FAST[1]	☐-INTERSTITIAL[-1]
☐ - 0.4-0.7m [2]	☐-POOL WIDTH < RIFFLE W. [0]	☐-MODERATE [1]	☐-INTERMITTENT[-2]
☐ - 0.2- 0.4m [1]	☒-IMPOUNDED [-1]	☒-SLOW [1]	☐-VERY FAST[1]
☐ - < 0.2m [POOL=0]		☐-NONE [-1]	

Pool/ Current ☐ Max 12

COMMENTS: _____

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
☐ - Best Areas >10 cm [2]	☐ - MAX > 50 [2]	☐-STABLE (e.g.,Cobble, Boulder) [2]	☐ - NONE [2]
☐ - Best Areas 5-10 cm[1]	☐ - MAX < 50[1]	☐-MOD. STABLE (e.g.,Large Gravel) [1]	☐ - LOW [1]
☐ - Best Areas < 5 cm		☐-UNSTABLE (Fine Gravel,Sand) [0]	☐ - MODERATE [0]
☒ - NO RIFFLE [Metric=0]			☐ - EXTENSIVE [-1]

Riffle/Run ☐ Max 8

COMMENTS _____

Gradient ☐ Max 10

6] GRADIENT (ft/mi): _____ DRAINAGE AREA (sq.mi.) : _____ %POOL: 100 %GLIDE: ☐ %RIFFLE: ☐ %RUN: ☐

** Best areas must be large enough to support a population of riffle-obligate species

Modified 06/01/2005

Is Sampling Reach Representative of the Stream (Y/N)___ If Not, Explain:

Lat/Long (Beg):
Lat/Long (Mid):
Lat/Long (End):
Lat/Long(X-Loc):

Major Suspected Sources of Impacts (Check All That Apply):
- None ☐
- Industrial ☑
- WWTP ☑
- Ag ☐
- Livestock ☐
- Silviculture ☐
- Construction ☐
- Urban Runoff ☐
- CSOs ☐
- Suburban Impacts ☐
- Mining ☐
- Channelization ☐
- Riparian Removal ☑
- Landfills ☐
- Natural ☐
- Dams ☑
- Other Flow Alteration ☐
- Other:_____

	Gear:	Distance:	Water Clarity:	Water Stage:	Canopy -% Open
First Sampling Pass	N	.5 Km	75cm	normal	%100

Subjective Rating (1-10): 4

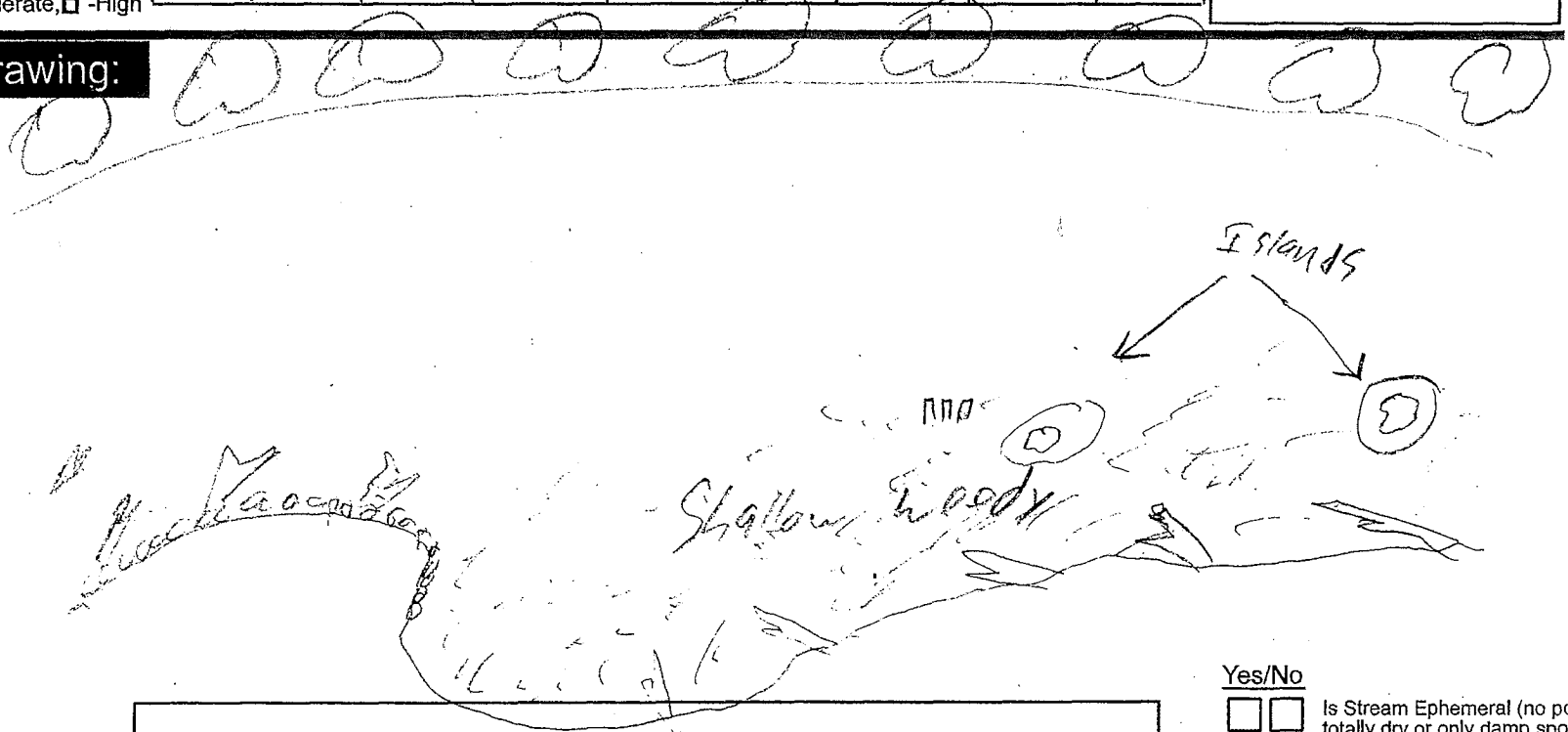
Aesthetic Rating (1-10): 4

Gradient: ☐ - Low, ☐ - Moderate, ☐ -High

Stream Measurements:

Average Width	Average Depth	Maximum Depth	Av. Bankfull Width	Bankfull Mean Depth	W/D Ratio	Bankfull Max Depth	Floodprone Area Width	Entrench. Ratio

Stream Drawing:



Flow

Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Yes/No	
☐☐	Is Stream Ephemeral (no pools, totally dry or only damp spots)?
☐☐	Is there water upstream? How Far:_____
☐☐	Is There Water Close Downstream? How Far:_____
☐☐	Is Dry Channel Mostly Natural?

Eliot 1-10-08 PD ✓

Qualitative Habitat Evaluation Index Field Sheet QHEI Score: ☐

River Code: 95-696 **RM:** 274.0 **Stream:** Illinois River/Deep Plains
Station ID: OR17 **Location:** US Stone Fishing Pier
Date: 7-26-06 **Scorer:** NAV **Latitude:** 46 38331 **Longitude:** -88.29078

1] SUBSTRATE (Check ONLY Two SubstrateTYPE BOXES; Estimate % present

TYPE	POOL	RIFFLE		POOL	RIFFLE
☐☐-BLDR /SLBS[10]	___	___	☐☐-GRAVEL [7]	✓	___
☐☐-Lg BOULD. [10]	___	___	☒☐-SAND [6]	✓	___
☐☐-BOULDER [9]	✓	___	☐☐-BEDROCK[5]	___	___
☐☐-COBBLE [8]	✓	___	☐☐-DETRITUS[3]	✓	___
☐☐-HARDPAN [4]	___	___	☐☐-ARTIFICIAL[0]	___	___
☐☐-MUCK [2]	___	___	☐☒-SILT [2]	✓	___

SUBSTRATE ORIGIN (Check ONE (OR 2 & AVERAGE)): ☐-LIMESTONE [1] ☒-TILLS [1] ☐-WETLANDS[0] ☐-HARDPAN [0] ☐-SANDSTONE [0] ☐-RIP/RAP [0] ☐-LACUSTRINE [0] ☐-SHALE [-1] ☐-COAL FINES [-2]

SILT: ☐-SILT HEAVY [-2] ☒-SILT MODERATE [-1] ☐-SILT NORMAL [0] ☐-SILT FREE [1]

EMBEDDEDNESS: ☐-EXTENSIVE [-2] ☒-MODERATE [-1] ☐-NORMAL [0] ☐-NONE [1]

SUBSTRATE QUALITY (Check ONE (OR 2 & AVERAGE))

Substrate ☐ Max 20

NUMBER OF SUBSTRATE TYPES: (High Quality Only, Score 5 or >) ☒-4 or More [2] ☐-3 or Less [0]

COMMENTS:

2] INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

(Structure)	TYPE: Score All That Occur	
0 UNDERCUT BANKS [1]	1 POOLS> 70 cm [2]	2 OXBOWS, BACKWATERS [1]
1 OVERHANGING VEGETATION [1]	1 ROOTWADS [1]	2 AQUATIC MACROPHYTES [1]
1 SHALLOWS (IN SLOW WATER) [1]	1 BOULDERS [1]	1 LOGS OR WOODY DEBRIS [1]
0 ROOTMATS [1]		

COMMENTS:

AMOUNT: (Check ONLY One or check 2 and AVERAGE) ☐- EXTENSIVE > 75% [11] ☒- MODERATE 25-75% [7] ☐- SPARSE 5-25% [3] ☐- NEARLY ABSENT < 5%[1]

Cover ☐ Max 20

3] CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER	
☐- HIGH [4]	☐- EXCELLENT [7]	☒- NONE [6]	☐- HIGH [3]	☐- SNAGGING	☐- IMPOUND.
☐- MODERATE [3]	☐- GOOD [5]	☐- RECOVERED [4]	☒- MODERATE [2]	☐- RELOCATION	☐- ISLANDS
☒- LOW [2]	☒- FAIR [3]	☐- RECOVERING [3]	☐- LOW [1]	☐- CANOPY REMOVAL	☐- LEVEED
☐- NONE [1]	☐- POOR [1]	☐- RECENT OR NO RECOVERY [1]		☐- DREDGING	☐- BANK SHAPING
		☒- IMPOUNDED [-1]		☐- ONE SIDE CHANNEL MODIFICATIONS	

Channel ☐ Max 20

COMMENTS:

4]. RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) ℗ River Right Looking Downstream ℗

RIPARIAN WIDTH (L R Per Bank)	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN) (L R Most Predominant Per Bank)		BANK EROSION (L R Per Bank)
☐☒- VERY WIDE > 100m [5]	☐☒-FOREST, SWAMP [3]	☐☐-CONSERVATION TILLAGE [1]	☒☒-NONE/LITTLE [3]
☐☐- WIDE > 50m [4]	☐☐-SHRUB OR OLD FIELD [2]	☐☐-URBAN OR INDUSTRIAL [0]	☐☐-MODERATE [2]
☐☐- MODERATE 10-50m [3]	☒☐-RESIDENTIAL,PARK,NEW FIELD [1]	☐☐-OPEN PASTURE,ROWCROP [0]	☐☐-HEAVY/SEVERE[1]
☐☐- NARROW 5-10 m [2]	☐☐-FENCED PASTURE [1]	☐☐-MINING/CONSTRUCTION [0]	
☒☐- VERY NARROW <5 m[1]			
☐☐- NONE [0]			

Riparian ☐ Max 10

Comments:

5.]POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY!)	MORPHOLOGY (Check 1 or 2 & AVERAGE)	CURRENT VELOCITY [POOLS & RIFFLES!] (Check All That Apply)	
☒- >1m [6]	☐-POOL WIDTH > RIFFLE WIDTH [2]	☐-EDDIES[1]	☐-TORRENTIAL[-1]
☐- 0.7-1m [4]	☐-POOL WIDTH = RIFFLE WIDTH [1]	☐-FAST[1]	☐-INTERSTITIAL[-1]
☐- 0.4-0.7m [2]	☐-POOL WIDTH < RIFFLE W. [0]	☐-MODERATE [1]	☐-INTERMITTENT[-2]
☐- 0.2- 0.4m [1]	☒-IMPOUNDED [-1]	☒-SLOW [1]	☐-VERY FAST[1]
☐- < 0.2m [POOL=0]	COMMENTS:	☐-NONE [-1]	

Pool/ Current ☐ Max 12

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
☐- Best Areas >10 cm [2]	☐- MAX > 50 [2]	☐-STABLE (e.g.,Cobble, Boulder) [2]	☐- NONE [2]
☐- Best Areas 5-10 cm[1]	☐- MAX < 50[1]	☐-MOD. STABLE (e.g.,Large Gravel) [1]	☐- LOW [1]
☐- Best Areas < 5 cm		☐-UNSTABLE (Fine Gravel,Sand) [0]	☐- MODERATE [0]
☒- NO RIFFLE [Metric=0]			☐- EXTENSIVE [-1]

Riffle/Run ☐ Max 8

COMMENTS

Gradient ☐ Max 10

6] GRADIENT (ft/mi): _____ DRAINAGE AREA (sq.mi.) : _____ %POOL: 100 %GLIDE: ☐ %RIFFLE: ☐ %RUN: ☐

*: Best areas must be large enough to support a population of riffle-obligate species

Modified 06/01/2005

Is Sampling Reach Representative of the Stream (Y/N)___ If Not, Explain:

Lat/Long (Beg):
Lat/Long (Mid):
Lat/Long (End):
Lat/Long(X-Loc):

Major Suspected Sources of Impacts (Check All That Apply):
- None ☐
- Industrial ☑
- WWTP ☑
- Ag ☐
- Livestock ☐
- Silviculture ☐
- Construction ☐
- Urban Runoff ☐
- CSOs ☐
- Suburban Impacts ☐
- Mining ☐
- Channelization ☐
- Riparian Removal ☑
- Landfills ☐
- Natural ☐
- Dams ☑
- Other Flow Alteration ☐
- Other:_____

Subjective Rating (1-10): 4

Aesthetic Rating (1-10): 4

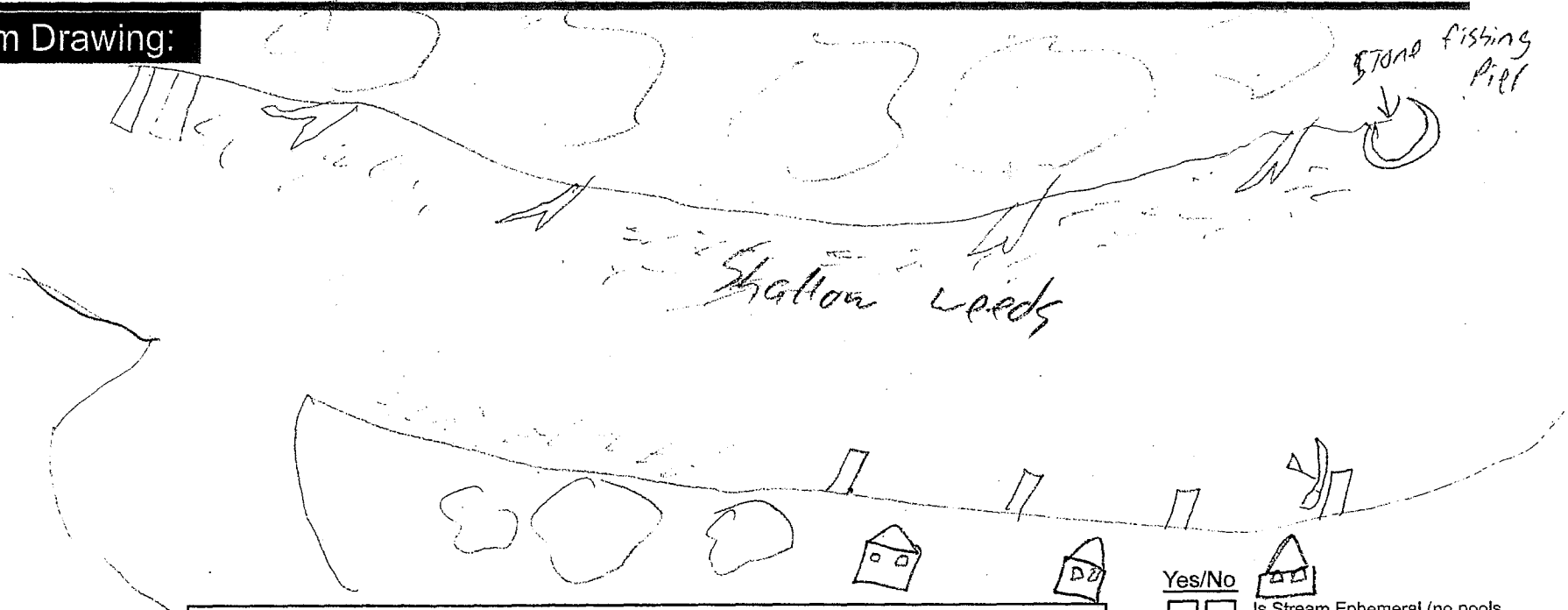
Gradient: ☐ - Low, ☐ - Moderate, ☐ -High

	Gear:	Distance:	Water Clarity:	Water Stage:	Canopy -% Open
First Sampling Pass	A	.5 km	75 cm	normal	% 100

Stream Measurements:

Average Width	Average Depth	Maximum Depth	Av. Bankfull Width	Bankfull Mean Depth	W/D Ratio	Bankfull Max Depth	Floodprone Area Width	Entrench. Ratio

Stream Drawing:



Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Yes/No	
☐☐	Is Stream Ephemeral (no pools, totally dry or only damp spots)?
☐☐	Is there water upstream? How Far:_____
☐☐	Is There Water Close Downstream? How Far:_____
☐☐	Is Dry Channel Mostly Natural?

Qualitative Habitat Evaluation Index Field Sheet QHEI Score:

River Code: 95-7650 **RM:** 242.8 **Stream:** Illinois River
Station ID: DR19 **Location:** upst Marsolius Dam
Date: 7-26-06 **Scorer:** AAV **Latitude:** 4.31986 **Longitude:** -88.69300

1] SUBSTRATE (Check ONLY Two SubstrateTYPE BOXES; Estimate % present

TYPE	POOL	RIFFLE
☐☐-BLDR /SLBS[10]	___	___
☐☐-Lg BOULD. [10]	___	___
☐☐-BOULDER [9]	✓	___
☐☐-COBBLE [8]	___	___
☐☐-HARDPAN [4]	___	___
☐☐-MUCK [2]	___	___
☐☑-GRAVEL [7]	✓	___
☑☐-SAND [6]	✓	___
☐☐-BEDROCK[5]	___	___
☐☐-DETRITUS[3]	___	___
☐☐-ARTIFICIAL[0]	___	___
☐☐-SILT [2]	✓	___

SUBSTRATE ORIGIN (Check ONE (OR 2 & AVERAGE)): ☐-LIMESTONE [1] ☑-TILLS [1] ☐-WETLANDS[0] ☐-HARDPAN [0] ☐-SANDSTONE [0] ☐-RIP/RAP [0] ☐-LACUSTRINE [0] ☐-SHALE [-1] ☐-COAL FINES [-2]

SUBSTRATE QUALITY (Check ONE (OR 2 & AVERAGE)): ☐-SILT HEAVY [-2] ☐-SILT MODERATE [-1] ☑-SILT NORMAL [0] ☐-SILT FREE [1]

EMBEDDEDNESS: ☐-EXTENSIVE [-2] ☐-MODERATE [-1] ☑-NORMAL [0] ☐-NONE [1]

Substrate Max 20

NUMBER OF SUBSTRATE TYPES: (High Quality Only, Score 5 or >) ☑-4 or More [2] ☐-3 or Less [0]

COMMENTS: _____

2] INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

(Structure): 1 UNDERCUT BANKS [1]; 1 OVERHANGING VEGETATION [1]; 1 SHALLOWS (IN SLOW WATER) [1]; 1 ROOTMATS [1]

TYPE: Score All That Occur: 1 POOLS> 70 cm [2]; 1 ROOTWADS [1]; 1 BOULDERS [1]; 2 OXBOWS, BACKWATERS [1]; 2 AQUATIC MACROPHYTES [1]; 1 LOGS OR WOODY DEBRIS [1]

AMOUNT: (Check ONLY One or check 2 and AVERAGE) ☐-EXTENSIVE > 75% [11] ☑-MODERATE 25-75% [7] ☐-SPARSE 5-25% [3] ☐-NEARLY ABSENT < 5%[1]

COMMENTS: _____

Cover Max 20

3] CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER	
☐-HIGH [4]	☐-EXCELLENT [7]	☑-NONE [6]	☐-HIGH [3]	☐-SNAGGING	☐-IMPOUND.
☑-MODERATE [3]	☑-GOOD [5]	☐-RECOVERED [4]	☑-MODERATE [2]	☐-RELOCATION	☐-ISLANDS
☐-LOW [2]	☐-FAIR [3]	☐-RECOVERING [3]	☐-LOW [1]	☐-CANOPY REMOVAL	☐-LEVEED
☐-NONE [1]	☐-POOR [1]	☐-RECENT OR NO RECOVERY [1]		☐-DREDGING	☐-BANK SHAPING
		☑-IMPOUNDED [-1]		☐-ONE SIDE CHANNEL MODIFICATIONS	

COMMENTS: _____

Channel Max 20

4]. RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) River Right Looking Downstream

RIPARIAN WIDTH (L R Per Bank)	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN) (L R Most Predominant Per Bank)		BANK EROSION (L R Per Bank)	
☑☐- VERY WIDE > 100m [5]	☑☐-FOREST, SWAMP [3]	☐☐-CONSERVATION TILLAGE [1]	☑☑-NONE/LITTLE [3]	
☐☐- WIDE > 50m [4]	☐☐-SHRUB OR OLD FIELD [2]	☐☑-URBAN OR INDUSTRIAL [0]	☐☐-MODERATE [2]	
☐☐- MODERATE 10-50m [3]	☐☐-RESIDENTIAL,PARK,NEW FIELD [1]	☐☐-OPEN PASTURE,ROWCROP [0]	☐☐-HEAVY/SEVERE[1]	
☐☐- NARROW 5-10 m [2]	☐☐-FENCED PASTURE [1]	☐☐-MINING/CONSTRUCTION [0]		
☐☑- VERY NARROW <5 m[1]				
☐☐- NONE [0]				

Comments: _____

Riparian Max 10

5.]POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY!): ☑- >1m [6]; ☐- 0.7-1m [4]; ☐- 0.4-0.7m [2]; ☐- 0.2- 0.4m [1]; ☐- < 0.2m [POOL=0]

MORPHOLOGY (Check 1 or 2 & AVERAGE): ☐-POOL WIDTH > RIFFLE WIDTH [2]; ☐-POOL WIDTH = RIFFLE WIDTH [1]; ☐-POOL WIDTH < RIFFLE W. [0]; ☑-IMPOUNDED [-1]

CURRENT VELOCITY [POOLS & RIFFLES!] (Check All That Apply): ☐-EDDIES[1] ☐-FAST[1] ☐-MODERATE [1] ☑-SLOW [1] ☐-NONE [-1] ☐-TORRENTIAL[-1] ☐-INTERSTITIAL[-1] ☐-INTERMITTENT[-2] ☐-VERY FAST[1]

COMMENTS: _____

Pool/ Current Max 12

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
☐- Best Areas >10 cm [2]	☐- MAX > 50 [2]	☐-STABLE (e.g.,Cobble, Boulder) [2]	☐- NONE [2]
☐- Best Areas 5-10 cm[1]	☐- MAX < 50[1]	☐-MOD. STABLE (e.g.,Large Gravel) [1]	☐- LOW [1]
☐- Best Areas < 5 cm		☐-UNSTABLE (Fine Gravel,Sand) [0]	☐- MODERATE [0]
☑- NO RIFFLE [Metric=0]			☐- EXTENSIVE [-1]

COMMENTS _____

Riffle/Run Max 8

Gradient Max 10

6] GRADIENT (ft/mi): _____ DRAINAGE AREA (sq.mi.) : _____ %POOL: 100 %GLIDE: _____ %RIFFLE: _____ %RUN: _____

** Best areas must be large enough to support a population of riffle-obligate species

Modified 06/01/2005

Is Sampling Reach Representative of the Stream (Y/N) ___ If Not, Explain: _____

Lat/Long (Beg): _____
Lat/Long (Mid): _____
Lat/Long (End): _____
Lat/Long(X-Loc): _____

Major Suspected Sources of Impacts (Check All That Apply):
- None ☐
- Industrial ☑
- WWTP ☑
- Ag ☐
- Livestock ☐
- Silviculture ☐
- Construction ☐
- Urban Runoff ☑
- CSOs ☐
- Suburban Impacts ☐
- Mining ☐
- Channelization ☐
- Riparian Removal ☑
- Landfills ☐
- Natural ☐
- Dams ☐
- Other Flow Alteration ☐
- Other: _____

	Gear:	Distance:	Water Clarity:	Water Stage:	Canopy -% Open
First Sampling Pass	A	5 Rm	50cm	Normal	% 100

Subjective Rating (1-10): 3

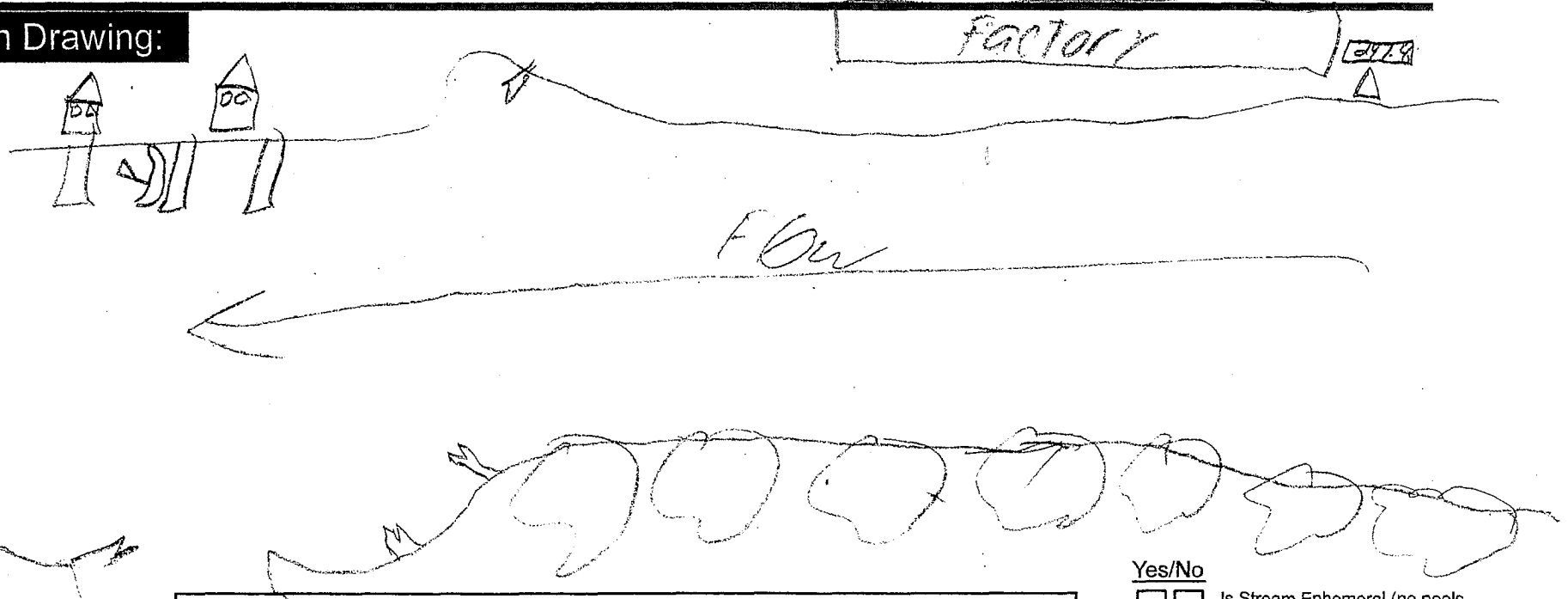
Aesthetic Rating (1-10): 3

Gradient: ☐ - Low, ☐ - Moderate, ☐ -High

Stream Measurements:

Average Width	Average Depth	Maximum Depth	Av. Bankfull Width	Bankfull Mean Depth	W/D Ratio	Bankfull Max Depth	Floodprone Area Width	Entrench. Ratio

Stream Drawing:



Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Yes/No	
☐ ☐	Is Stream Ephemeral (no pools, totally dry or only damp spots)?
☐ ☐	Is there water upstream? How Far: _____
☐ ☐	Is There Water Close Downstream? How Far: _____
☐ ☐	Is Dry Channel Mostly Natural?

Qualitative Habitat Evaluation Index Field Sheet QHEI Score: ____

River Code: 95-650 **RM:** 242.1 **Stream:** Illinois River
Station ID: DP-16 **Location:** UPST Grain Silo
Date: 7-25-06 **Scorer:** AAJ **Latitude:** 41.33984 **Longitude:** -88.79339

1] SUBSTRATE (Check ONLY Two SubstrateTYPE BOXES; Estimate % present

TYPE	POOL	RIFFLE
☐☐-BLDR /SLBS[10]	___	___
☐☐-Lg BOULD. [10]	___	___
☐☐-BOULDER [9]	✓	___
☐☐-COBBLE [8]	✓	___
☐☐-HARDPAN [4]	___	___
☐☐-MUCK [2]	___	___
☐☑-GRAVEL [7]	✓	___
☑☐-SAND [6]	✓	___
☐☐-BEDROCK[5]	___	___
☐☐-DETRITUS[3]	___	___
☐☐-ARTIFICIAL[0]	___	___
☐☐-SILT [2]	___	___

SUBSTRATE ORIGIN (Check ONE (OR 2 & AVERAGE)): ☐-LIMESTONE [1] ☑-TILLS [1] ☐-WETLANDS[0] ☐-HARDPAN [0] ☐-SANDSTONE [0] ☐-RIP/RAP [0] ☐-LACUSTRINE [0] ☐-SHALE [-1] ☐-COAL FINES [-2]

SUBSTRATE QUALITY (Check ONE (OR 2 & AVERAGE)): ☐-SILT HEAVY [-2] ☐-SILT MODERATE [-1] ☑-SILT NORMAL [0] ☐-SILT FREE [1]

EMBEDDEDNESS: ☐-EXTENSIVE [-2] ☑-MODERATE [-1] ☑-NORMAL [0] ☐-NONE [1]

Substrate ____ Max 20

NUMBER OF SUBSTRATE TYPES: (High Quality Only, Score 5 or >) ☑-4 or More [2] ☐-3 or Less [0]

COMMENTS: _____

2] INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

(Structure): 1 UNDERCUT BANKS [1]; 0 OVERHANGING VEGETATION [1]; 1 SHALLOWS (IN SLOW WATER) [1]; 1 ROOTMATS [1]

TYPE: Score All That Occur: 1 POOLS> 70 cm [2]; 1 ROOTWADS [1]; 1 BOULDERS [1]; 1 OXBOWS, BACKWATERS [1]; 0 AQUATIC MACROPHYTES [1]; 1 LOGS OR WOODY DEBRIS [1]

COMMENTS: _____

AMOUNT: (Check ONLY One or check 2 and AVERAGE) ☐- EXTENSIVE > 75% [11] ☑- MODERATE 25-75% [7] ☑- SPARSE 5-25% [3] ☐- NEARLY ABSENT < 5%[1]

Cover ____ Max 20

3] CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER	
☐- HIGH [4]	☐- EXCELLENT [7]	☐- NONE [6]	☐- HIGH [3]	☐- SNAGGING	☐- IMPOUND.
☐- MODERATE [3]	☐- GOOD [5]	☐- RECOVERED [4]	☑- MODERATE [2]	☐- RELOCATION	☐- ISLANDS
☑- LOW [2]	☑- FAIR [3]	☐- RECOVERING [3]	☐- LOW [1]	☐- CANOPY REMOVAL	☐- LEVEED
☐- NONE [1]	☐- POOR [1]	☐- RECENT OR NO RECOVERY [1]		☐- DREDGING	☐- BANK SHAPING
		☑- IMPOUNDED [-1]		☐- ONE SIDE CHANNEL MODIFICATIONS	

COMMENTS: _____

Channel ____ Max 20

4]. RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) ← River Right Looking Downstream →

RIPARIAN WIDTH (L R Per Bank)	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN) (L R Most Predominant Per Bank)	BANK EROSION (L R Per Bank)
☐☐- VERY WIDE > 100m [5]	☑☑-FOREST, SWAMP [3]	☑☑-NONE/LITTLE [3]
☐☐- WIDE > 50m [4]	☐☐-SHRUB OR OLD FIELD [2]	☐☐-MODERATE [2]
☑☑- MODERATE 10-50m [3]	☐☐-RESIDENTIAL,PARK,NEW FIELD [1]	☐☐-HEAVY/SEVERE[1]
☐☐- NARROW 5-10 m [2]	☐☐-FENCED PASTURE [1]	
☐☐- VERY NARROW <5 m[1]	☐☐-CONSERVATION TILLAGE [1]	
☐☐- NONE [0]	☐☐-URBAN OR INDUSTRIAL [0]	
	☑☑-OPEN PASTURE,ROWCROP [0]	
	☐☐-MINING/CONSTRUCTION [0]	

Comments: _____

Riparian ____ Max 10

5.]POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY!): ☑- >1m [6] ☐- 0.7-1m [4] ☐- 0.4-0.7m [2] ☐- 0.2- 0.4m [1] ☐- < 0.2m [POOL=0]

MORPHOLOGY (Check 1 or 2 & AVERAGE): ☐-POOL WIDTH > RIFFLE WIDTH [2] ☐-POOL WIDTH = RIFFLE WIDTH [1] ☐-POOL WIDTH < RIFFLE W. [0] ☑-IMPOUNDED [-1]

CURRENT VELOCITY (POOLS & RIFFLES!) (Check All That Apply): ☐-EDDIES[1] ☐-FAST[1] ☐-MODERATE [1] ☑-SLOW [1] ☐-NONE [-1] ☐-TORRENTIAL[-1] ☐-INTERSTITIAL[-1] ☐-INTERMITTENT[-2] ☐-VERY FAST[1]

COMMENTS: _____

Pool/ Current ____ Max 12

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
☐- Best Areas >10 cm [2]	☐- MAX > 50 [2]	☐-STABLE (e.g.,Cobble, Boulder) [2]	☐- NONE [2]
☐- Best Areas 5-10 cm[1]	☐- MAX < 50[1]	☐-MOD. STABLE (e.g.,Large Gravel) [1]	☐- LOW [1]
☐- Best Areas < 5 cm		☐-UNSTABLE (Fine Gravel,Sand) [0]	☐- MODERATE [0]
☑- NO RIFFLE [Metric=0]			☐- EXTENSIVE [-1]

COMMENTS _____

Riffle/Run ____ Max 8

Gradient ____ Max 10

6] GRADIENT (ft/mi): _____ DRAINAGE AREA (sq.mi.) : _____ %POOL: 100 %GLIDE: ____ %RIFFLE: ____ %RUN: ____

** Best areas must be large enough to support a population of riffle-obligate species*

Modified 06/01/2005

Is Sampling Reach Representative of the Stream (Y/N)___ If Not, Explain:

Lat/Long (Beg):	
Lat/Long (Mid):	
Lat/Long (End):	
Lat/Long(X-Loc):	

Major Suspected Sources of Impacts (Check All That Apply):
- None ☐
- Industrial ☑
- WWTP ☑
- Ag ☐
- Livestock ☐
- Silviculture ☐
- Construction ☐
- Urban Runoff ☑
- CSOs ☐
- Suburban Impacts ☐
- Mining ☐
- Channelization ☐
- Riparian Removal ☑
- Landfills ☐
- Natural ☐
- Dams ☑
- Other Flow Alteration ☐
- Other:_____

Subjective Rating (1-10): 5

Aesthetic Rating (1-10): 5

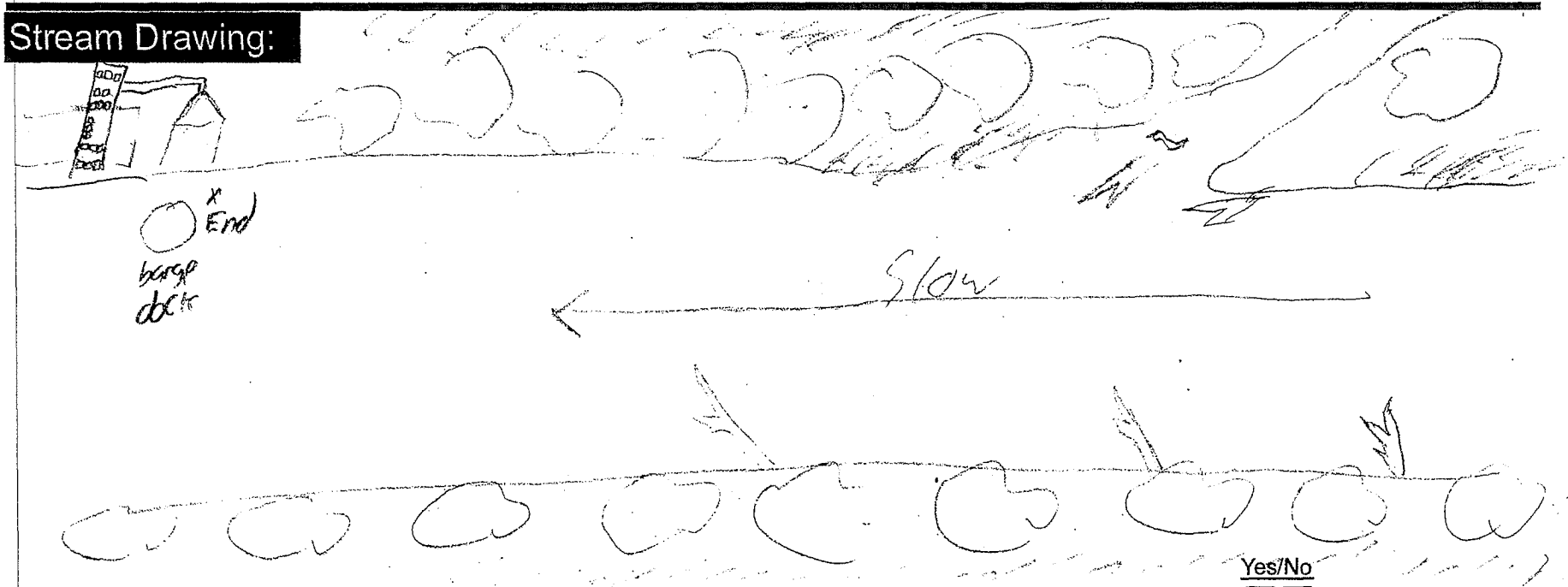
Gradient: ☐ - Low, ☐ - Moderate, ☐ -High

	Gear:	Distance:	Water Clarity:	Water Stage:	Canopy -% Open
First Sampling Pass	A	.5 Km	50 cm	Normal	100

Stream Measurements:

Average Width	Average Depth	Maximum Depth	Av. Bankfull Width	Bankfull Mean Depth	W/D Ratio	Bankfull Max Depth	Floodprone Area Width	Entrench. Ratio

Stream Drawing:



Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Yes/No	
☐ ☐	Is Stream Ephemeral (no pools, totally dry or only damp spots)?
☐ ☐	Is there water upstream? How Far:_____
☐ ☐	Is There Water Close Downstream? How Far:_____
☐ ☐	Is Dry Channel Mostly Natural?

Qualitative Habitat Evaluation Index Field Sheet QHEI Score: ☐

River Code: 95-[illegible] **RM:** 243.3 **Stream:** Illinois River
Station ID: DP-15 **Location:** DST Marker 243.3
Date: 7/25/06 **Scorer:** AAT **Latitude:** 41.31986 **Longitude:** -88.69300

1] SUBSTRATE (Check ONLY Two SubstrateTYPE BOXES; Estimate % present

TYPE	POOL	RIFFLE
☐☐-BLDR /SLBS[10]	✓	___
☐☐-Lg BOULD. [10]	___	___
☐☐-BOULDER [9]	✓	___
☐☐-COBBLE [8]	✓	___
☐☐-HARDPAN [4]	___	___
☐☐-MUCK [2]	___	___
☐☒-GRAVEL [7]	___	✓
☐☒-SAND [6]	✓	___
☐☐-BEDROCK[5]	___	___
☐☐-DETRITUS[3]	___	___
☐☐-ARTIFICIAL[0]	✓	___
☐☐-SILT [2]	___	___

SUBSTRATE ORIGIN (Check ONE (OR 2 & AVERAGE)): ☐-LIMESTONE [1] ☒-TILLS [1] ☐-WETLANDS[0] ☐-HARDPAN [0] ☐-SANDSTONE [0] ☐-RIP/RAP [0] ☐-LACUSTRINE [0] ☐-SHALE [-1] ☐-COAL FINES [-2]

SUBSTRATE QUALITY (Check ONE (OR 2 & AVERAGE)): ☐-SILT HEAVY [-2] ☐-SILT MODERATE [-1] ☒-SILT NORMAL [0] ☐-SILT FREE [1]

EMBEDDEDNESS: ☐-EXTENSIVE [-2] ☐-MODERATE [-1] ☒-NORMAL [0] ☐-NONE [1]

Substrate ☐ Max 20

NUMBER OF SUBSTRATE TYPES: (High Quality Only, Score 5 or >) ☒-4 or More [2] ☐-3 or Less [0]

COMMENTS: _____

2] INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

(Structure): 0 UNDERCUT BANKS [1]; 0 OVERHANGING VEGETATION [1]; 1 SHALLOWS (IN SLOW WATER) [1]; C ROOTMATS [1]

TYPE: Score All That Occur: 1 POOLS> 70 cm [2]; 1 ROOTWADS [1]; 1 BOULDERS [1]; 0 OXBOWS, BACKWATERS [1]; 0 AQUATIC MACROPHYTES [1]; 1 LOGS OR WOODY DEBRIS [1]

COMMENTS: _____

AMOUNT: (Check ONLY One or check 2 and AVERAGE) ☐- EXTENSIVE > 75% [11] ☐- MODERATE 25-75% [7] ☒- SPARSE 5-25% [3] ☐- NEARLY ABSENT < 5%[1]

Cover ☐ Max 20

3] CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER	
☐- HIGH [4]	☐- EXCELLENT [7]	☒- NONE [6]	☐- HIGH [3]	☐- SNAGGING	☐- IMPOUND.
☐- MODERATE [3]	☐- GOOD [5]	☐- RECOVERED [4]	☒- MODERATE [2]	☐- RELOCATION	☐- ISLANDS
☒- LOW [2]	☒- FAIR [3]	☐- RECOVERING [3]	☐- LOW [1]	☐- CANOPY REMOVAL	☐- LEVEED
☐- NONE [1]	☐- POOR [1]	☐- RECENT OR NO RECOVERY [1]		☐- DREDGING	☐- BANK SHAPING
		☒- IMPOUNDED [-1]		☐- ONE SIDE CHANNEL MODIFICATIONS	

Channel ☐ Max 20

COMMENTS: _____

4]. RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) River Right Looking Downstream

RIPARIAN WIDTH (L R (Per Bank))	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN) (L R (Most Predominant Per Bank))	BANK EROSION (L R (Per Bank))
☐☐- VERY WIDE > 100m [5]	☒☐-FOREST, SWAMP [3]	☐☒-NONE/LITTLE [3]
☒☐- WIDE > 50m [4]	☒☐-SHRUB OR OLD FIELD [2]	☒☐-MODERATE [2]
☐☐- MODERATE 10-50m [3]	☐☐-RESIDENTIAL,PARK,NEW FIELD [1]	☐☐-HEAVY/SEVERE[1]
☐☒- NARROW 5-10 m [2]	☐☐-FENCED PASTURE [1]	
☐☐- VERY NARROW <5 m[1]	☐☒-URBAN OR INDUSTRIAL [0]	
☐☐- NONE [0]	☐☐-CONSERVATION TILLAGE [1]	
	☐☐-OPEN PASTURE,ROWCROP [0]	
	☐☐-MINING/CONSTRUCTION [0]	

Riparian ☐ Max 10

Comments: _____

5.]POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY!): ☒- >1m [6] ☐- 0.7-1m [4] ☐- 0.4-0.7m [2] ☐- 0.2- 0.4m [1] ☐- < 0.2m [POOL=0]

MORPHOLOGY (Check 1 or 2 & AVERAGE): ☐-POOL WIDTH > RIFFLE WIDTH [2] ☐-POOL WIDTH = RIFFLE WIDTH [1] ☐-POOL WIDTH < RIFFLE W. [0] ☒-IMPOUNDED [-1]

CURRENT VELOCITY (POOLS & RIFFLES!) (Check All That Apply): ☐-EDDIES[1] ☐-FAST[1] ☐-MODERATE [1] ☒-SLOW [1] ☐-NONE [-1] ☐-TORRENTIAL[-1] ☐-INTERSTITIAL[-1] ☐-INTERMITTENT[-2] ☐-VERY FAST[1]

Pool/ Current ☐ Max 12

COMMENTS: _____

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
☐- Best Areas >10 cm [2]	☐- MAX > 50 [2]	☐-STABLE (e.g.,Cobble, Boulder) [2]	☐- NONE [2]
☐- Best Areas 5-10 cm[1]	☐- MAX < 50[1]	☐-MOD. STABLE (e.g.,Large Gravel) [1]	☐- LOW [1]
☐- Best Areas < 5 cm		☐-UNSTABLE (Fine Gravel,Sand) [0]	☐- MODERATE [0]
☒- NO RIFFLE [Metric=0]			☐- EXTENSIVE [-1]

Riffle/Run ☐ Max 8

COMMENTS: _____

Gradient ☐ Max 10

6] GRADIENT (ft/mi): _____ DRAINAGE AREA (sq.mi.) : _____ %POOL: 100 %GLIDE: ☐ %RIFFLE: ☐ %RUN: ☐

** Best areas must be large enough to support a population of riffle-obligate species

Modified 06/01/2005

Is Sampling Reach Representative of the Stream (Y/N)___ If Not, Explain:

Lat/Long (Beg):
Lat/Long (Mid):
Lat/Long (End):
Lat/Long(X-Loc):

Major Suspected Sources of Impacts (Check All That Apply):
None ☐
Industrial ☑
WWTP ☑
Ag ☐
Livestock ☐
Silviculture ☐
Construction ☐
Urban Runoff ☑
CSOs ☐
Suburban Impacts ☐
Mining ☐
Channelization ☐
Riparian Removal ☑
Landfills ☐
Natural ☐
Dams ☑
Other Flow Alteration ☐
Other:_____

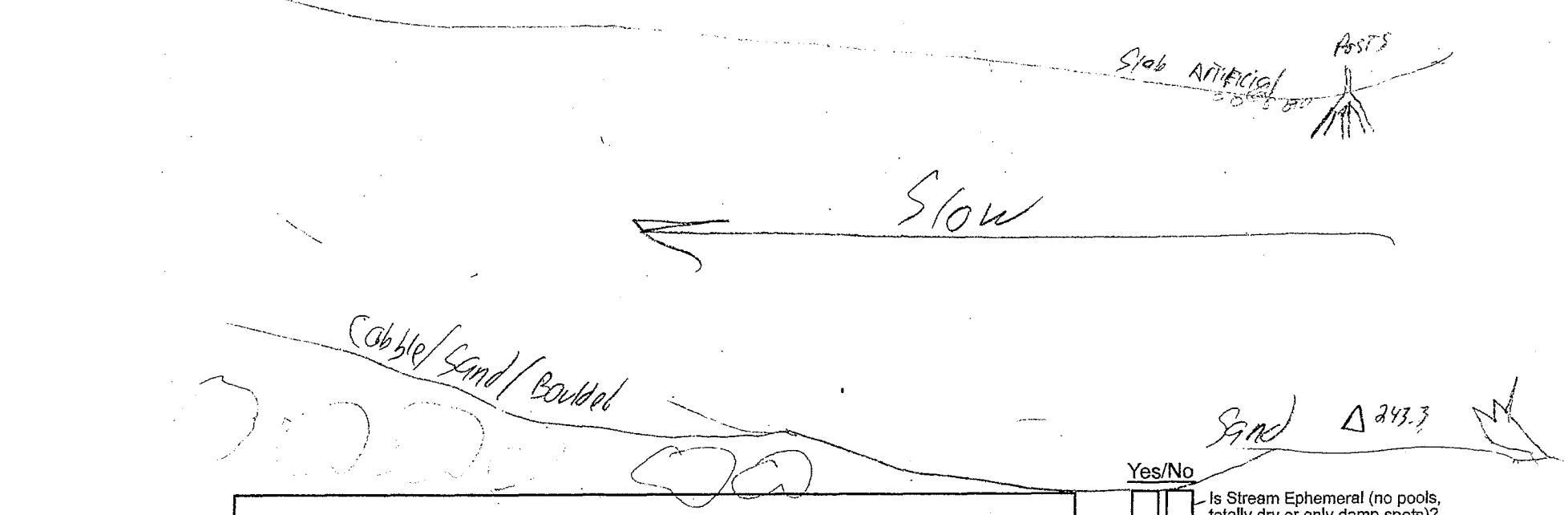
	Gear:	Distance:	Water Clarity:	Water Stage:	Canopy -% Open
First Sampling Pass	A	.5Km	50 cm	Normal	%100

Subjective Rating (1-10): 4
Aesthetic Rating (1-10): 4
Gradient: ☐ - Low, ☐ - Moderate, ☐ -High

Stream Measurements:

Average Width	Average Depth	Maximum Depth	Av. Bankfull Width	Bankfull Mean Depth	W/D Ratio	Bankfull Max Depth	Floodprone Area Width	Entrench. Ratio

Stream Drawing:



Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Yes/No	
☐ ☐	Is Stream Ephemeral (no pools, totally dry or only damp spots)?
☐ ☐	Is there water upstream? How Far:_____
☐ ☐	Is There Water Close Downstream? How Far:_____
☐ ☐	Is Dry Channel Mostly Natural?

Gdale 1-10-08 ✓

Qualitative Habitat Evaluation Index Field Sheet QHEI Score: ☐

River Code: 95-650 **RM:** 25.4 **Stream:** Illinois River
Station ID: DR-21 **Location:** @ Rat Run
Date: 7-27-06 **Scorer:** AAV **Latitude:** 41.30450 **Longitude:** -88.63049

1] SUBSTRATE (Check ONLY Two SubstrateTYPE BOXES; Estimate % present

TYPE	POOL	RIFFLE
☐ ☐-BLDR /SLBS[10]	___	___
☐ ☐-Lg BOULD. [10]	___	___
☐ ☐-BOULDER [9]	✓	___
☐ ☐-COBBLE [8]	✓	___
☐ ☐-HARDPAN [4]	___	___
☐ ☐-MUCK [2]	___	___
☐ ☐-GRAVEL [7]	✓	___
☐ ☐-SAND [6]	✓	___
☐ ☐-BEDROCK[5]	___	___
☐ ☐-DETRITUS[3]	___	___
☐ ☐-ARTIFICIAL[0]	✓	___
☐ ☐-SILT [2]	___	___

SUBSTRATE ORIGIN (Check ONE (OR 2 & AVERAGE)): ☐ -LIMESTONE [1] ☐ -TILLS [1] ☐ -WETLANDS[0] ☐ -HARDPAN [0] ☐ -SANDSTONE [0] ☐ -RIP/RAP [0] ☐ -LACUSTRINE [0] ☐ -SHALE [-1] ☐ -COAL FINES [-2]

SILT: ☐ - SILT HEAVY [-2] ☐ -SILT MODERATE [-1] ☐ -SILT NORMAL [0] ☐ -SILT FREE [1]

EMBEDDEDNESS: ☐ -EXTENSIVE [-2] ☐ -MODERATE [-1] ☐ -NORMAL [0] ☐ -NONE [1]

SUBSTRATE QUALITY (Check ONE (OR 2 & AVERAGE)) — Substrate ☐ Max 20

NUMBER OF SUBSTRATE TYPES: (High Quality Only, Score 5 or >) ☐ 4 or More [2] ☐ 3 or Less [0]

COMMENTS: _____

2] INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

(Structure): ___ UNDERCUT BANKS [1] ___ OVERHANGING VEGETATION [1] ___ SHALLOWS (IN SLOW WATER) [1] ___ ROOTMATS [1]

TYPE: Score All That Occur: ___ POOLS> 70 cm [2] ___ ROOTWADS [1] ___ BOULDERS [1] ___ OXBOWS, BACKWATERS [1] ___ AQUATIC MACROPHYTES [1] ___ LOGS OR WOODY DEBRIS [1]

COMMENTS: _____

AMOUNT: (Check ONLY One or check 2 and AVERAGE) ☐ - EXTENSIVE > 75% [11] ☐ - MODERATE 25-75% [7] ☐ - SPARSE 5-25% [3] ☐ - NEARLY ABSENT < 5%[1] — Cover ☐ Max 20

3] CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER	
☐ - HIGH [4]	☐ - EXCELLENT [7]	☐ - NONE [6]	☐ - HIGH [3]	☐ - SNAGGING	☐ - IMPOUND.
☐ - MODERATE [3]	☐ - GOOD [5]	☐ - RECOVERED [4]	☐ - MODERATE [2]	☐ - RELOCATION	☐ - ISLANDS
☐ - LOW [2]	☐ - FAIR [3]	☐ - RECOVERING [3]	☐ - LOW [1]	☐ - CANOPY REMOVAL	☐ - LEVEED
☐ - NONE [1]	☐ - POOR [1]	☐ - RECENT OR NO RECOVERY [1]		☐ - DREDGING	☐ - BANK SHAPING
		☐ - IMPOUNDED [-1]		☐ - ONE SIDE CHANNEL MODIFICATIONS	

Channel ☐ Max 20

COMMENTS: _____

4]. RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) ← River Right Looking Downstream →

RIPARIAN WIDTH (L R Per Bank)	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN) (L R Most Predominant Per Bank)		BANK EROSION (L R Per Bank)	
☐ ☐ - VERY WIDE > 100m [5]	☐ ☐-FOREST, SWAMP [3]	☐ ☐-CONSERVATION TILLAGE [1]	☐ ☐-NONE/LITTLE [3]	
☐ ☐ - WIDE > 50m [4]	☐ ☐-SHRUB OR OLD FIELD [2]	☐ ☐-URBAN OR INDUSTRIAL [0]	☐ ☐-MODERATE [2]	
☐ ☐ - MODERATE 10-50m [3]	☐ ☐-RESIDENTIAL,PARK,NEW FIELD [1]	☐ ☐-OPEN PASTURE,ROWCROP [0]	☐ ☐-HEAVY/SEVERE[1]	
☐ ☐ - NARROW 5-10 m [2]	☐ ☐-FENCED PASTURE [1]	☐ ☐-MINING/CONSTRUCTION [0]		
☐ ☐ - VERY NARROW <5 m[1]				
☐ ☐ - NONE [0]				

Riparian ☐ Max 10

Comments: _____

5.]POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY!): ☐ - >1m [6] ☐ - 0.7-1m [4] ☐ - 0.4-0.7m [2] ☐ - 0.2- 0.4m [1] ☐ - < 0.2m [POOL=0]

MORPHOLOGY (Check 1 or 2 & AVERAGE): ☐-POOL WIDTH > RIFFLE WIDTH [2] ☐-POOL WIDTH = RIFFLE WIDTH [1] ☐-POOL WIDTH < RIFFLE W. [0] ☐-IMPOUNDED [-1]

CURRENT VELOCITY (POOLS & RIFFLES!) (Check All That Apply): ☐-EDDIES[1] ☐-FAST[1] ☐-MODERATE [1] ☐-SLOW [1] ☐-NONE [-1] ☐-TORRENTIAL[-1] ☐-INTERSTITIAL[-1] ☐-INTERMITTENT[-2] ☐-VERY FAST[1]

COMMENTS: _____

Pool/ Current ☐ Max 12

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
☐ - Best Areas >10 cm [2]	☐ - MAX > 50 [2]	☐-STABLE (e.g.,Cobble, Boulder) [2]	☐ - NONE [2]
☐ - Best Areas 5-10 cm[1]	☐ - MAX < 50[1]	☐-MOD. STABLE (e.g.,Large Gravel) [1]	☐ - LOW [1]
☐ - Best Areas < 5 cm		☐-UNSTABLE (Fine Gravel,Sand) [0]	☐ - MODERATE [0]
☐ NO RIFFLE [Metric=0]			☐ - EXTENSIVE [-1]

Riffle/Run ☐ Max 8

COMMENTS _____

Gradient ☐ Max 10

6] GRADIENT (ft/mi): _____ DRAINAGE AREA (sq.mi.) : _____ %POOL: 100 %GLIDE: ☐ %RIFFLE: ☐ %RUN: ☐

** Best areas must be large enough to support a population of riffle-obligate species

Modified 06/01/2005

Is Sampling Reach Representative of the Stream (Y/N) ___ If Not, Explain: _____

Lat/Long (Beg): _____
Lat/Long (Mid): _____
Lat/Long (End): _____
Lat/Long(X-Loc): _____

Major Suspected Sources of Impacts (Check All That Apply):
- None ☐
- Industrial ☑
- WWTP ☑
- Ag ☐
- Livestock ☐
- Silviculture ☐
- Construction ☐
- Urban Runoff ☑
- CSOs ☐
- Suburban Impacts ☐
- Mining ☐
- Channelization ☐
- Riparian Removal ☑
- Landfills ☐
- Natural ☐
- Dams ☑
- Other Flow Alteration ☐
- Other: _____

	Gear:	Distance:	Water Clarity:	Water Stage:	Canopy -% Open
First Sampling Pass	A	.5 Km	60 cm	Normal	% 100

Subjective Rating (1-10): 5

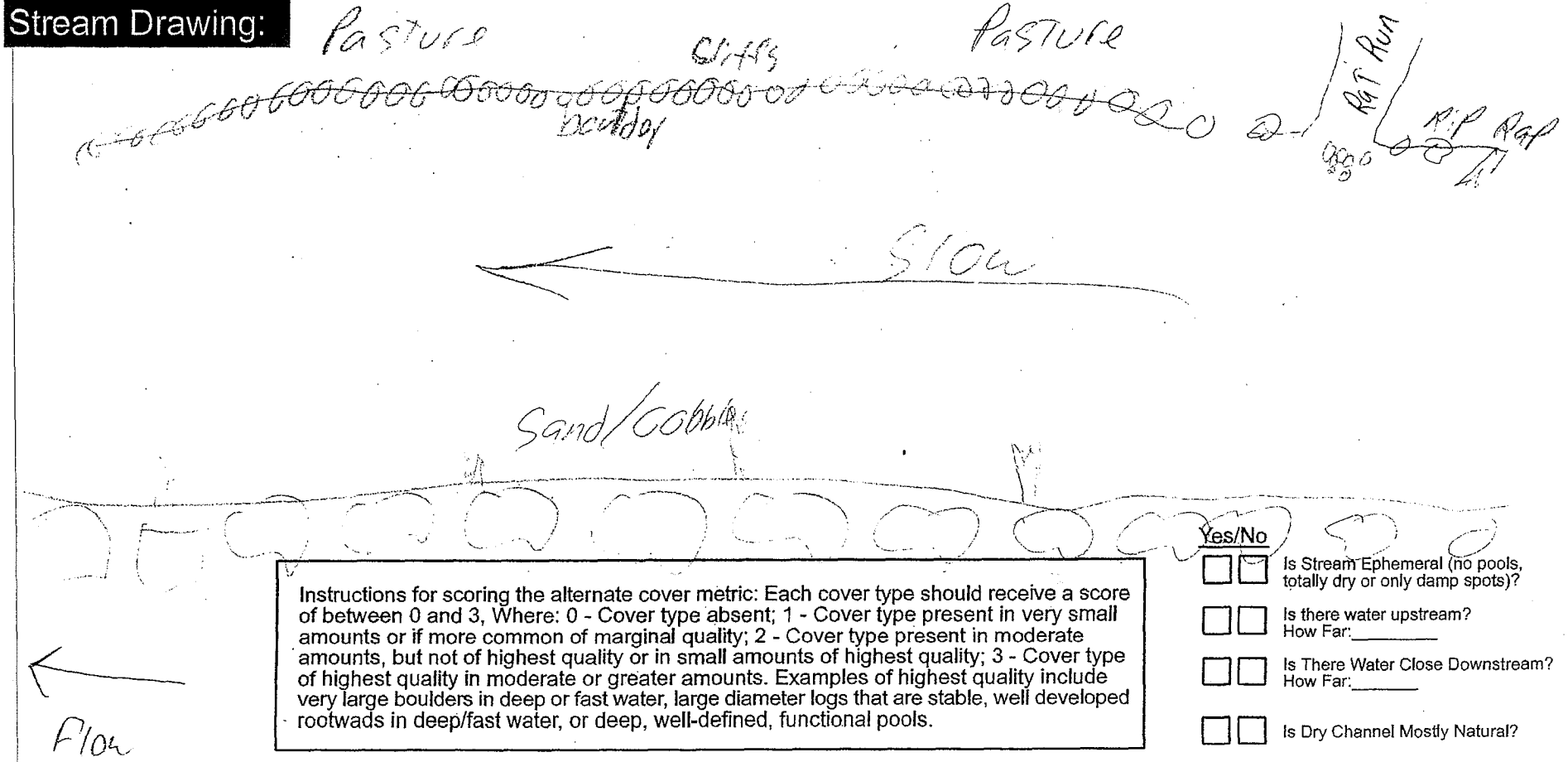
Aesthetic Rating (1-10): 5

Gradient: ☐ - Low, ☐ - Moderate, ☐ -High

Stream Measurements:

Average Width	Average Depth	Maximum Depth	Av. Bankfull Width	Bankfull Mean Depth	W/D Ratio	Bankfull Max Depth	Floodprone Area Width	Entrench. Ratio

Stream Drawing:



Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Yes/No	
☐ ☐	Is Stream Ephemeral (no pools, totally dry or only damp spots)?
☐ ☐	Is there water upstream? How Far: _____
☐ ☐	Is There Water Close Downstream? How Far: _____
☐ ☐	Is Dry Channel Mostly Natural?

Edited - 1-10-08 JAM ✓

MBI

Qualitative Habitat Evaluation Index Field Sheet QHEI Score: ☐

River Code: 95-650 **RM:** 25.1 **Stream:** Illinois River
Station ID: DE-30 **Location:**
Date: 7-27-06 **Scorer:** AAJ **Latitude:** 41.32282 **Longitude:** -88.55295

1] SUBSTRATE (Check ONLY Two SubstrateTYPE BOXES; Estimate % present

TYPE	POOL	RIFFLE
☐☐-BLDR /SLBS[10]		
☐☐-Lg BOULD. [10]		
☐☒-BOULDER [9]		✓
☐☒-COBBLE [8]		✓
☐☐-HARDPAN [4]		
☐☐-MUCK [2]		
☐☐-GRAVEL [7]	✓	
☒☐-SAND [6]	✓	
☐☐-BEDROCK[5]		
☐☐-DETRITUS[3]		
☐☐-ARTIFICIAL[0]		
☐☐-SILT [2]	✓	

SUBSTRATE ORIGIN (Check ONE (OR 2 & AVERAGE)): ☐-LIMESTONE [1] ☒-TILLS [1] ☐-WETLANDS[0] ☐-HARDPAN [0] ☐-SANDSTONE [0] ☐-RIP/RAP [0] ☐-LACUSTRINE [0] ☐-SHALE [-1] ☐-COAL FINES [-2]

SUBSTRATE QUALITY (Check ONE (OR 2 & AVERAGE)): ☐-SILT HEAVY [-2] ☐-SILT MODERATE [-1] ☒-SILT NORMAL [0] ☐-SILT FREE [1]

EMBEDDEDNESS: ☐-EXTENSIVE [-2] ☐-MODERATE [-1] ☒-NORMAL [0] ☐-NONE [1]

Substrate ☐ Max 20

NUMBER OF SUBSTRATE TYPES: (High Quality Only, Score 5 or >) ☒-4 or More [2] ☐-3 or Less [0]

COMMENTS

2] INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

(Structure): 1 UNDERCUT BANKS [1]; 2 OVERHANGING VEGETATION [1]; 1 SHALLOWS (IN SLOW WATER) [1]; 1 ROOTMATS [1]

TYPE: Score All That Occur: 1 POOLS> 70 cm [2]; 1 ROOTWADS [1]; 2 BOULDERS [1]; 1 OXBOWS, BACKWATERS [1]; 2 AQUATIC MACROPHYTES [1]; 1 LOGS OR WOODY DEBRIS [1]

COMMENTS:

AMOUNT: (Check ONLY One or check 2 and AVERAGE) ☐- EXTENSIVE > 75% [11] ☐- MODERATE 25-75% [7] ☒- SPARSE 5-25% [3] ☐- NEARLY ABSENT < 5%[1]

Cover ☐ Max 20

3] CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER	
☐- HIGH [4]	☐- EXCELLENT [7]	☐- NONE [6]	☐- HIGH [3]	☐- SNAGGING	☐- IMPOUND.
☒- MODERATE [3]	☒- GOOD [5]	☐- RECOVERED [4]	☒- MODERATE [2]	☐- RELOCATION	☐- ISLANDS
☒- LOW [2]	☐- FAIR [3]	☐- RECOVERING [3]	☐- LOW [1]	☐- CANOPY REMOVAL	☐- LEVEED
☐- NONE [1]	☐- POOR [1]	☐- RECENT OR NO RECOVERY [1]		☐- DREDGING	☐- BANK SHAPING
		☒- IMPOUNDED [-1]		☐- ONE SIDE CHANNEL MODIFICATIONS	

Channel ☐ Max 20

COMMENTS:

4]. RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) ← River Right Looking Downstream →

RIPARIAN WIDTH L R (Per Bank)	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN) L R (Most Predominant Per Bank)		BANK EROSION L R (Per Bank)
☒☐- VERY WIDE > 100m [5]	☒☒-FOREST, SWAMP [3]	☐☐-CONSERVATION TILLAGE [1]	☒☒-NONE/LITTLE [3]
☐☐- WIDE > 50m [4]	☐☐-SHRUB OR OLD FIELD [2]	☐☐-URBAN OR INDUSTRIAL [0]	☐☐-MODERATE [2]
☐☒- MODERATE 10-50m [3]	☐☒-RESIDENTIAL,PARK,NEW FIELD [1]	☐☐-OPEN PASTURE,ROWCROP [0]	☐☐-HEAVY/SEVERE[1]
☐☒- NARROW 5-10 m [2]	☐☐-FENCED PASTURE [1]	☐☐-MINING/CONSTRUCTION [0]	
☐☐- VERY NARROW <5 m[1]			
☐☐- NONE [0]			

Riparian ☐ Max 10

Comments:

5.]POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY!)	MORPHOLOGY (Check 1 or 2 & AVERAGE)	CURRENT VELOCITY (POOLS & RIFFLES!) (Check All That Apply)	
☒- >1m [6]	☐-POOL WIDTH > RIFFLE WIDTH [2]	☐-EDDIES[1]	☐-TORRENTIAL[-1]
☐- 0.7-1m [4]	☐-POOL WIDTH = RIFFLE WIDTH [1]	☐-FAST[1]	☐-INTERSTITIAL[-1]
☐- 0.4-0.7m [2]	☐-POOL WIDTH < RIFFLE W. [0]	☒-MODERATE [1]	☐-INTERMITTENT[-2]
☐- 0.2- 0.4m [1]	☒-IMPOUNDED [-1]	☒-SLOW [1]	☐-VERY FAST[1]
☐- < 0.2m [POOL=0]	COMMENTS:	☐-NONE [-1]	

Pool/ Current ☐ Max 12

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
☐- Best Areas >10 cm [2]	☐- MAX > 50 [2]	☐-STABLE (e.g.,Cobble, Boulder) [2]	☐- NONE [2]
☐- Best Areas 5-10 cm[1]	☐- MAX < 50[1]	☐-MOD. STABLE (e.g.,Large Gravel) [1]	☐- LOW [1]
☐- Best Areas < 5 cm		☐-UNSTABLE (Fine Gravel,Sand) [0]	☐- MODERATE [0]
☒- NO RIFFLE [Metric=0]			☐- EXTENSIVE [-1]

COMMENTS

Riffle/Run ☐ Max 8

Gradient ☐ Max 10

6] GRADIENT (ft/mi): _____ DRAINAGE AREA (sq.mi.) : _____ %POOL: 100 %GLIDE: ☐ %RIFFLE: ☐ %RUN: ☐

** Best areas must be large enough to support a population of riffle-obligate species

Modified 06/01/2005

Is Sampling Reach Representative of the Stream (Y/N) ___ If Not, Explain: ___

Lat/Long (Beg): ___
Lat/Long (Mid): ___
Lat/Long (End): ___
Lat/Long(X-Loc): ___

Major Suspected Sources of Impacts (Check All That Apply):
- None ☐
- Industrial ☑
- WWTP ☑
- Ag ☐
- Livestock ☐
- Silviculture ☐
- Construction ☐
- Urban Runoff ☑
- CSOs ☐
- Suburban Impacts ☐
- Mining ☐
- Channelization ☐
- Riparian Removal ☑
- Landfills ☐
- Natural ☐
- Dams ☐
- Other Flow Alteration ☐
- Other: ___

	Gear:	Distance:	Water Clarity:	Water Stage:	Canopy -% Open
First Sampling Pass	A	.5 Km	60cm	normal	% 100

Subjective Rating (1-10): 4

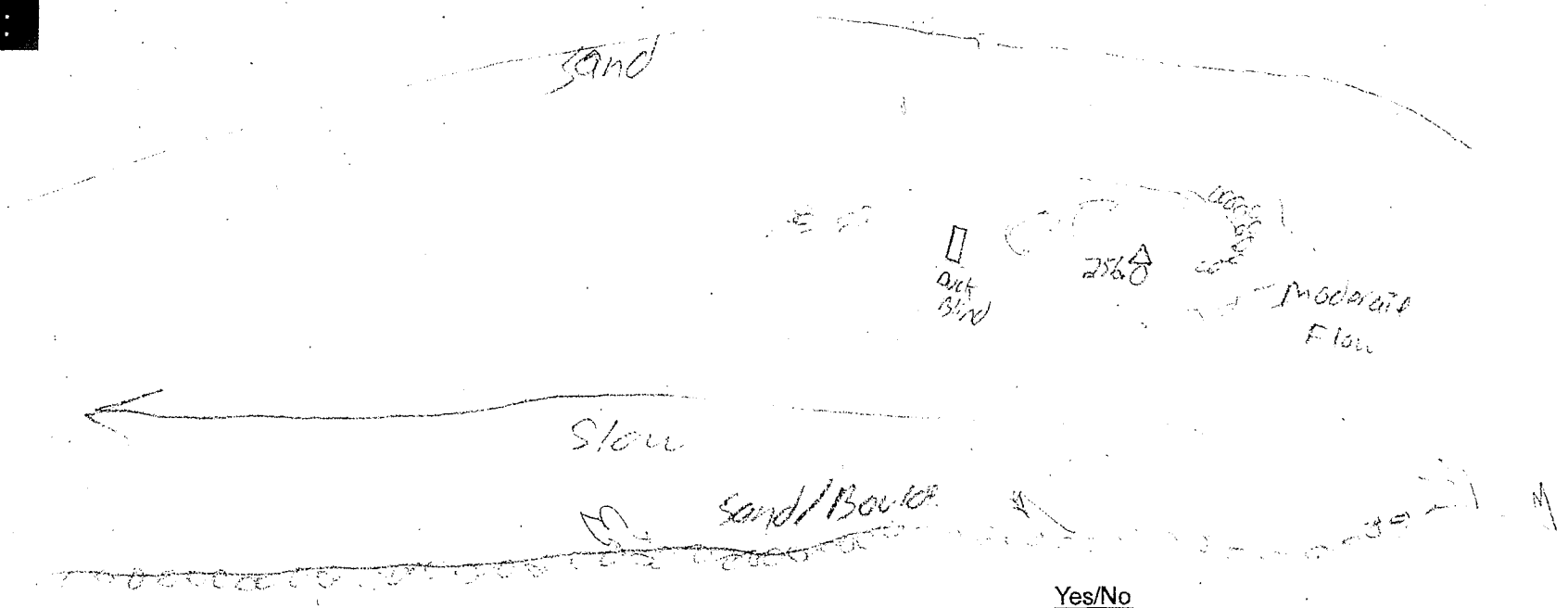
Aesthetic Rating (1-10): 4

Gradient: ☐ - Low, ☐ - Moderate, ☐ -High

Stream Measurements:

Average Width	Average Depth	Maximum Depth	Av. Bankfull Width	Bankfull Mean Depth	W/D Ratio	Bankfull Max Depth	Floodprone Area Width	Entrench. Ratio

Stream Drawing:



Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Yes/No	
☐ ☐	Is Stream Ephemeral (no pools, totally dry or only damp spots)?
☐ ☐	Is there water upstream? How Far: ___
☐ ☐	Is There Water Close Downstream? How Far: ___
☐ ☐	Is Dry Channel Mostly Natural?

Qualitative Habitat Evaluation Index Field Sheet QHEI Score: ☐

River Code: 95-650 **RM:** 268.0 **Stream:** Illinois River
Station ID: DP-12 **Location:** DSI AUX Sable Creek
Date: 7-24-06 **Scorer:** AAV **Latitude:** 41.37904 **Longitude:** -88.33760

1] SUBSTRATE (Check ONLY Two SubstrateTYPE BOXES; Estimate % present

TYPE	POOL	RIFFLE
☐☐-BLDR /SLBS[10]	___	___
☐☐-Lg BOULD. [10]	___	___
☐☐-BOULDER [9]	✓	___
☐☐-COBBLE [8]	✓	___
☐☐-HARDPAN [4]	___	___
☐☐-MUCK [2]	___	___
☑☐-GRAVEL [7]	✓	___
☑☐-SAND [6]	✓	___
☐☐-BEDROCK[5]	___	___
☐☐-DETRITUS[3]	___	___
☐☐-ARTIFICIAL[0]	___	___
☐☐-SILT [2]	✓	___

SUBSTRATE ORIGIN (Check ONE (OR 2 & AVERAGE)): ☐-LIMESTONE [1] ☑-TILLS [1] ☐-WETLANDS[0] ☐-HARDPAN [0] ☐-SANDSTONE [0] ☐-RIP/RAP [0] ☐-LACUSTRINE [0] ☐-SHALE [-1] ☐-COAL FINES [-2]

SUBSTRATE QUALITY (Check ONE (OR 2 & AVERAGE)): ☐-SILT HEAVY [-2] ☐-SILT MODERATE [-1] ☑-SILT NORMAL [0] ☐-SILT FREE [1]

EMBEDDEDNESS: ☐-EXTENSIVE [-2] ☐-MODERATE [-1] ☑-NORMAL [0] ☐-NONE [1]

Substrate ☐ Max 20

NUMBER OF SUBSTRATE TYPES: (High Quality Only, Score 5 or >) ☑-4 or More [2] ☐-3 or Less [0]

COMMENTS: _____

2] INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

(Structure): 1 UNDERCUT BANKS [1]; 1 OVERHANGING VEGETATION [1]; 1 SHALLOWS (IN SLOW WATER) [1]; 1 ROOTMATS [1]

TYPE: Score All That Occur: 1 POOLS> 70 cm [2]; 1 ROOTWADS [1]; 1 BOULDERS [1]; 0 OXBOWS, BACKWATERS [1]; 0 AQUATIC MACROPHYTES [1]; 1 LOGS OR WOODY DEBRIS [1]

COMMENTS: _____

AMOUNT: (Check ONLY One or check 2 and AVERAGE) ☐- EXTENSIVE > 75% [11] ☑- MODERATE 25-75% [7] ☑- SPARSE 5-25% [3] ☐- NEARLY ABSENT < 5%[1]

Cover ☐ Max 20

3] CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER
☐- HIGH [4]	☐- EXCELLENT [7]	☑- NONE [6]	☐- HIGH [3]	☐- SNAGGING ☐- IMPOUND.
☐- MODERATE [3]	☐- GOOD [5]	☐- RECOVERED [4]	☑- MODERATE [2]	☐- RELOCATION ☐- ISLANDS
☑- LOW [2]	☑- FAIR [3]	☐- RECOVERING [3]	☐- LOW [1]	☐- CANOPY REMOVAL ☐- LEVEED
☐- NONE [1]	☐- POOR [1]	☐- RECENT OR NO RECOVERY [1]		☐- DREDGING ☐- BANK SHAPING
		☐- IMPOUNDED [-1]		☐- ONE SIDE CHANNEL MODIFICATIONS

Channel ☐ Max 20

COMMENTS: _____

4]. RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) ℙ River Right Looking Downstream ℙ

RIPARIAN WIDTH (L R Per Bank)	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN) (L R Most Predominant Per Bank)		BANK EROSION (L R Per Bank)	
☐☐- VERY WIDE > 100m [5]	☑☑-FOREST, SWAMP [3]	☐☐-CONSERVATION TILLAGE [1]	☑☐-NONE/LITTLE [3]	
☑☐- WIDE > 50m [4]	☐☐-SHRUB OR OLD FIELD [2]	☐☐-URBAN OR INDUSTRIAL [0]	☐☑-MODERATE [2]	
☐☐- MODERATE 10-50m [3]	☐☐-RESIDENTIAL,PARK,NEW FIELD [1]	☐☐-OPEN PASTURE,ROWCROP [0]	☐☐-HEAVY/SEVERE[1]	
☐☐- NARROW 5-10 m [2]	☐☐-FENCED PASTURE [1]	☐☐-MINING/CONSTRUCTION [0]		
☐☐- VERY NARROW <5 m[1]				
☐☐- NONE [0]				

Riparian ☐ Max 10

Comments: _____

5.]POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY!)	MORPHOLOGY (Check 1 or 2 & AVERAGE)	CURRENT VELOCITY [POOLS & RIFFLES!] (Check All That Apply)	
☑- >1m [6]	☑-POOL WIDTH > RIFFLE WIDTH [2]	☐-EDDIES[1]	☐-TORRENTIAL[-1]
☐- 0.7-1m [4]	☐-POOL WIDTH = RIFFLE WIDTH [1]	☐-FAST[1]	☐-INTERSTITIAL[-1]
☐- 0.4-0.7m [2]	☐-POOL WIDTH < RIFFLE W. [0]	☑-MODERATE [1]	☐-INTERMITTENT[-2]
☐- 0.2- 0.4m [1]	☐-IMPOUNDED [-1]	☑-SLOW [1]	☐-VERY FAST[1]
☐- < 0.2m [POOL=0]	COMMENTS: _____	☐-NONE [-1]	

Pool/ Current ☐ Max 12

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
☐- Best Areas >10 cm [2]	☐- MAX > 50 [2]	☐-STABLE (e.g.,Cobble, Boulder) [2]	☐- NONE [2]
☐- Best Areas 5-10 cm[1]	☐- MAX < 50[1]	☐-MOD. STABLE (e.g.,Large Gravel) [1]	☐- LOW [1]
☐- Best Areas < 5 cm		☐-UNSTABLE (Fine Gravel,Sand) [0]	☐- MODERATE [0]
☑- NO RIFFLE [Metric=0]			☐- EXTENSIVE [-1]

Riffle/Run ☐ Max 8

COMMENTS _____

Gradient ☐ Max 10

6] GRADIENT (ft/mi): _____ DRAINAGE AREA (sq.mi.) : _____ %POOL: 100 %GLIDE: ☐ %RIFFLE: ☐ %RUN: ☐

** Best areas must be large enough to support a population of riffle-obligate species

Modified 06/01/2005

Is Sampling Reach Representative of the Stream (Y/N) ___ If Not, Explain: _____

Lat/Long (Beg): _____
Lat/Long (Mid): _____
Lat/Long (End): _____
Lat/Long(X-Loc): _____

Major Suspected Sources of Impacts (Check All That Apply):
- None ☐
- Industrial ☑
- WWTP ☑
- Ag ☐
- Livestock ☐
- Silviculture ☐
- Construction ☐
- Urban Runoff ☑
- CSOs ☐
- Suburban Impacts ☐
- Mining ☐
- Channelization ☐
- Riparian Removal ☑
- Landfills ☐
- Natural ☐
- Dams ☐
- Other Flow Alteration ☐
- Other: _____

	Gear:	Distance:	Water Clarity:	Water Stage:	Canopy -% Open
First Sampling Pass	N	.5 KM	50 cm	normal	% 100

Subjective Rating (1-10): 5

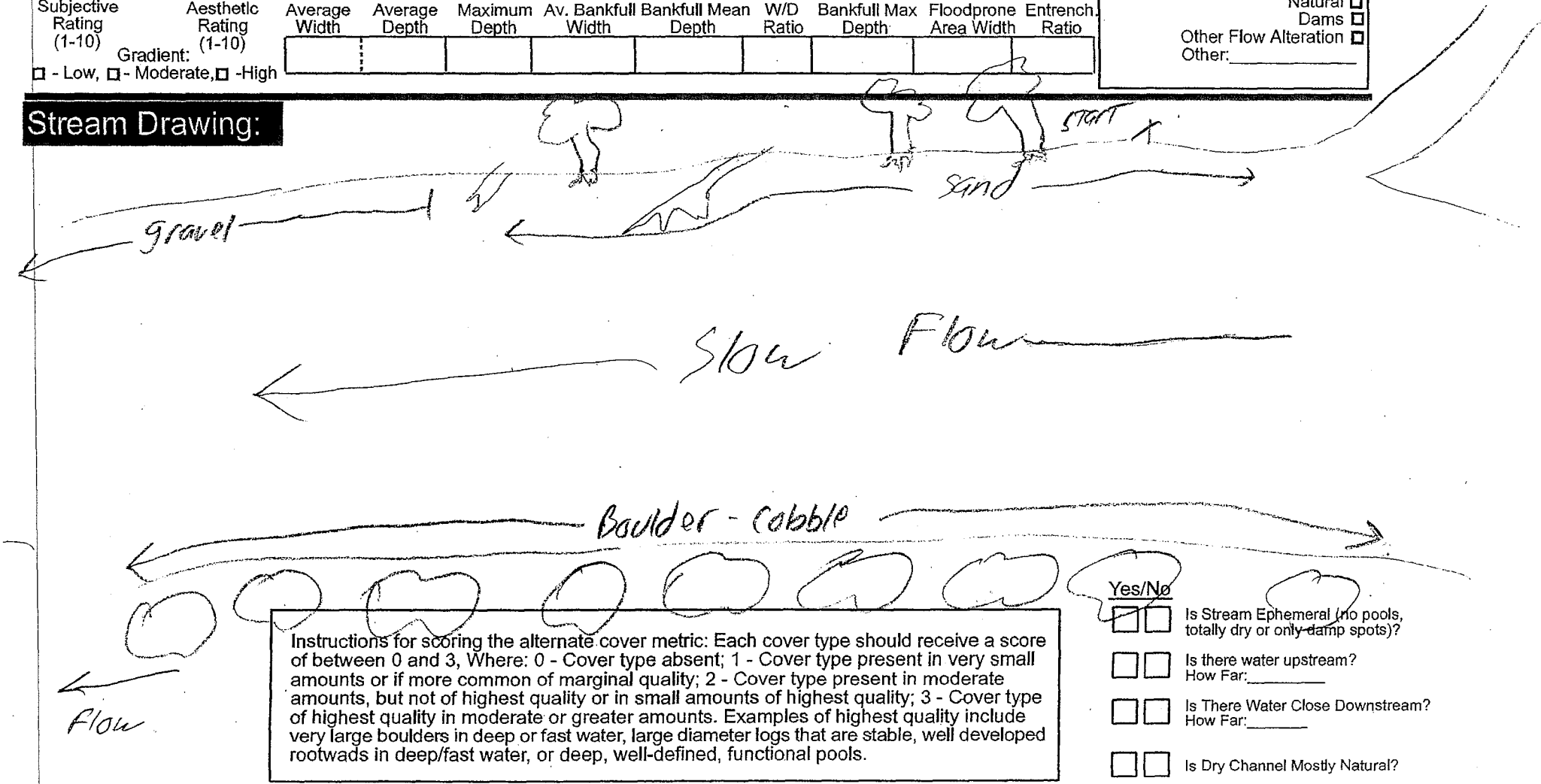
Aesthetic Rating (1-10): 5

Gradient: ☐ - Low, ☐ - Moderate, ☐ -High

Stream Measurements:

Average Width	Average Depth	Maximum Depth	Av. Bankfull Width	Bankfull Mean Depth	W/D Ratio	Bankfull Max Depth	Floodprone Area Width	Entrench. Ratio

Stream Drawing:



Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Yes/No	
☐ ☐	Is Stream Ephemeral (no pools, totally dry or only damp spots)?
☐ ☐	Is there water upstream? How Far: _____
☐ ☐	Is There Water Close Downstream? How Far: _____
☐ ☐	Is Dry Channel Mostly Natural?

Qualitative Habitat Evaluation Index Field Sheet QHEI Score: ☐

River Code: 95660 **RM:** 265.0 **Stream:** Illinois River
Station ID: OR-13 **Location:** UPST mouth of Peacock Slough
Date: 7-24-06 **Scorer:** NAW **Latitude:** 41 36 20 **Longitude:** -88 39 45

1] SUBSTRATE (Check ONLY Two SubstrateTYPE BOXES; Estimate % present

TYPE	POOL	RIFFLE
☐☐-BLDR /SLBS[10]	___	___
☐☐-Lg BOULD. [10]	___	___
☐☐-BOULDER [9]	40	___
☐☒-COBBLE [8]	40	___
☐☐-HARDPAN [4]	___	___
☐☐-MUCK [2]	___	___
☐☐-GRAVEL [7]	✓	___
☒☐-SAND [6]	✓	___
☐☐-BEDROCK[5]	___	___
☐☐-DETRITUS[3]	___	___
☐☐-ARTIFICIAL[0]	___	___
☐☐-SILT [2]	✓	___

SUBSTRATE ORIGIN (Check ONE (OR 2 & AVERAGE)): ☐-LIMESTONE [1] ☒-TILLS [1] ☐-WETLANDS[0] ☐-HARDPAN [0] ☐-SANDSTONE [0] ☐-RIP/RAP [0] ☐-LACUSTRINE [0] ☐-SHALE [-1] ☐-COAL FINES [-2]

SUBSTRATE QUALITY (Check ONE (OR 2 & AVERAGE)): ☐-SILT HEAVY [-2] ☒-SILT MODERATE [-1] ☐-SILT NORMAL [0] ☐-SILT FREE [1]

EMBEDDEDNESS: ☐-EXTENSIVE [-2] ☒-MODERATE [-1] ☐-NORMAL [0] ☐-NONE [1]

Substrate ☐ Max 20

NUMBER OF SUBSTRATE TYPES: (High Quality Only, Score 5 or >) ☒-4 or More [2] ☐-3 or Less [0]

COMMENTS: _____

2] INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

(Structure): 1 UNDERCUT BANKS [1]; 2 OVERHANGING VEGETATION [1]; 1 SHALLOWS (IN SLOW WATER) [1]; 1 ROOTMATS [1]

TYPE: Score All That Occur: 1 POOLS> 70 cm [2]; 1 ROOTWADS [1]; 1 BOULDERS [1]; 1 OXBOWS, BACKWATERS [1]; 1 AQUATIC MACROPHYTES [1]; 1 LOGS OR WOODY DEBRIS [1]

COMMENTS: _____

AMOUNT: (Check ONLY One or check 2 and AVERAGE) ☐- EXTENSIVE > 75% [11] ☒- MODERATE 25-75% [7] ☒- SPARSE 5-25% [3] ☐- NEARLY ABSENT < 5%[1]

Cover ☐ Max 20

3] CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER	
☐- HIGH [4]	☐- EXCELLENT [7]	☒- NONE [6]	☐- HIGH [3]	☐- SNAGGING	☐- IMPOUND.
☐- MODERATE [3]	☐- GOOD [5]	☐- RECOVERED [4]	☒- MODERATE [2]	☐- RELOCATION	☐- ISLANDS
☒- LOW [2]	☒- FAIR [3]	☐- RECOVERING [3]	☐- LOW [1]	☐- CANOPY REMOVAL	☐- LEVEED
☐- NONE [1]	☐- POOR [1]	☐- RECENT OR NO RECOVERY [1]		☐- DREDGING	☐- BANK SHAPING
		☑- IMPOUNDED [-1]		☐- ONE SIDE CHANNEL MODIFICATIONS	

Channel ☐ Max 20

COMMENTS: _____

4]. RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) ℙ River Right Looking Downstream ℙ

RIPARIAN WIDTH L R (Per Bank)	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN) L R (Most Predominant Per Bank)		BANK EROSION L R (Per Bank)	
☐☒- VERY WIDE > 100m [5]	☒☐-FOREST, SWAMP [3]	☐☐-CONSERVATION TILLAGE [1]	☐☐-NONE/LITTLE [3]	
☐☐- WIDE > 50m [4]	☒☐-SHRUB OR OLD FIELD [2]	☐☐-URBAN OR INDUSTRIAL [0]	☒☐-MODERATE [2]	
☒☐- MODERATE 10-50m [3]	☐☐-RESIDENTIAL,PARK,NEW FIELD [1]	☐☐-OPEN PASTURE,ROWCROP [0]	☐☐-HEAVY/SEVERE[1]	
☐☐- NARROW 5-10 m [2]	☐☐-FENCED PASTURE [1]	☐☐-MINING/CONSTRUCTION [0]		
☐☐- VERY NARROW <5 m[1]				
☐☐- NONE [0]				

Riparian ☐ Max 10

Comments: _____

5.]POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY!): ☒- >1m [6] ☐- 0.7-1m [4] ☐- 0.4-0.7m [2] ☐- 0.2- 0.4m [1] ☐- < 0.2m [POOL=0]

MORPHOLOGY (Check 1 or 2 & AVERAGE): ☐-POOL WIDTH > RIFFLE WIDTH [2] ☐-POOL WIDTH = RIFFLE WIDTH [1] ☐-POOL WIDTH < RIFFLE W. [0] ☑-IMPOUNDED [-1]

CURRENT VELOCITY (POOLS & RIFFLES!) (Check All That Apply): ☐-EDDIES[1] ☐-FAST[1] ☐-MODERATE [1] ☒-SLOW [1] ☐-NONE [-1] ☐-TORRENTIAL[-1] ☐-INTERSTITIAL[-1] ☐-INTERMITTENT[-2] ☐-VERY FAST[1]

COMMENTS: _____

Pool/ Current ☐ Max 12

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
☐- Best Areas >10 cm [2]	☐- MAX > 50 [2]	☐-STABLE (e.g.,Cobble, Boulder) [2]	☐- NONE [2]
☐- Best Areas 5-10 cm[1]	☐- MAX < 50[1]	☐-MOD. STABLE (e.g.,Large Gravel) [1]	☐- LOW [1]
☐- Best Areas < 5 cm		☐-UNSTABLE (Fine Gravel,Sand) [0]	☐- MODERATE [0]
☒- NO RIFFLE [Metric=0]			☐- EXTENSIVE [-1]

Riffle/Run ☐ Max 8

COMMENTS _____

Gradient ☐ Max 10

6] GRADIENT (ft/mi): _____ DRAINAGE AREA (sq.mi.) : _____ %POOL: 100 %GLIDE: ☐ %RIFFLE: ☐ %RUN: ☐

* Best areas must be large enough to support a population of riffle-obligate species

Modified 06/01/2005

Is Sampling Reach Representative of the Stream (Y/N)___ If Not, Explain:

Lat/Long (Beg):
Lat/Long (Mid):
Lat/Long (End):
Lat/Long(X-Loc):

Major Suspected Sources of Impacts (Check All That Apply):
- None ☐
- Industrial ☑
- WWTP ☑
- Ag ☐
- Livestock ☐
- Silviculture ☐
- Construction ☐
- Urban Runoff ☑
- CSOs ☐
- Suburban Impacts ☐
- Mining ☐
- Channelization ☐
- Riparian Removal ☑
- Landfills ☐
- Natural ☐
- Dams ☐
- Other Flow Alteration ☐
- Other:_____

Subjective Rating (1-10): 4

Aesthetic Rating (1-10): 4

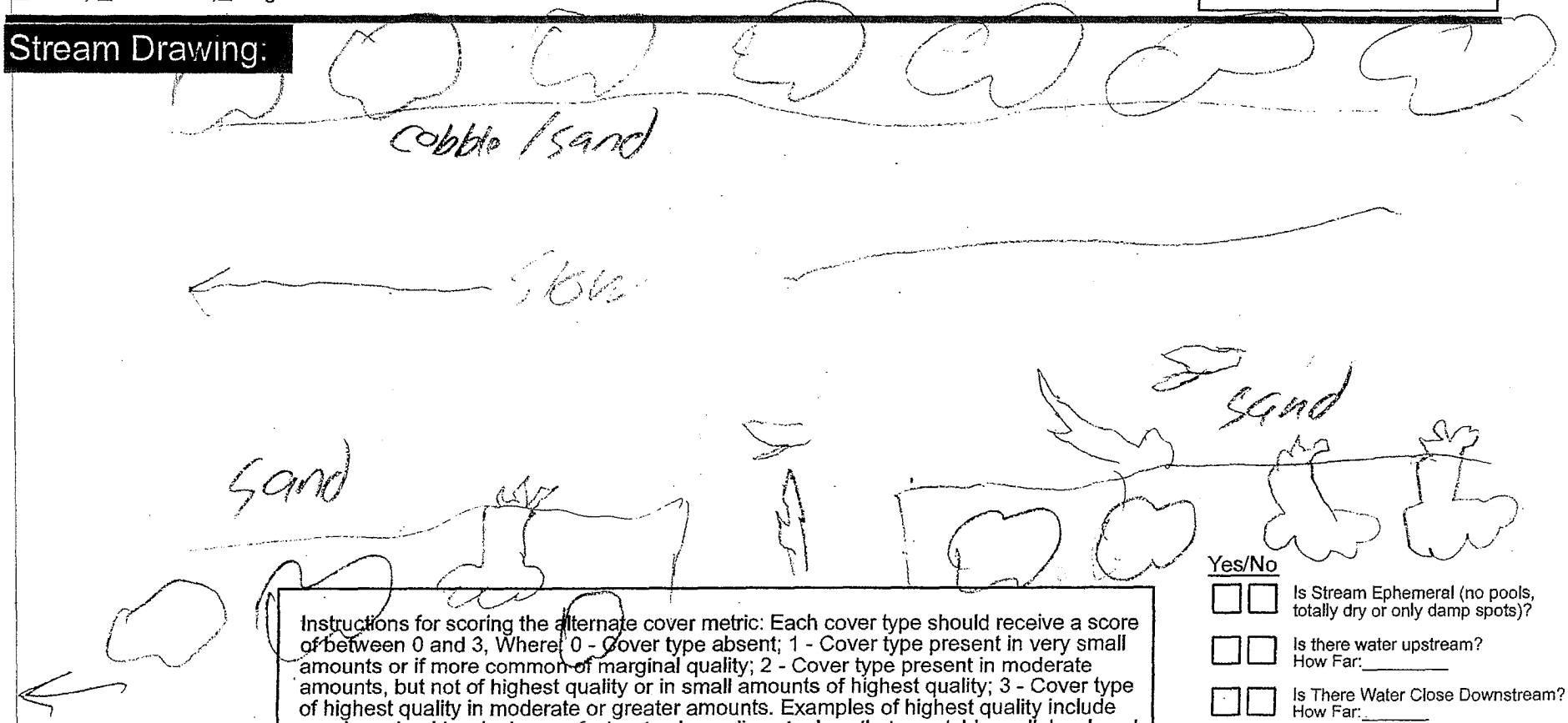
Gradient: ☐ - Low, ☐ - Moderate, ☐ -High

	Gear:	Distance:	Water Clarity:	Water Stage:	Canopy -% Open
First Sampling Pass	A	.5 Km	50cm	normal	%100

Stream Measurements:

Average Width	Average Depth	Maximum Depth	Av. Bankfull Width	Bankfull Mean Depth	W/D Ratio	Bankfull Max Depth	Floodprone Area Width	Entrench. Ratio

Stream Drawing:



Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Yes/No	
☐☐	Is Stream Ephemeral (no pools, totally dry or only damp spots)?
☐☐	Is there water upstream? How Far:_____
☐☐	Is There Water Close Downstream? How Far:_____
☐☐	Is Dry Channel Mostly Natural?

Edited 1-11-08 JK

MBI

Qualitative Habitat Evaluation Index Field Sheet QHEI Score:

River Code: 95-656 **RM:** 376.4 **Stream:** Des Plaines
Station ID: DP-09 **Location:** moose I Stand Slough
Date: 7-23-06 **Scorer:** RKJ **Latitude:** 41.40877 **Longitude:** -88.22267

1] SUBSTRATE (Check ONLY Two SubstrateTYPE BOXES; Estimate % present

TYPE	POOL	RIFFLE
☐☐-BLDR /SLBS[10]	___	___
☐☐-Lg BOULD. [10]	___	___
☐☐-BOULDER [9]	✓	___
☐☐-COBBLE [8]	___	___
☑☐-HARDPAN [4]	✓	___
☐☐-MUCK [2]	✓	___
☐☐-GRAVEL [7]	___	___
☐☐-SAND [6]	✓	___
☐☐-BEDROCK[5]	___	___
☐☐-DETRITUS[3]	___	___
☐☐-ARTIFICIAL[0]	___	___
☐☑-SILT [2]	✓	___

SUBSTRATE ORIGIN (Check ONE (OR 2 & AVERAGE)): ☐-LIMESTONE [1] ☑-TILLS [1] ☐-WETLANDS[0] ☐-HARDPAN [0] ☐-SANDSTONE [0] ☐-RIP/RAP [0] ☐-LACUSTRINE [0] ☐-SHALE [-1] ☐-COAL FINES [-2]

SUBSTRATE QUALITY (Check ONE (OR 2 & AVERAGE)): SILT: ☑-SILT HEAVY [-2] ☐-SILT MODERATE [-1] ☐-SILT NORMAL [0] ☐-SILT FREE [1]; EMBEDDEDNESS: ☑-EXTENSIVE [-2] ☐-MODERATE [-1] ☐-NORMAL [0] ☐-NONE [1]

Substrate ☐ Max 20

NUMBER OF SUBSTRATE TYPES: (High Quality Only, Score 5 or >) ☐-4 or More [2] ☑-3 or Less [0]

COMMENTS

2] INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

(Structure)	TYPE: Score All That Occur	
___UNDERCUT BANKS [1]	0 POOLS> 70 cm [2]	1 OXBOWS, BACKWATERS [1]
2 OVERHANGING VEGETATION [1]	1 ROOTWADS [1]	2 AQUATIC MACROPHYTES [1]
1 SHALLOWS (IN SLOW WATER) [1]	1 BOULDERS [1]	1 LOGS OR WOODY DEBRIS [1]
0 ROOTMATS [1]		

COMMENTS:

AMOUNT: (Check ONLY One or check 2 and AVERAGE) ☐- EXTENSIVE > 75% [11] ☑- MODERATE 25-75% [7] ☐- SPARSE 5-25% [3] ☐- NEARLY ABSENT < 5%[1]

Cover ☐ Max 20

3] CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER	
☐- HIGH [4]	☐- EXCELLENT [7]	☑- NONE [6]	☐- HIGH [3]	☐- SNAGGING	☐- IMPOUND.
☐- MODERATE [3]	☐- GOOD [5]	☐- RECOVERED [4]	☑- MODERATE [2]	☐- RELOCATION	☐- ISLANDS
☐- LOW [2]	☑- FAIR [3]	☐- RECOVERING [3]	☑- LOW [1]	☐- CANOPY REMOVAL	☐- LEVEED
■- NONE [1]	☐- POOR [1]	☐- RECENT OR NO RECOVERY [1]		☐- DREDGING	☐- BANK SHAPING
		☑- IMPOUNDED [-1]		☐- ONE SIDE CHANNEL MODIFICATIONS	

Channel ☐ Max 20

COMMENTS:

4]. RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) River Right Looking Downstream

RIPARIAN WIDTH (L R (Per Bank))	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN) (L R (Most Predominant Per Bank))		BANK EROSION (L R (Per Bank))	
☐☐- VERY WIDE > 100m [5]	☑☑-FOREST, SWAMP [3]	☐☐-CONSERVATION TILLAGE [1]	☑☑-NONE/LITTLE [3]	
☑☑- WIDE > 50m [4]	☐☐-SHRUB OR OLD FIELD [2]	☐☐-URBAN OR INDUSTRIAL [0]	☐☐-MODERATE [2]	
☐☐- MODERATE 10-50m [3]	☐☐-RESIDENTIAL,PARK,NEW FIELD [1]	☐☐-OPEN PASTURE,ROWCROP [0]	☐☐-HEAVY/SEVERE[1]	
☐☐- NARROW 5-10 m [2]	☐☐-FENCED PASTURE [1]	☐☐-MINING/CONSTRUCTION [0]		
☐☐- VERY NARROW <5 m[1]				
☐☐- NONE [0]				

Riparian ☐ Max 10

Comments:

5.]POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY!)	MORPHOLOGY (Check 1 or 2 & AVERAGE)	CURRENT VELOCITY [POOLS & RIFFLES!] (Check All That Apply)	
☐- >1m [6]	☐-POOL WIDTH > RIFFLE WIDTH [2]	☐-EDDIES[1]	☐-TORRENTIAL[-1]
☐- 0.7-1m [4]	☐-POOL WIDTH = RIFFLE WIDTH [1]	☐-FAST[1]	☐-INTERSTITIAL[-1]
☑- 0.4-0.7m [2]	☐-POOL WIDTH < RIFFLE W. [0]	☐-MODERATE [1]	☐-INTERMITTENT[-2]
☐- 0.2- 0.4m [1]	☑-IMPOUNDED [-1]	☐-SLOW [1]	☐-VERY FAST[1]
☐- < 0.2m [POOL=0]	COMMENTS:	☑-NONE [-1]	

Pool/ Current ☐ Max 12

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
☐- Best Areas >10 cm [2]	☐- MAX > 50 [2]	☐-STABLE (e.g.,Cobble, Boulder) [2]	☐- NONE [2]
☐- Best Areas 5-10 cm[1]	☐- MAX < 50[1]	☐-MOD. STABLE (e.g.,Large Gravel) [1]	☐- LOW [1]
☐- Best Areas < 5 cm		☐-UNSTABLE (Fine Gravel,Sand) [0]	☐- MODERATE [0]
☑- NO RIFFLE [Metric=0]			☐- EXTENSIVE [-1]

Riffle/Run ☐ Max 8

COMMENTS

Gradient ☐ Max 10

6] GRADIENT (ft/mi): _____ DRAINAGE AREA (sq.mi.) :_____ %POOL: 100 %GLIDE: ☐ %RIFFLE: ☐ %RUN: ☐

** Best areas must be large enough to support a population of riffle-obligate species

Modified 06/01/2005

Is Sampling Reach Representative of the Stream (Y/N)___ If Not, Explain:

Lat/Long (Beg):
Lat/Long (Mid):
Lat/Long (End):
Lat/Long(X-Loc):

Major Suspected Sources of Impacts (Check All That Apply):
- None ☐
- Industrial ☑
- WWTP ☑
- Ag ☐
- Livestock ☐
- Silviculture ☐
- Construction ☑
- Urban Runoff ☑
- CSOs ☐
- Suburban Impacts ☐
- Mining ☐
- Channelization ☐
- Riparian Removal ☐
- Landfills ☐
- Natural ☐
- Dams ☑
- Other Flow Alteration ☐
- Other:_____

	Gear:	Distance:	Water Clarity:	Water Stage:	Canopy -% Open
First Sampling Pass	A	.5 Km	75cm	Normal	100%

Subjective Rating (1-10): 3

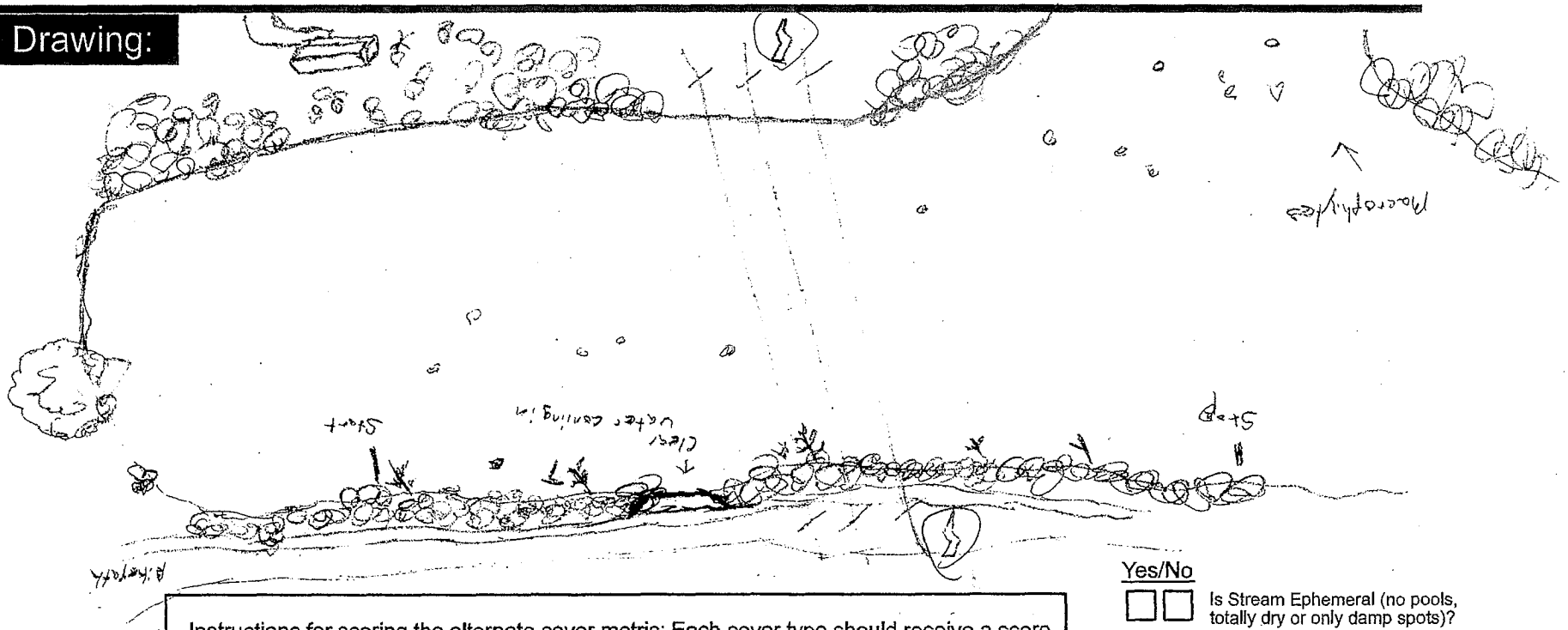
Aesthetic Rating (1-10): 7

Gradient: ☐ - Low, ☐ - Moderate, ☐ -High

Stream Measurements:

Average Width	Average Depth	Maximum Depth	Av. Bankfull Width	Bankfull Mean Depth	W/D Ratio	Bankfull Max Depth	Floodprone Area Width	Entrench. Ratio

Stream Drawing:



Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Yes/No	
☐☐	Is Stream Ephemeral (no pools, totally dry or only damp spots)?
☐☐	Is there water upstream? How Far:_____
☐☐	Is There Water Close Downstream? How Far:_____
☐☐	Is Dry Channel Mostly Natural?

Qualitative Habitat Evaluation Index Field Sheet QHEI Score: ☐

River Code: 95-656 **RM:** 30.0 **Stream:** [illegible]
Station ID: DP-02 **Location:** DST Lock Pool Loch DP-02
Date: 7-21-06 **Scorer:** ARW **Latitude:** 41.55982 **Longitude:** -88.07743

1] SUBSTRATE (Check ONLY Two SubstrateTYPE BOXES; Estimate % present

TYPE	POOL	RIFFLE
☐☐-BLDR /SLBS[10]	___	___
☐☐-Lg BOULD. [10]	___	___
☐☐-BOULDER [9]	✓	✓
☑☐-COBBLE [8]	✓	✓
☐☐-HARDPAN [4]	___	___
☐☐-MUCK [2]	___	___
☐☐-GRAVEL [7]	✓	✓
☐☐-SAND [6]	___	___
☐☐-BEDROCK[5]	✓	✓
☐☐-DETRITUS[3]	___	___
☐☐-ARTIFICIAL[0]	___	___
☐☐-SILT [2]	✓	✓

SUBSTRATE ORIGIN (Check ONE (OR 2 & AVERAGE)): ☐-LIMESTONE [1] ☐-TILLS [1] ☐-WETLANDS[0] ☐-HARDPAN [0] ☐-SANDSTONE [0] ☐-RIP/RAP [0] ☐-LACUSTRINE [0] ☐-SHALE [-1] ☐-COAL FINES [-2]

SILT: ☐-SILT HEAVY [-2] ☐-SILT MODERATE [-1] ☑-SILT NORMAL [0] ☐-SILT FREE [1]

EMBEDDEDNESS: ☐-EXTENSIVE [-2] ☐-MODERATE [-1] ☑-NORMAL [0] ☐-NONE [1]

SUBSTRATE QUALITY (Check ONE (OR 2 & AVERAGE))

Substrate ☐ Max 20

NUMBER OF SUBSTRATE TYPES: (High Quality Only, Score 5 or >) ☑-4 or More [2] ☐-3 or Less [0]

COMMENTS _____

2] INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

(Structure): 0 UNDERCUT BANKS [1]; 1 OVERHANGING VEGETATION [1]; 1 SHALLOWS (IN SLOW WATER) [1]; 0 ROOTMATS [1]

TYPE: Score All That Occur: 1 POOLS> 70 cm [2]; 2 ROOTWADS [1]; 2 BOULDERS [1]; 0 OXBOWS, BACKWATERS [1]; 1 AQUATIC MACROPHYTES [1]; 1 LOGS OR WOODY DEBRIS [1]

AMOUNT: (Check ONLY One or check 2 and AVERAGE) ☐- EXTENSIVE > 75% [11] ☐- MODERATE 25-75% [7] ☑- SPARSE 5-25% [3] ☑- NEARLY ABSENT < 5%[1]

COMMENTS: _____

Cover ☐ Max 20

3] CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER	
☐- HIGH [4]	☐- EXCELLENT [7]	☐- NONE [6]	☑- HIGH [3]	☐- SNAGGING	☐- IMPOUND.
☐- MODERATE [3]	☐- GOOD [5]	☐- RECOVERED [4]	☐- MODERATE [2]	☐- RELOCATION	☐- ISLANDS
☐- LOW [2]	☐- FAIR [3]	☐- RECOVERING [3]	☐- LOW [1]	☐- CANOPY REMOVAL	☐- LEVEED
☑- NONE [1]	☑- POOR [1]	☐- RECENT OR NO RECOVERY [1]		☐- DREDGING	☐- BANK SHAPING
		☑- IMPOUNDED [-1]		☐- ONE SIDE CHANNEL MODIFICATIONS	

COMMENTS: _____

Channel ☐ Max 20

4]. RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) ℙ River Right Looking Downstream ℙ

RIPARIAN WIDTH (L R Per Bank)	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN) (L R Most Predominant Per Bank)		BANK EROSION (L R Per Bank)
☐☐- VERY WIDE > 100m [5]	☑☑-FOREST, SWAMP [3]	☐☐-CONSERVATION TILLAGE [1]	☑☑-NONE/LITTLE [3]
☐☐- WIDE > 50m [4]	☐☐-SHRUB OR OLD FIELD [2]	☑☑-URBAN OR INDUSTRIAL [0]	☐☐-MODERATE [2]
☐☐- MODERATE 10-50m [3]	☐☐-RESIDENTIAL,PARK,NEW FIELD [1]	☐☐-OPEN PASTURE,ROWCROP [0]	☐☐-HEAVY/SEVERE[1]
☑☑- NARROW 5-10 m [2]	☐☐-FENCED PASTURE [1]	☐☐-MINING/CONSTRUCTION [0]	
☐☐- VERY NARROW <5 m[1]			
☐☐- NONE [0]			

Comments: _____

Riparian ☐ Max 10

5.]POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY!): ☑- >1m [6] ☐- 0.7-1m [4] ☐- 0.4-0.7m [2] ☐- 0.2- 0.4m [1] ☐- < 0.2m [POOL=0]

MORPHOLOGY (Check 1 or 2 & AVERAGE): ☐-POOL WIDTH > RIFFLE WIDTH [2] ☐-POOL WIDTH = RIFFLE WIDTH [1] ☐-POOL WIDTH < RIFFLE W. [0] ☑-IMPOUNDED [-1]

CURRENT VELOCITY (POOLS & RIFFLES!) (Check All That Apply): ☐-EDDIES[1] ☑-FAST[1] ☐-MODERATE [1] ☑-SLOW [1] ☐-NONE [-1] ☐-TORRENTIAL[-1] ☐-INTERSTITIAL[-1] ☐-INTERMITTENT[-2] ☐-VERY FAST[1]

COMMENTS: _____

Pool/ Current ☐ Max 12

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH: ☐- Best Areas >10 cm [2] ☐- Best Areas 5-10 cm[1] ☐- Best Areas < 5 cm ☑- NO RIFFLE [Metric=0]

RUN DEPTH: ☐- MAX > 50 [2] ☐- MAX < 50[1]

RIFFLE/RUN SUBSTRATE: ☐-STABLE (e.g.,Cobble, Boulder) [2] ☐-MOD. STABLE (e.g.,Large Gravel) [1] ☐-UNSTABLE (Fine Gravel,Sand) [0]

RIFFLE/RUN EMBEDDEDNESS: ☐- NONE [2] ☐- LOW [1] ☐- MODERATE [0] ☐- EXTENSIVE [-1]

COMMENTS _____

Riffle/Run ☐ Max 8

Gradient ☐ Max 10

6] GRADIENT (ft/mi): _____ DRAINAGE AREA (sq.mi.) : _____ %POOL: 100 %GLIDE: ☐ %RIFFLE: ☐ %RUN: ☐

** Best areas must be large enough to support a population of riffle-obligate species

Modified 06/01/2005

Is Sampling Reach Representative of the Stream (Y/N) ___ If Not, Explain: ___

Lat/Long (Beg):	
Lat/Long (Mid):	
Lat/Long (End):	
Lat/Long(X-Loc):	

Major Suspected Sources of Impacts (Check All That Apply):
- None ☐
- Industrial ☑
- WWTP ☑
- Ag ☐
- Livestock ☐
- Silviculture ☐
- Construction ☐
- Urban Runoff ☑
- CSOs ☐
- Suburban Impacts ☐
- Mining ☐
- Channelization ☐
- Riparian Removal ☐
- Landfills ☐
- Natural ☐
- Dams ☑
- Other Flow Alteration ☐
- Other: ___

	Gear:	Distance:	Water Clarity:	Water Stage:	Canopy -% Open
First Sampling Pass	A	.5 km	55cm	normal	%100

Subjective Rating (1-10): 2

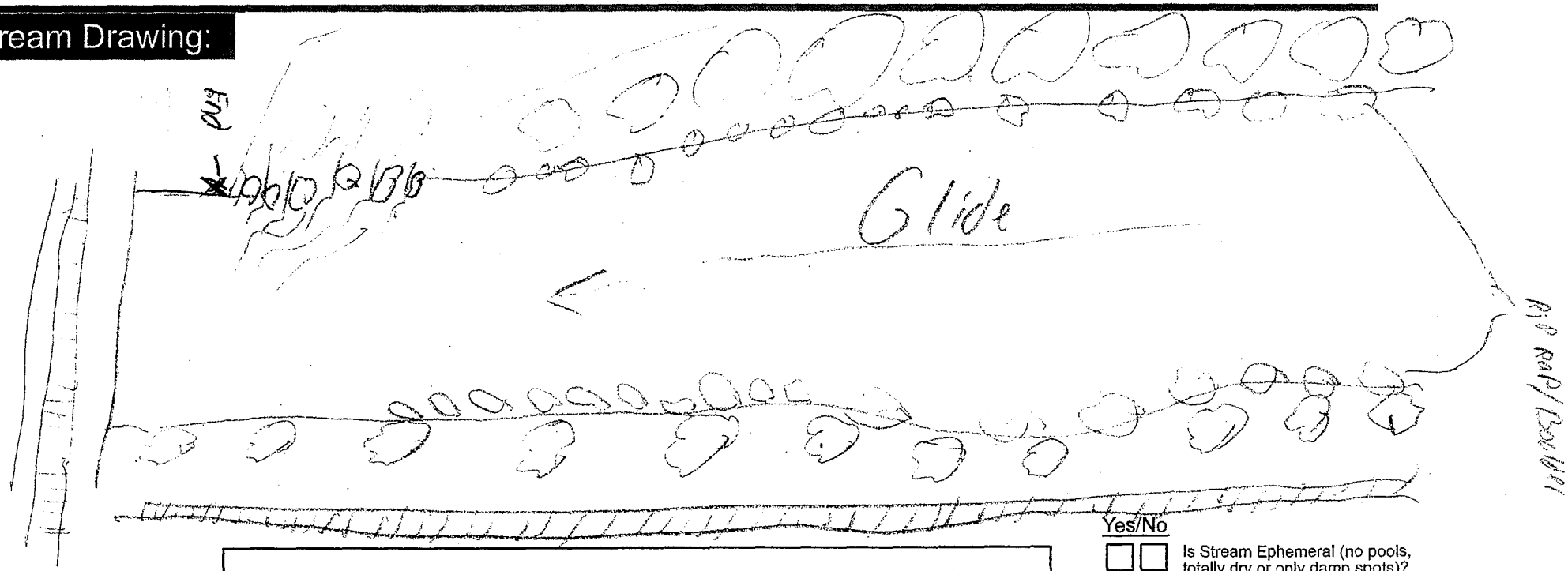
Aesthetic Rating (1-10): 2

Gradient: ☐ - Low, ☐ - Moderate, ☐ -High

Stream Measurements:

Average Width	Average Depth	Maximum Depth	Av. Bankfull Width	Bankfull Mean Depth	W/D Ratio	Bankfull Max Depth	Floodprone Area Width	Entrench. Ratio

Stream Drawing:



Flow

Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Yes/No	
☐ ☐	Is Stream Ephemeral (no pools, totally dry or only damp spots)?
☐ ☐	Is there water upstream? How Far: ___
☐ ☐	Is There Water Close Downstream? How Far: ___
☐ ☐	Is Dry Channel Mostly Natural?

MBI 95-656

Qualitative Habitat Evaluation Index Field Sheet QHEI Score: ____

River Code: 95-656 **RM:** 24.74 **Stream:** Des Plaines
Station ID: DP04 **Location:** DST Jefferson St. Joliet, IL
Date: 7-21-06 **Scorer:** ARV **Latitude:** 41.521604 **Longitude:** -88.087073

1] SUBSTRATE (Check ONLY Two SubstrateTYPE BOXES; Estimate % present

TYPE	POOL	RIFFLE
☐☐-BLDR /SLBS[10]	___	___
☐☐-Lg BOULD. [10]	___	___
☐☐-BOULDER [9]	___	___
☐☐-COBBLE [8]	___	___
☐☐-HARDPAN [4]	___	___
☑☑-MUCK [2]	___	___
☐☐-GRAVEL [7]	40	___
☐☐-SAND [6]	60	___
☐☐-BEDROCK[5]	___	___
☐☐-DETRITUS[3]	___	___
☐☐-ARTIFICIAL[0]	___	___
☐☐-SILT [2]	___	___

SUBSTRATE ORIGIN (Check ONE (OR 2 & AVERAGE)): ☐-LIMESTONE [1] ☑-TILLS [1] ☐-WETLANDS[0] ☐-HARDPAN [0] ☐-SANDSTONE [0] ☐-RIP/RAP [0] ☐-LACUSTRINE [0] ☐-SHALE [-1] ☐-COAL FINES [-2]

SUBSTRATE QUALITY (Check ONE (OR 2 & AVERAGE)) — SILT: ☑-SILT HEAVY [-2] ☐-SILT MODERATE [-1] ☐-SILT NORMAL [0] ☐-SILT-FREE [1]; EMBEDDEDNESS: ☑-EXTENSIVE [-2] ☐-MODERATE [-1] ☐-NORMAL [0] ☐-NONE [1]

Substrate: ____ Max 20

NUMBER OF SUBSTRATE TYPES: (High Quality Only, Score 5 or >) ☐-4 or More [2] ☑-3 or Less [0]

COMMENTS: _____

2] INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

(Structure): 0 UNDERCUT BANKS [1]; 0 OVERHANGING VEGETATION [1]; 0 SHALLOWS (IN SLOW WATER) [1]; 0 ROOTMATS [1]

TYPE: Score All That Occur: 1 POOLS> 70 cm [2]; 1 ROOTWADS [1]; 1 BOULDERS [1]; 0 OXBOWS, BACKWATERS [1]; 1 AQUATIC MACROPHYTES [1]; ___ LOGS OR WOODY DEBRIS [1]

COMMENTS: _____

AMOUNT: (Check ONLY One or check 2 and AVERAGE) ☐ - EXTENSIVE > 75% [11] ☐ - MODERATE 25-75% [7] ☐ - SPARSE 5-25% [3] ☑ - NEARLY ABSENT < 5%[1]

Cover: ____ Max 20

3] CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER	
☐ - HIGH [4]	☐ - EXCELLENT [7]	☐ - NONE [6]	☐ - HIGH [3]	☐ - SNAGGING	☐ - IMPOUND.
☐ - MODERATE [3]	☐ - GOOD [5]	☐ - RECOVERED [4]	☐ - MODERATE [2]	☐ - RELOCATION	☐ - ISLANDS
☐ - LOW [2]	☐ - FAIR [3]	☐ - RECOVERING [3]	☑ - LOW [1]	☐ - CANOPY REMOVAL	☐ - LEVEED
☑ - NONE [1]	☑ - POOR [1]	☐ - RECENT OR NO RECOVERY [1]		☑ - DREDGING	☑ - BANK SHAPING
		☑ - IMPOUNDED [-1]		☐ - ONE SIDE CHANNEL MODIFICATIONS	

Channel: ____ Max 20

COMMENTS: _____

4]. RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) ☞ River Right Looking Downstream ☜

RIPARIAN WIDTH L R (Per Bank)	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN) L R (Most Predominant Per Bank)	L R	BANK EROSION L R (Per Bank)
☐☐ - VERY WIDE > 100m [5]	☐☐-FOREST, SWAMP [3]	☐☐-CONSERVATION TILLAGE [1]	☑☑-NONE/LITTLE [3]
☐☐ - WIDE > 50m [4]	☐☐-SHRUB OR OLD FIELD [2]	☑☑-URBAN OR INDUSTRIAL [0]	☐☐-MODERATE [2]
☐☐ - MODERATE 10-50m [3]	☐☐-RESIDENTIAL,PARK,NEW FIELD [1]	☐☐-OPEN PASTURE,ROWCROP [0]	☐☐-HEAVY/SEVERE[1]
☐☐ - NARROW 5-10 m [2]	☐☐-FENCED PASTURE [1]	☐☐-MINING/CONSTRUCTION [0]	
☐☐ - VERY NARROW <5 m[1]			
☑☑ - NONE [0]			

Riparian: ____ Max 10

Comments: _____

5.]POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY!): ☑ >1m [6] ☐ - 0.7-1m [4] ☐ - 0.4-0.7m [2] ☐ - 0.2- 0.4m [1] ☐ - < 0.2m [POOL=0]

MORPHOLOGY (Check 1 or 2 & AVERAGE): ☐-POOL WIDTH > RIFFLE WIDTH [2] ☐-POOL WIDTH = RIFFLE WIDTH [1] ☐-POOL WIDTH < RIFFLE W. [0] ☑-IMPOUNDED [-1]

CURRENT VELOCITY (POOLS & RIFFLES!) (Check All That Apply): ☐-EDDIES[1] ☐-FAST[1] ☐-MODERATE [1] ☑-SLOW [1] ☐-NONE [-1] ☐-TORRENTIAL[-1] ☐-INTERSTITIAL[-1] ☐-INTERMITTENT[-2] ☐-VERY FAST[1]

COMMENTS: _____

Pool/Current: ____ Max 12

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
☐ - Best Areas >10 cm [2]	☐ - MAX > 50 [2]	☐-STABLE (e.g.,Cobble, Boulder) [2]	☐ - NONE [2]
☐ - Best Areas 5-10 cm[1]	☐ - MAX < 50[1]	☐-MOD. STABLE (e.g.,Large Gravel) [1]	☐ - LOW [1]
☐ - Best Areas < 5 cm		☐-UNSTABLE (Fine Gravel,Sand) [0]	☐ - MODERATE [0]
☑ - NO RIFFLE [Metric=0]			☐ - EXTENSIVE [-1]

COMMENTS _____

Riffle/Run: ____ Max 8

Gradient: ____ Max 10

6] GRADIENT (ft/mi): _____ DRAINAGE AREA (sq.mi.) : _____ %POOL: 40 %GLIDE: ____ %RIFFLE: ____ %RUN: ____

** Best areas must be large enough to support a population of riffle-obligate species

Modified 06/01/2005

Is Sampling Reach Representative of the Stream (Y/N)___ If Not, Explain:

Lat/Long (Beg):
Lat/Long (Mid):
Lat/Long (End):
Lat/Long(X-Loc):

Major Suspected Sources of Impacts (Check All That Apply):
- None ☐
- Industrial ☑
- WWTP ☑
- Ag ☐
- Livestock ☐
- Silviculture ☐
- Construction ☐
- Urban Runoff ☑
- CSOs ☐
- Suburban Impacts ☐
- Mining ☐
- Channelization ☑
- Riparian Removal ☑
- Landfills ☐
- Natural ☐
- Dams ☑
- Other Flow Alteration ☐
- Other:_____

	Gear:	Distance:	Water Clarity:	Water Stage:	Canopy -% Open
First Sampling Pass	A	<5Km	45cm	normal	%100

Subjective Rating (1-10): 2

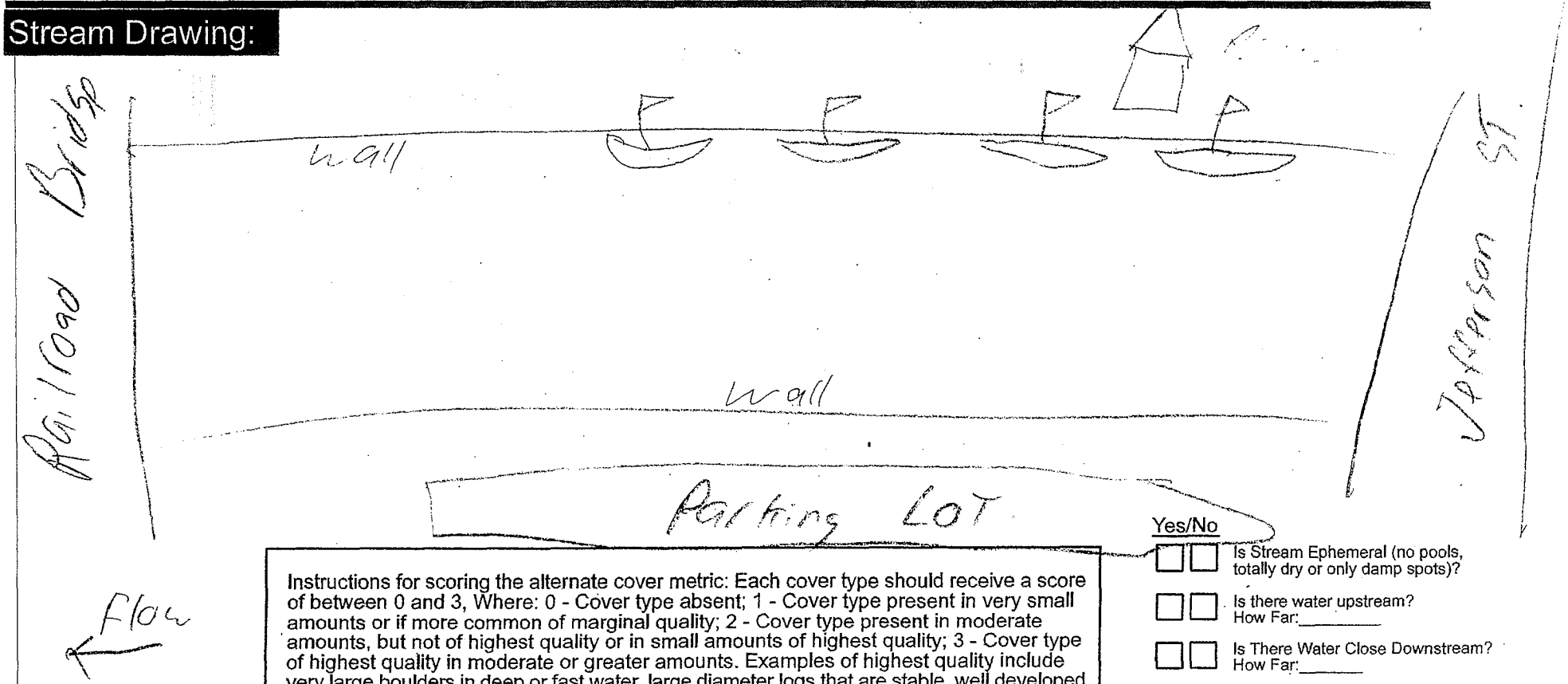
Aesthetic Rating (1-10): 2

Gradient: ☐ - Low, ☐ - Moderate, ☐ -High

Stream Measurements:

Average Width	Average Depth	Maximum Depth	Av. Bankfull Width	Bankfull Mean Depth	W/D Ratio	Bankfull Max Depth	Floodprone Area Width	Entrench. Ratio

Stream Drawing:



Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Yes/No	
☐ ☐	Is Stream Ephemeral (no pools, totally dry or only damp spots)?
☐ ☐	Is there water upstream? How Far:_____
☐ ☐	Is There Water Close Downstream? How Far:_____
☐ ☐	Is Dry Channel Mostly Natural?

Qualitative Habitat Evaluation Index Field Sheet QHEI Score: ☐

River Code: 95-656 **RM:** 276.5 **Stream:** Des Plaines
Station ID: DP-08 **Location:** Moose Island (DSF Dunkee Rd)
Date: 7-27-06 **Scorer:** AAV **Latitude:** 41.43953 **Longitude:** -88.16969

1] SUBSTRATE (Check ONLY Two SubstrateTYPE BOXES; Estimate % present

TYPE	POOL	RIFFLE
☐☐-BLDR /SLBS[10]	___	___
☐☐-Lg BOULD. [10]	___	___
☐☐-BOULDER [9]	✓	___
☑☐-COBBLE [8]	✓	___
☐☐-HARDPAN [4]	___	___
☐☐-MUCK [2]	✓	___
☐☐-GRAVEL [7]	✓	___
☐☐-SAND [6]	✓	___
☐☐-BEDROCK[5]	___	___
☐☐-DETRITUS[3]	✓	___
☐☐-ARTIFICIAL[0]	___	___
☑☐-SILT [2]	✓	___

SUBSTRATE ORIGIN (Check ONE (OR 2 & AVERAGE)): ☐ -LIMESTONE [1] ☑ -TILLS [1] ☐ -WETLANDS[0] ☐ -HARDPAN [0] ☐ -SANDSTONE [0] ☐ -RIP/RAP [0] ☐ -LACUSTRINE [0] ☐ -SHALE [-1] ☐ -COAL FINES [-2]

SILT: ☐ - SILT HEAVY [-2] ☑ -SILT MODERATE [-1] ☐ -SILT NORMAL [0] ☐ -SILT FREE [1]

EMBEDDEDNESS: ☐ -EXTENSIVE [-2] ☑ -MODERATE [-1] ☐ -NORMAL [0] ☐ -NONE [1]

Substrate ☐ Max 20

NUMBER OF SUBSTRATE TYPES: (High Quality Only, Score 5 or >) ☐ 4 or More [2] ☐ 3 or Less [0]

COMMENTS

2] INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

(Structure): 1 UNDERCUT BANKS [1]; 1 OVERHANGING VEGETATION [1]; 1 SHALLOWS (IN SLOW WATER) [1]; 0 ROOTMATS [1]

TYPE: Score All That Occur: 1 POOLS> 70 cm [2]; 1 ROOTWADS [1]; 3 BOULDERS [1]; 2 OXBOWS, BACKWATERS [1]; 2 AQUATIC MACROPHYTES [1]; 1 LOGS OR WOODY DEBRIS [1]

COMMENTS:

AMOUNT: (Check ONLY One or check 2 and AVERAGE) ☐ - EXTENSIVE > 75% [11] ☑ - MODERATE 25-75% [7] ☐ - SPARSE 5-25% [3] ☐ - NEARLY ABSENT < 5%[1]

Cover ☐ Max 20

3] CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER
☐ - HIGH [4]	☐ - EXCELLENT [7]	☐ - NONE [6]	☐ - HIGH [3]	☐ - SNAGGING ☐ - IMPOUND.
☐ - MODERATE [3]	☐ - GOOD [5]	☐ - RECOVERED [4]	☑ - MODERATE [2]	☐ - RELOCATION ☐ - ISLANDS
☑ - LOW [2]	☑ - FAIR [3]	☐ - RECOVERING [3]	☐ - LOW [1]	☐ - CANOPY REMOVAL ☐ - LEVEED
☐ - NONE [1]	☐ - POOR [1]	☐ - RECENT OR NO RECOVERY [1]		☐ - DREDGING ☐ - BANK SHAPING
		☑ - IMPOUNDED [-1]		☐ - ONE SIDE CHANNEL MODIFICATIONS

Channel ☐ Max 20

COMMENTS:

4]. RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) ← River Right Looking Downstream →

RIPARIAN WIDTH L R (Per Bank)	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN) L R (Most Predominant Per Bank)		BANK EROSION L R (Per Bank)
☐☐- VERY WIDE > 100m [5]	☑☑-FOREST, SWAMP [3]	☐☐-CONSERVATION TILLAGE [1]	☑☑-NONE/LITTLE [3]
☐☐- WIDE > 50m [4]	☐☐-SHRUB OR OLD FIELD [2]	☑☐-URBAN OR INDUSTRIAL [0]	☐☐-MODERATE [2]
☑☑- MODERATE 10-50m [3]	☐☑-RESIDENTIAL,PARK,NEW FIELD [1]	☐☐-OPEN PASTURE,ROWCROP [0]	☐☐-HEAVY/SEVERE[1]
☑☑- NARROW 5-10 m [2]	☐☐-FENCED PASTURE [1]	☐☐-MINING/CONSTRUCTION [0]	
☐☐- VERY NARROW <5 m[1]			
☐☐- NONE [0]			

Riparian ☐ Max 10

Comments:

5.]POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY!): ☑ - >1m [6] ☐ - 0.7-1m [4] ☐ - 0.4-0.7m [2] ☐ - 0.2- 0.4m [1] ☐ - < 0.2m [POOL=0]

MORPHOLOGY (Check 1 or 2 & AVERAGE): ☐ -POOL WIDTH > RIFFLE WIDTH [2] ☐ -POOL WIDTH = RIFFLE WIDTH [1] ☐ -POOL WIDTH < RIFFLE W. [0] ☑ -IMPOUNDED [-1]

CURRENT VELOCITY [POOLS & RIFFLES!] (Check All That Apply): ☐ -EDDIES[1] ☐ -FAST[1] ☐ -MODERATE [1] ☑ -SLOW [1] ☐ -NONE [-1] ☐ -TORRENTIAL[-1] ☐ -INTERSTITIAL[-1] ☐ -INTERMITTENT[-2] ☐ -VERY FAST[1]

COMMENTS:

Pool/ Current ☐ Max 12

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
☐ - Best Areas >10 cm [2]	☐ - MAX > 50 [2]	☐-STABLE (e.g.,Cobble, Boulder) [2]	☐ - NONE [2]
☐ - Best Areas 5-10 cm[1]	☐ - MAX < 50[1]	☐-MOD. STABLE (e.g.,Large Gravel) [1]	☐ - LOW [1]
☐ - Best Areas < 5 cm		☐-UNSTABLE (Fine Gravel,Sand) [0]	☐ - MODERATE [0]
☑ - NO RIFFLE [Metric=0]			☐ - EXTENSIVE [-1]

COMMENTS

Riffle/Run ☐ Max 8

Gradient ☐ Max 10

6] GRADIENT (ft/mi): _____ DRAINAGE AREA (sq.mi.) :_____ %POOL: 100 %GLIDE: ☐ %RIFFLE: ☐ %RUN: ☐

** Best areas must be large enough to support a population of riffle-obligate species

Modified 06/01/2005

Is Sampling Reach Representative of the Stream (Y/N)___ If Not, Explain:

Lat/Long (Beg):	
Lat/Long (Mid):	
Lat/Long (End):	
Lat/Long(X-Loc):	

Major Suspected Sources of Impacts (Check All That Apply):
- None ☐
- Industrial ☑
- WWTP ☑
- Ag ☐
- Livestock ☐
- Silviculture ☐
- Construction ☐
- Urban Runoff ☑
- CSOs ☐
- Suburban Impacts ☐
- Mining ☐
- Channelization ☑
- Riparian Removal ☐
- Landfills ☐
- Natural ☐
- Dams ☑
- Other Flow Alteration ☐
- Other:_____

	Gear:	Distance:	Water Clarity:	Water Stage:	Canopy -% Open
First Sampling Pass	A	.5 km	50cm	normal	%100

Subjective Rating (1-10): 3

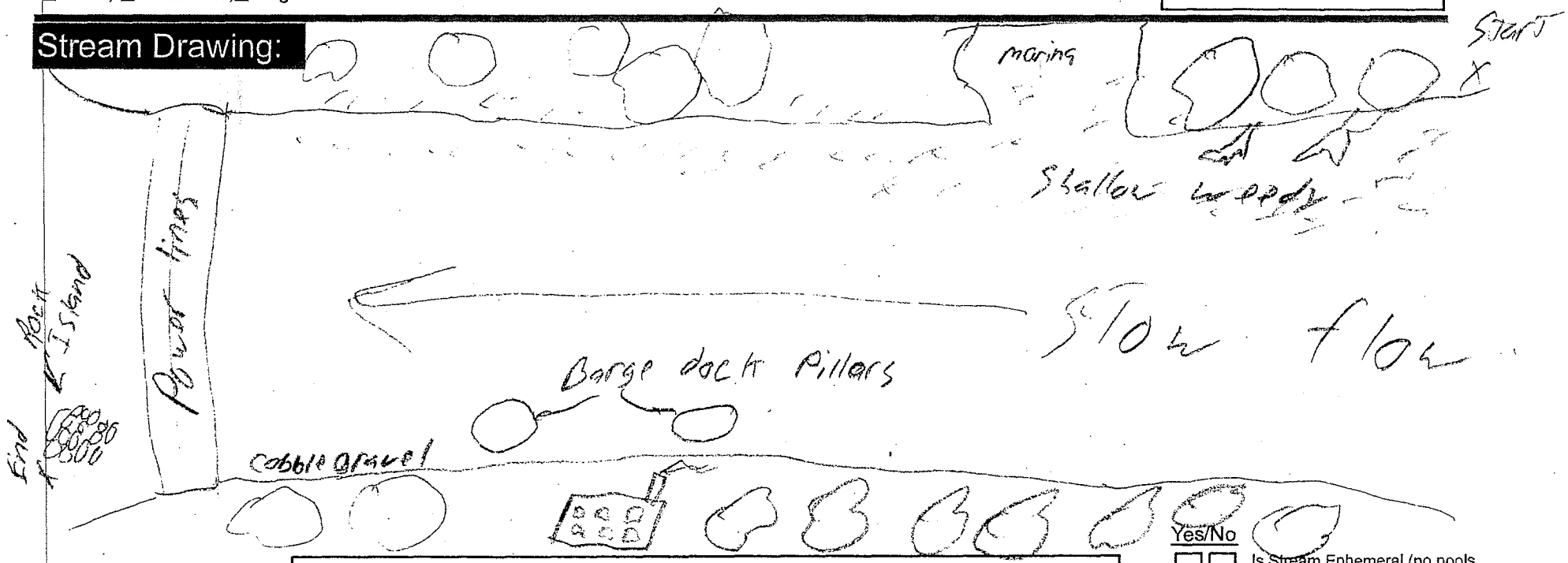
Aesthetic Rating (1-10): 3

Gradient: ☐ - Low, ☐ - Moderate, ☐ -High

Stream Measurements:

Average Width	Average Depth	Maximum Depth	Av. Bankfull Width	Bankfull Mean Depth	W/D Ratio	Bankfull Max Depth	Floodprone Area Width	Entrench. Ratio

Stream Drawing:



Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Yes/No	
☐☐	Is Stream Ephemeral (no pools, totally dry or only damp spots)?
☐☐	Is there water upstream? How Far:_____
☐☐	Is There Water Close Downstream? How Far:_____
☐☐	Is Dry Channel Mostly Natural?

MBI 95-654 Qualitative Habitat Evaluation Index Field Sheet QHEI Score:

River Code: 95-654 **RM:** 284.0 **Stream:** Des Plaines
Station ID: DP-03 **Location:** W 5th Ruby St
Date: 7-21-06 **Scorer:** AAZ **Latitude:** 41.54044 **Longitude:** -88.08368

1] SUBSTRATE (Check ONLY Two SubstrateTYPE BOXES; Estimate % present

TYPE	POOL	RIFFLE
☐☐-BLDR /SLBS[10]	✓	
☐☐-Lg BOULD. [10]		
☐☐-BOULDER [9]	✓	
☐☐-COBBLE [8]	✓	
☐☐-HARDPAN [4]		
☐☐-MUCK [2]	✓	
☐☐-GRAVEL [7]	✓	
☐☐-SAND [6]		
☐☐-BEDROCK[5]	✓	
☐☐-DETRITUS[3]		
☐☐-ARTIFICIAL[0]		
☒☐-SILT [2]	✓	

SUBSTRATE ORIGIN (Check ONE (OR 2 & AVERAGE)): ☐-LIMESTONE [1] ☒-TILLS [1] ☐-WETLANDS[0] ☐-HARDPAN [0] ☐-SANDSTONE [0] ☐-RIP/RAP [0] ☐-LACUSTRINE [0] ☐-SHALE [-1] ☐-COAL FINES [-2]

SUBSTRATE QUALITY (Check ONE (OR 2 & AVERAGE)) — SILT: ☐-SILT HEAVY [-2] ☒-SILT MODERATE [-1] ☒-SILT NORMAL [0] ☐-SILT FREE [1]; EMBEDDEDNESS: ☐-EXTENSIVE [-2] ☒-MODERATE [-1] ☒-NORMAL [0] ☐-NONE [1]

Substrate: ____ Max 20

NUMBER OF SUBSTRATE TYPES: (High Quality Only; Score 5 or >) ☒-4 or More [2] ☐-3 or Less [0]

COMMENTS: _____

2] INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

(Structure): 0 UNDERCUT BANKS [1]; 2 OVERHANGING VEGETATION [1]; 1 SHALLOWS (IN SLOW WATER) [1]; 0 ROOTMATS [1]

TYPE: Score All That Occur: ___ POOLS> 70 cm [2]; ___ ROOTWADS [1]; ___ BOULDERS [1]; 0 OXBOWS, BACKWATERS [1]; ___ AQUATIC MACROPHYTES [1]; ___ LOGS OR WOODY DEBRIS [1]

AMOUNT: (Check ONLY One or check 2 and AVERAGE) ☐ - EXTENSIVE > 75% [11] ☐ - MODERATE 25-75% [7] ☒ - SPARSE 5-25% [3] ☐ - NEARLY ABSENT < 5%[1]

Cover: ____ Max 20

COMMENTS: _____

3] CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER	
☐ - HIGH [4]	☐ - EXCELLENT [7]	☐ - NONE [6]	☒ - HIGH [3]	☐ - SNAGGING	☐ - IMPOUND.
☐ - MODERATE [3]	☐ - GOOD [5]	☐ - RECOVERED [4]	☐ - MODERATE [2]	☐ - RELOCATION	☐ - ISLANDS
☒ - LOW [2]	☒ - FAIR [3]	☐ - RECOVERING [3]	☐ - LOW [1]	☐ - CANOPY REMOVAL	☐ - LEVEED
☐ - NONE [1]	☒ - POOR [1]	☐ - RECENT OR NO RECOVERY [1]		☒ - DREDGING	☐ - BANK SHAPING
		☒ - IMPOUNDED [-1]		☒ - ONE SIDE CHANNEL MODIFICATIONS	

Channel: ____ Max 20

COMMENTS: _____

4]. RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) — River Right Looking Downstream

RIPARIAN WIDTH (L R (Per Bank))	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN) (L R (Most Predominant Per Bank))	BANK EROSION (L R (Per Bank))
☐☐ - VERY WIDE > 100m [5]	☐☐-FOREST, SWAMP [3]	☒☒-NONE/LITTLE [3]
☐☐ - WIDE > 50m [4]	☐☐-SHRUB OR OLD FIELD [2]	☐☐-MODERATE [2]
☐☐ - MODERATE 10-50m [3]	☐☐-RESIDENTIAL,PARK,NEW FIELD [1]	☐☐-HEAVY/SEVERE[1]
☒☒ - NARROW 5-10 m [2]	☐☐-FENCED PASTURE [1]	
☐☐ - VERY NARROW <5 m[1]	☐☐-CONSERVATION TILLAGE [1]	
☐☐ - NONE [0]	☒☒-URBAN OR INDUSTRIAL [0]	
	☐☐-OPEN PASTURE,ROWCROP [0]	
	☐☐-MINING/CONSTRUCTION [0]	

Riparian: ____ Max 10

Comments: _____

5.]POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY!): ☒ - >1m [6]; ☐ - 0.7-1m [4]; ☐ - 0.4-0.7m [2]; ☐ - 0.2- 0.4m [1]; ☐ - < 0.2m [POOL=0]

MORPHOLOGY (Check 1 or 2 & AVERAGE): ☐-POOL WIDTH > RIFFLE WIDTH [2]; ☐-POOL WIDTH = RIFFLE WIDTH [1]; ☐-POOL WIDTH < RIFFLE W. [0]; ☒-IMPOUNDED [-1]

CURRENT VELOCITY [POOLS & RIFFLES!] (Check All That Apply): ☐-EDDIES[1] ☐-FAST[1] ☒-MODERATE [1] ☒-SLOW [1] ☐-NONE [-1] ☐-TORRENTIAL[-1] ☐-INTERSTITIAL[-1] ☐-INTERMITTENT[-2] ☐-VERY FAST[1]

Pool/ Current: ____ Max 12

COMMENTS: _____

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
☐ - Best Areas >10 cm [2]	☐ - MAX > 50 [2]	☐-STABLE (e.g.,Cobble, Boulder) [2]	☐ - NONE [2]
☐ - Best Areas 5-10 cm[1]	☐ - MAX < 50[1]	☐-MOD. STABLE (e.g.,Large Gravel) [1]	☐ - LOW [1]
☐ - Best Areas < 5 cm		☐-UNSTABLE (Fine Gravel,Sand) [0]	☐ - MODERATE [0]
☒ - NO RIFFLE [Metric=0]			☐ - EXTENSIVE [-1]

Riffle/Run: ____ Max 8

COMMENTS: _____

Gradient: ____ Max 10

6] GRADIENT (ft/mi): _____ DRAINAGE AREA (sq.mi.) : _____ %POOL: 100 %GLIDE: ____ %RIFFLE: ____ %RUN: ____

** Best areas must be large enough to support a population of riffle-obligate species

Modified 06/01/2005

Is Sampling Reach Representative of the Stream (Y/N)___ If Not, Explain:

Lat/Long (Beg):	
Lat/Long (Mid):	
Lat/Long (End):	
Lat/Long(X-Loc):	

Major Suspected Sources of Impacts (Check All That Apply):
- None ☐
- Industrial ☑
- WWTP ☑
- Ag ☐
- Livestock ☐
- Silviculture ☐
- Construction ☐
- Urban Runoff ☑
- CSOs ☑
- Suburban Impacts ☐
- Mining ☐
- Channelization ☐
- Riparian Removal ☐
- Landfills ☐
- Natural ☐
- Dams ☑
- Other Flow Alteration ☐
- Other:_____

	Gear:	Distance:	Water Clarity:	Water Stage:	Canopy -% Open
First Sampling Pass	A	.5 Km	50cm	normal	% 100

Subjective Rating (1-10): 3

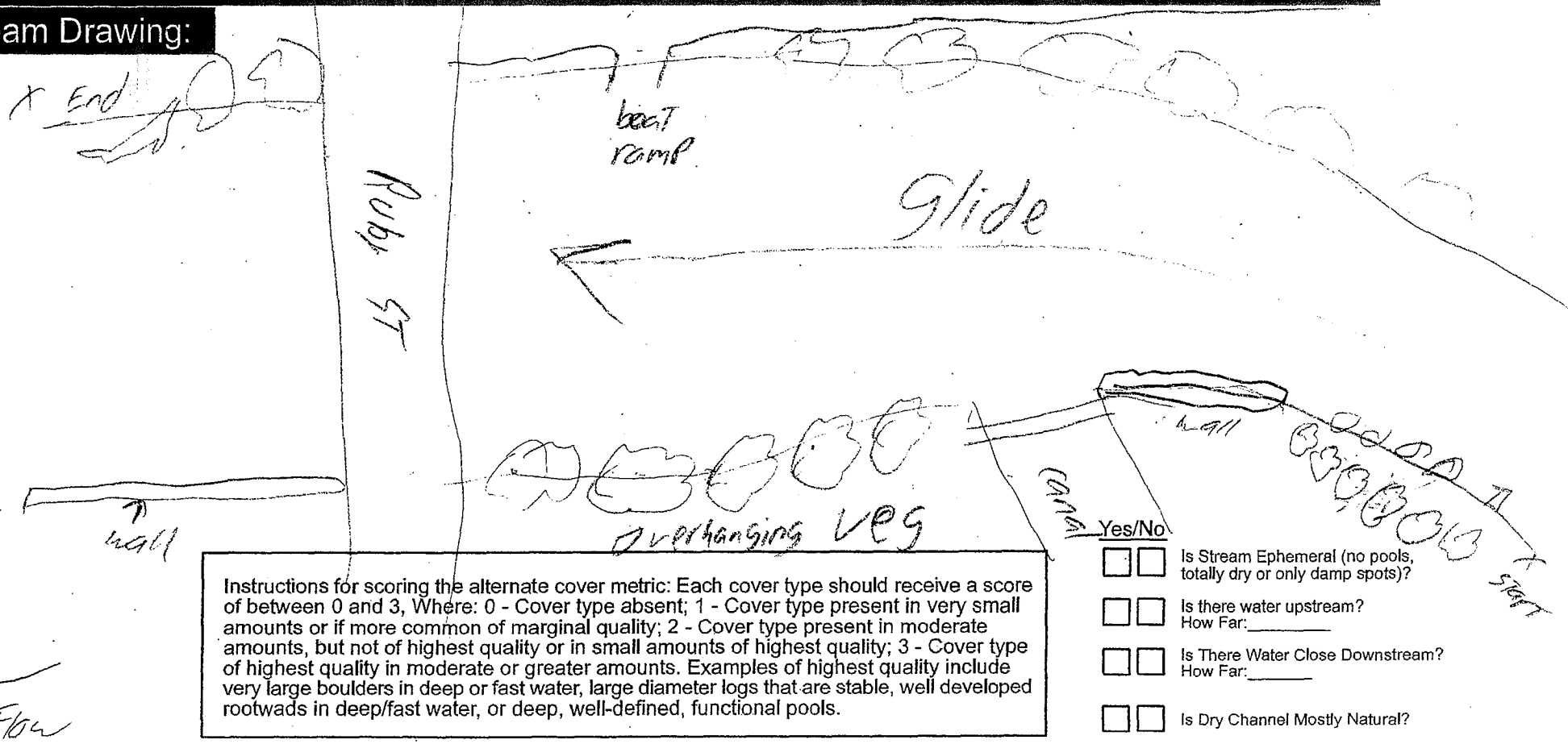
Aesthetic Rating (1-10): 3

Gradient: ☐ - Low, ☐ - Moderate, ☐ -High

Stream Measurements:

Average Width	Average Depth	Maximum Depth	Av. Bankfull Width	Bankfull Mean Depth	W/D Ratio	Bankfull Max Depth	Floodprone Area Width	Entrench. Ratio

Stream Drawing:



Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Yes/No	
☐ ☐	Is Stream Ephemeral (no pools, totally dry or only damp spots)?
☐ ☐	Is there water upstream? How Far:_____
☐ ☐	Is There Water Close Downstream? How Far:_____
☐ ☐	Is Dry Channel Mostly Natural?

Edited 1-11-08 [illegible]

[illegible handwriting]

95654 Qualitative Habitat Evaluation Index Field Sheet QHEI Score: [ ]

River Code: 95-[illegible] **RM:** 83.9 **Stream:** Des Plaines
Station ID: DP-06 **Location:** Ust Olin Company
Date: 7-22-06 **Scorer:** DAJ **Latitude:** 41.93897 **Longitude:** -88.13369

1] SUBSTRATE (Check ONLY Two SubstrateTYPE BOXES; Estimate % present

TYPE	POOL	RIFFLE	TYPE	POOL	RIFFLE	SUBSTRATE ORIGIN	SUBSTRATE QUALITY
						Check ONE (OR 2 & AVERAGE)	Check ONE (OR 2 & AVERAGE)
☐☐-BLDR /SLBS[10]			☐☐-GRAVEL [7]	✓			
☐☐-Lg BOULD. [10]			☐☐-SAND [6]	✓		☐ -LIMESTONE [1]	SILT: ☒-SILT HEAVY [-2]
☐☐-BOULDER [9]			☐☐-BEDROCK[5]			☒-TILLS [1]	☐-SILT MODERATE [-1]
☐☐-COBBLE [8]	✓		☐☐-DETRITUS[3]	✓		☐ -WETLANDS[0]	☐-SILT NORMAL [0]
☐☐-HARDPAN [4]			☐☐-ARTIFICIAL[0]			☐ -HARDPAN [0]	☐-SILT FREE [1]
☒☒-MUCK [2]	✓		☒☒-SILT [2]	✓		☐ -SANDSTONE [0]	EMBEDDEDNESS: ☒-EXTENSIVE [-2]
						☐-RIP/RAP [0]	☒-MODERATE [-1]
NUMBER OF SUBSTRATE TYPES: (High Quality Only, Score 5 or >)			☐-4 or More [2]			☐-LACUSTRINE [0]	☐-NORMAL [0]
			☒-3 or Less [0]			☐-SHALE [-1]	☐-NONE [1]
						☐-COAL FINES [-2]	

Substrate [ ] Max 20

COMMENTS

2] INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

(Structure) TYPE: Score All That Occur

- 0 UNDERCUT BANKS [1]
- 1 OVERHANGING VEGETATION [1]
- 1 SHALLOWS (IN SLOW WATER) [1]
- 0 ROOTMATS [1]
- 2 POOLS> 70 cm [2]
- 1 ROOTWADS [1]
- 1 BOULDERS [1]
- 0 OXBOWS, BACKWATERS [1]
- 2 AQUATIC MACROPHYTES [1]
- 1 LOGS OR WOODY DEBRIS [1]

COMMENTS:

AMOUNT: (Check ONLY One or check 2 and AVERAGE)
- ☐ - EXTENSIVE > 75% [11]
- ☐ - MODERATE 25-75% [7]
- ☒ - SPARSE 5-25% [3]
- ☐ - NEARLY ABSENT < 5%[1]

Cover [ ] Max 20

3] CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER	
☐- HIGH [4]	☐ - EXCELLENT [7]	☒- NONE [6]	☐- HIGH [3]	☐ - SNAGGING	☐ - IMPOUND.
☐- MODERATE [3]	☐ - GOOD [5]	☐ - RECOVERED [4]	☒- MODERATE [2]	☐ - RELOCATION	☐ - ISLANDS
☒- LOW [2]	☐ - FAIR [3]	☐ - RECOVERING [3]	☒- LOW [1]	☐ - CANOPY REMOVAL	☐ - LEVEED
☒- NONE [1]	☒- POOR [1]	☐ - RECENT OR NO RECOVERY [1]		☐ - DREDGING	☐ - BANK SHAPING
		☒- IMPOUNDED [-1]		☐ - ONE SIDE CHANNEL MODIFICATIONS	

Channel [ ] Max 20

COMMENTS:

4]. RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) River Right Looking Downstream

RIPARIAN WIDTH	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN)		BANK EROSION
L R (Per Bank)	L R (Most Predominant Per Bank)	L R	L R (Per Bank)
☐☐- VERY WIDE > 100m [5]	☒☐-FOREST, SWAMP [3]	☐☐-CONSERVATION TILLAGE [1]	☒☒-NONE/LITTLE [3]
☒☐- WIDE > 50m [4]	☐☐-SHRUB OR OLD FIELD [2]	☐☒-URBAN OR INDUSTRIAL [0]	☐☐-MODERATE [2]
☐☐- MODERATE 10-50m [3]	☐☐-RESIDENTIAL,PARK,NEW FIELD [1]	☐☐-OPEN PASTURE,ROWCROP [0]	☐☐-HEAVY/SEVERE[1]
☐☒- NARROW 5-10 m [2]	☐☐-FENCED PASTURE [1]	☐☐-MINING/CONSTRUCTION [0]	
☐☐- VERY NARROW <5 m[1]			
☐☐- NONE [0]			

Riparian [ ] Max 10

Comments:

5.]POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY!)	MORPHOLOGY (Check 1 or 2 & AVERAGE)	CURRENT VELOCITY [POOLS & RIFFLES!] (Check All That Apply)	
☒- >1m [6]	☒-POOL WIDTH > RIFFLE WIDTH [2]	☐-EDDIES[1]	☐-TORRENTIAL[-1]
☐- 0.7-1m [4]	☐-POOL WIDTH = RIFFLE WIDTH [1]	☐-FAST[1]	☐-INTERSTITIAL[-1]
☐- 0.4-0.7m [2]	☐-POOL WIDTH < RIFFLE W. [0]	☐-MODERATE [1]	☐-INTERMITTENT[-2]
☐- 0.2- 0.4m [1]	☒-IMPOUNDED [-1]	☒-SLOW [1]	☐-VERY FAST[1]
☐- < 0.2m [POOL=0]	COMMENTS:	☐-NONE [-1]	

Pool/Current [ ] Max 12

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
☐- Best Areas >10 cm [2]	☐ - MAX > 50 [2]	☐-STABLE (e.g.,Cobble, Boulder) [2]	☐ - NONE [2]
☐- Best Areas 5-10 cm[1]	☐ - MAX < 50[1]	☐-MOD. STABLE (e.g.,Large Gravel) [1]	☐ - LOW [1]
☐- Best Areas < 5 cm		☐-UNSTABLE (Fine Gravel,Sand) [0]	☐ - MODERATE [0]
☒- NO RIFFLE [Metric=0]			☐ - EXTENSIVE [-1]

Riffle/Run [ ] Max 8

COMMENTS

Gradient [ ] Max 10

6] GRADIENT (ft/mi): ______ DRAINAGE AREA (sq.mi.) :______ %POOL: 100 %GLIDE: [ ] %RIFFLE: [ ] %RUN: [ ]

** Best areas must be large enough to support a population of riffle-obligate species

Is Sampling Reach Representative of the Stream (Y/N)___ If Not, Explain:

Lat/Long (Beg):	
Lat/Long (Mid):	
Lat/Long (End):	
Lat/Long(X-Loc):	

Major Suspected Sources of Impacts (Check All That Apply):
- None ☐
- Industrial ☑
- WWTP ☑
- Ag ☐
- Livestock ☐
- Silviculture ☐
- Construction ☐
- Urban Runoff ☐
- CSOs ☐
- Suburban Impacts ☑
- Mining ☐
- Channelization ☐
- Riparian Removal ☐
- Landfills ☐
- Natural ☐
- Dams ☑
- Other Flow Alteration ☐
- Other:_____

	Gear:	Distance:	Water Clarity:	Water Stage:	Canopy -% Open
First Sampling Pass	A	.5 km	60 cm	normal	%100

Subjective Rating (1-10): 4

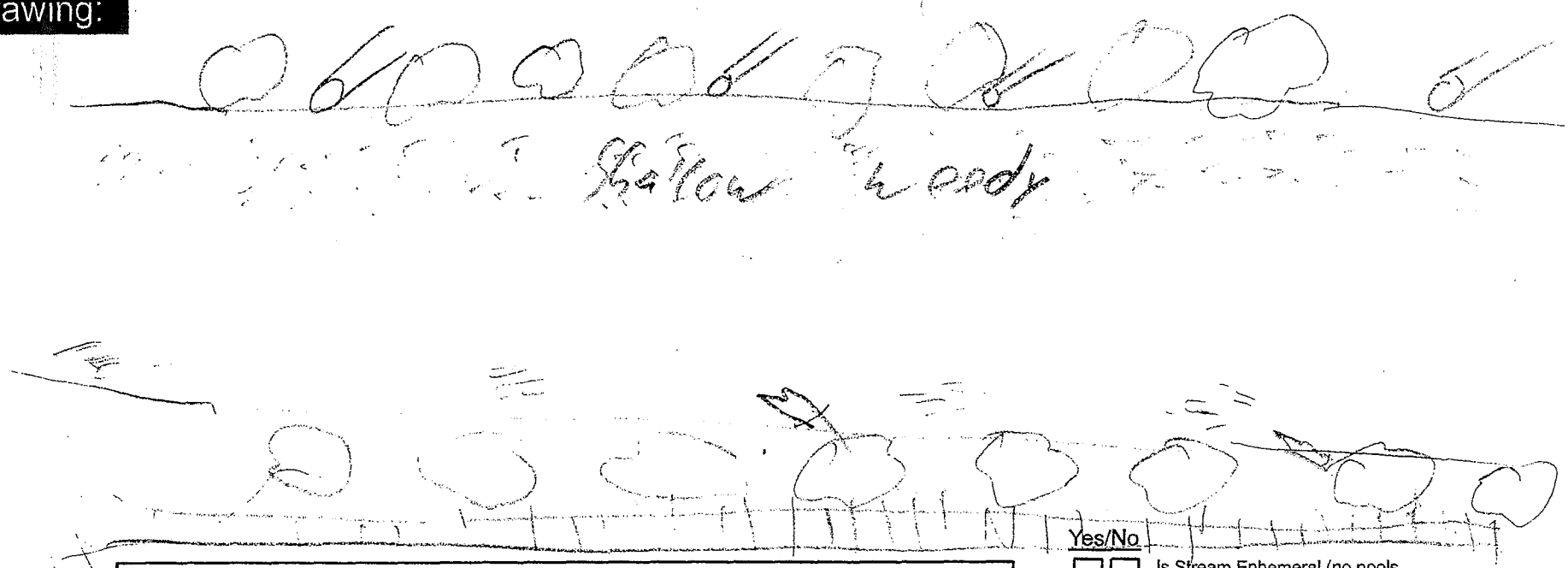
Aesthetic Rating (1-10): 4

Gradient: ☐ - Low, ☐ - Moderate, ☐ -High

Stream Measurements:

Average Width	Average Depth	Maximum Depth	Av. Bankfull Width	Bankfull Mean Depth	W/D Ratio	Bankfull Max Depth	Floodprone Area Width	Entrench. Ratio

Stream Drawing:



Flow

Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Yes/No	
☐☐	Is Stream Ephemeral (no pools, totally dry or only damp spots)?
☐☐	Is there water upstream? How Far:_____
☐☐	Is There Water Close Downstream? How Far:_____
☐☐	Is Dry Channel Mostly Natural?

Edited 1-11-06 JMH

MBI 0656 Qualitative Habitat Evaluation Index Field Sheet QHEI Score: ☐

River Code: ~~95-888~~ **RM:** 279.5 **Stream:** Des Plaines

Station ID: DP-07 **Location:** Power lines at RM 279.5, mainstem

Date: 7-22-06 **Scorer:** _____ **Latitude:** 41.43953 **Longitude:** -88.16969

1] SUBSTRATE (Check ONLY Two SubstrateTYPE BOXES; Estimate % present

TYPE	POOL	RIFFLE
☐ ☐-BLDR /SLBS[10]	✓	
☐ ☐-Lg BOULD. [10]		
☑ ☐-BOULDER [9]	✓	
☐ ☐-COBBLE [8]	✓	
☐ ☐-HARDPAN [4]		
☐ ☐-MUCK [2]		
☐ ☐-GRAVEL [7]	✓	
☑ ☐-SAND [6]	✓	
☐ ☐-BEDROCK[5]	✓	
☐ ☐-DETRITUS[3]		
☐ ☐-ARTIFICIAL[0]		
☐ ☐-SILT [2]		✓

SUBSTRATE ORIGIN (Check ONE (OR 2 & AVERAGE)): ☐-LIMESTONE [1] ☑-TILLS [1] ☐-WETLANDS[0] ☐-HARDPAN [0] ☐-SANDSTONE [0] ☐-RIP/RAP [0] ☐-LACUSTRINE [0] ☐-SHALE [-1] ☐-COAL FINES [-2]

SILT: ☐-SILT HEAVY [-2] ☐-SILT MODERATE [-1] ☑-SILT NORMAL [0] ☐-SILT FREE [1]

EMBEDDEDNESS: ☐-EXTENSIVE [-2] ☐-MODERATE [-1] ☑-NORMAL [0] ☐-NONE [1]

SUBSTRATE QUALITY (Check ONE (OR 2 & AVERAGE))

Substrate ☐ Max 20

NUMBER OF SUBSTRATE TYPES: (High Quality Only, Score 5 or >) ☑-4 or More [2] ☐-3 or Less [0]

COMMENTS _____

2] INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

(Structure) — TYPE: Score All That Occur

- 1 UNDERCUT BANKS [1]
- 2 OVERHANGING VEGETATION [1]
- 2 SHALLOWS (IN SLOW WATER) [1]
- 1 ROOTMATS [1]
- 2 POOLS> 70 cm [2]
- 1 ROOTWADS [1]
- 2 BOULDERS [1]
- 0 OXBOWS, BACKWATERS [1]
- 1 AQUATIC MACROPHYTES [1]
- 2 LOGS OR WOODY DEBRIS [1]

COMMENTS: _____

AMOUNT: (Check ONLY One or check 2 and AVERAGE) ☐- EXTENSIVE > 75% [11] ☑- MODERATE 25-75% [7] ☐- SPARSE 5-25% [3] ☐- NEARLY ABSENT < 5%[1]

Cover ☐ Max 20

3] CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER	
☐ - HIGH [4]	☐ - EXCELLENT [7]	☐ - NONE [6]	☑ - HIGH [3]	☐ - SNAGGING	☐ - IMPOUND.
☐ - MODERATE [3]	☐ - GOOD [5]	☐ - RECOVERED [4]	☐ - MODERATE [2]	☐ - RELOCATION	☐ - ISLANDS
☑ - LOW [2]	☑ - FAIR [3]	☐ - RECOVERING [3]	☐ - LOW [1]	☐ - CANOPY REMOVAL	☐ - LEVEED
☐ - NONE [1]	☐ - POOR [1]	☐ - RECENT OR NO RECOVERY [1]		☐ - DREDGING	☐ - BANK SHAPING
		☑ - IMPOUNDED [-1]		☐ - ONE SIDE CHANNEL MODIFICATIONS	

Channel ☐ Max 20

COMMENTS: _____

4]. RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) River Right Looking Downstream

RIPARIAN WIDTH (L R Per Bank)	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN) (L R Most Predominant Per Bank)		BANK EROSION (L R Per Bank)	
☑ ☑ - VERY WIDE > 100m [5]	☑ ☑-FOREST, SWAMP [3]	☐ ☐-CONSERVATION TILLAGE [1]	☐ ☐-NONE/LITTLE [3]	
☐ ☐ - WIDE > 50m [4]	☐ ☐-SHRUB OR OLD FIELD [2]	☐ ☐-URBAN OR INDUSTRIAL [0]	☑ ☑-MODERATE [2]	
☐ ☐ - MODERATE 10-50m [3]	☐ ☐-RESIDENTIAL,PARK,NEW FIELD [1]	☐ ☐-OPEN PASTURE,ROWCROP [0]	☐ ☐-HEAVY/SEVERE[1]	
☐ ☐ - NARROW 5-10 m [2]	☐ ☐-FENCED PASTURE [1]	☐ ☐-MINING/CONSTRUCTION [0]		
☐ ☐ - VERY NARROW <5 m[1]				
☐ ☐ - NONE [0]				

Riparian ☐ Max 10

Comments: _____

5.]POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY!)	MORPHOLOGY (Check 1 or 2 & AVERAGE)	CURRENT VELOCITY [POOLS & RIFFLES!] (Check All That Apply)	
☑ - >1m [6]	☑-POOL WIDTH > RIFFLE WIDTH [2]	☐-EDDIES[1]	☐-TORRENTIAL[-1]
☐ - 0.7-1m [4]	☐-POOL WIDTH = RIFFLE WIDTH [1]	☑-FAST[1]	☐-INTERSTITIAL[-1]
☐ - 0.4-0.7m [2]	☐-POOL WIDTH < RIFFLE W. [0]	☑-MODERATE [1]	☐-INTERMITTENT[-2]
☐ - 0.2- 0.4m [1]	☑-IMPOUNDED [-1]	☑-SLOW [1]	☐-VERY FAST[1]
☐ - < 0.2m [POOL=0]	COMMENTS: _____	☐-NONE [-1]	

Pool/ Current ☐ Max 12

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
☐ - Best Areas >10 cm [2]	☐ - MAX > 50 [2]	☐-STABLE (e.g.,Cobble, Boulder) [2]	☐ - NONE [2]
☐ - Best Areas 5-10 cm[1]	☐ - MAX < 50[1]	☐-MOD. STABLE (e.g.,Large Gravel) [1]	☐ - LOW [1]
☐ - Best Areas < 5 cm		☐-UNSTABLE (Fine Gravel,Sand) [0]	☐ - MODERATE [0]
☑ - NO RIFFLE [Metric=0]			☐ - EXTENSIVE [-1]

Riffle/Run ☐ Max 8

COMMENTS _____

Gradient ☐ Max 10

6] GRADIENT (ft/mi): _____ DRAINAGE AREA (sq.mi.) :_____ %POOL: 100 %GLIDE: ☐ %RIFFLE: ☐ %RUN: ☐

** Best areas must be large enough to support a population of riffle-obligate species

Modified 06/01/2005

Is Sampling Reach Representative of the Stream (Y/N)___ If Not, Explain:

Lat/Long (Beg):	
Lat/Long (Mid):	
Lat/Long (End):	
Lat/Long(X-Loc):	

Major Suspected Sources of Impacts (Check All That Apply):
- None ☐
- Industrial ☑
- WWTP ☑
- Ag ☐
- Livestock ☐
- Silviculture ☐
- Construction ☐
- Urban Runoff ☑
- CSOs ☐
- Suburban Impacts ☐
- Mining ☐
- Channelization ☐
- Riparian Removal ☐
- Landfills ☐
- Natural ☐
- Dams ☑
- Other Flow Alteration ☐
- Other:_____

	Gear:	Distance:	Water Clarity:	Water Stage:	Canopy -% Open
First Sampling Pass	A	.5km	50cm	normal	%100

Subjective Rating (1-10): 4

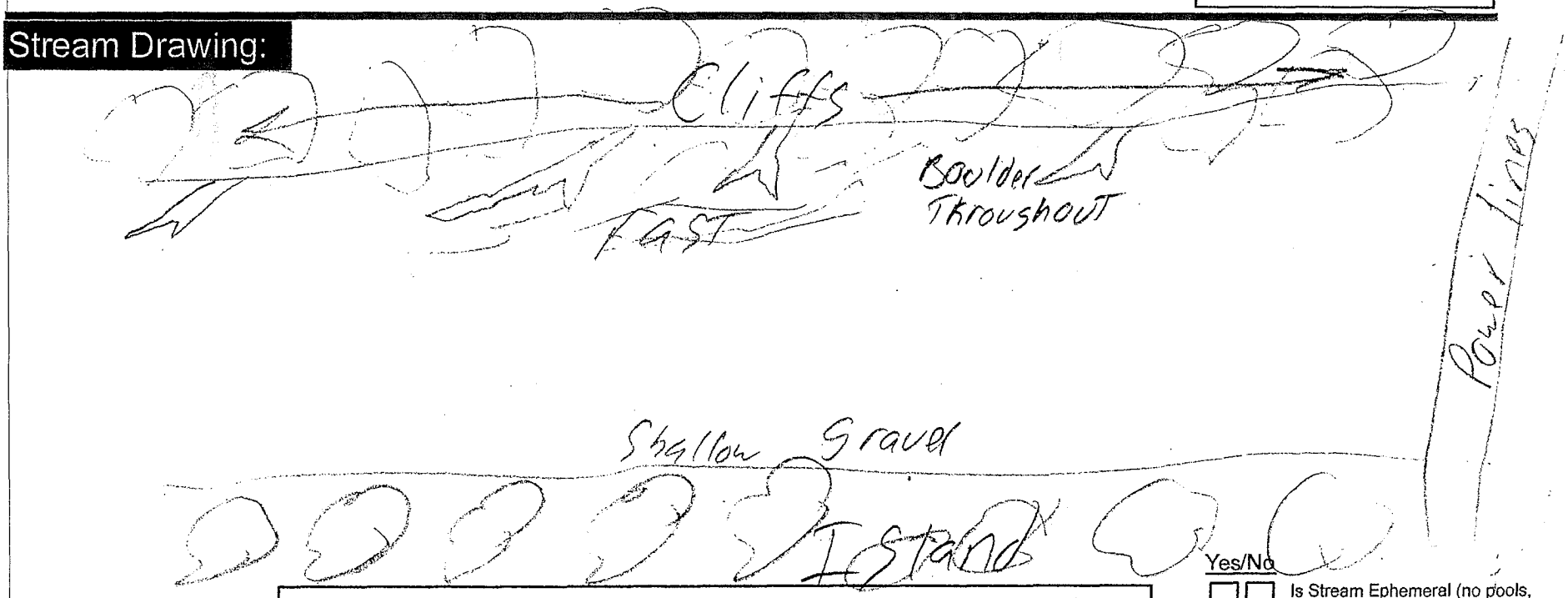
Aesthetic Rating (1-10): 4

Gradient: ☐ - Low, ☐ - Moderate, ☐ -High

Stream Measurements:

Average Width	Average Depth	Maximum Depth	Av. Bankfull Width	Bankfull Mean Depth	W/D Ratio	Bankfull Max Depth	Floodprone Area Width	Entrench. Ratio

Stream Drawing:



Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Yes/No	
☐☐	Is Stream Ephemeral (no pools, totally dry or only damp spots)?
☐☐	Is there water upstream? How Far:_____
☐☐	Is There Water Close Downstream? How Far:_____
☐☐	Is Dry Channel Mostly Natural?

Scanned 6-11-08 ✓

Qualitative Habitat Evaluation Index Field Sheet QHEI Score: ☐

River Code: 95 [illegible] **RM:** 27.1 **Stream:** Illinois River
Station ID: DR-11 **Location:** DST Dresden Tailwater DR-11
Date: 7-24-06 **Scorer:** ANJ **Latitude:** 41.39917 **Longitude:** -88.28506

1] SUBSTRATE (Check ONLY Two SubstrateTYPE BOXES; Estimate % present

TYPE	POOL	RIFFLE
☐☐-BLDR /SLBS[10]	___	___
☐☐-Lg BOULD. [10]	___	___
☑☐-BOULDER [9]	✓	✓
☐☑-COBBLE [8]	✓	✓
☐☐-HARDPAN [4]	___	___
☐☐-MUCK [2]	___	___
☐☐-GRAVEL [7]	✓	✓
☐☐-SAND [6]	✓	✓
☐☐-BEDROCK[5]	___	___
☐☐-DETRITUS[3]	___	___
☐☐-ARTIFICIAL[0]	___	___
☐☐-SILT [2]	___	___

SUBSTRATE ORIGIN (Check ONE (OR 2 & AVERAGE)): ☐-LIMESTONE [1] ☑-TILLS [1] ☐-WETLANDS[0] ☐-HARDPAN [0] ☐-SANDSTONE [0] ☐-RIP/RAP [0] ☐-LACUSTRINE [0] ☐-SHALE [-1] ☐-COAL FINES [-2]

SILT: ☐-SILT HEAVY [-2] ☐-SILT MODERATE [-1] ☑-SILT NORMAL [0] ☐-SILT FREE [1]

EMBEDDEDNESS: ☐-EXTENSIVE [-2] ☐-MODERATE [-1] ☑-NORMAL [0] ☐-NONE [1]

SUBSTRATE QUALITY (Check ONE (OR 2 & AVERAGE))

Substrate ☐ Max 20

NUMBER OF SUBSTRATE TYPES: (High Quality Only, Score 5 or >) ☑-4 or More [2] ☐-3 or Less [0]

COMMENTS:

2] INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

(Structure): 0 UNDERCUT BANKS [1]; 0 OVERHANGING VEGETATION [1]; 1 SHALLOWS (IN SLOW WATER) [1]; 0 ROOTMATS [1]

TYPE: Score All That Occur: 2 POOLS> 70 cm [2]; 2 ROOTWADS [1]; 2 BOULDERS [1]; 0 OXBOWS, BACKWATERS [1]; 1 AQUATIC MACROPHYTES [1]; 1 LOGS OR WOODY DEBRIS [1]

COMMENTS:

AMOUNT: (Check ONLY One or check 2 and AVERAGE) ☐-EXTENSIVE > 75% [11] ☑-MODERATE 25-75% [7] ☐-SPARSE 5-25% [3] ☐-NEARLY ABSENT < 5%[1]

Cover ☐ Max 20

3] CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER	
☐-HIGH [4]	☐-EXCELLENT [7]	☑-NONE [6]	☑-HIGH [3]	☐-SNAGGING	☐-IMPOUND.
☑-MODERATE [3]	☑-GOOD [5]	☐-RECOVERED [4]	☐-MODERATE [2]	☐-RELOCATION	☐-ISLANDS
☐-LOW [2]	☐-FAIR [3]	☐-RECOVERING [3]	☐-LOW [1]	☐-CANOPY REMOVAL	☐-LEVEED
☐-NONE [1]	☐-POOR [1]	☐-RECENT OR NO RECOVERY [1]		☐-DREDGING	☐-BANK SHAPING
		☐-IMPOUNDED [-1]		☐-ONE SIDE CHANNEL MODIFICATIONS	

Channel ☐ Max 20

COMMENTS:

4]. RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) ← River Right Looking Downstream →

RIPARIAN WIDTH (L R Per Bank)	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN) (L R Most Predominant Per Bank)		BANK EROSION (L R Per Bank)	
☑☑- VERY WIDE > 100m [5]	☑☑-FOREST, SWAMP [3]	☐☐-CONSERVATION TILLAGE [1]	☐☐-NONE/LITTLE [3]	
☐☐- WIDE > 50m [4]	☐☐-SHRUB OR OLD FIELD [2]	☐☐-URBAN OR INDUSTRIAL [0]	☑☑-MODERATE [2]	
☐☐- MODERATE 10-50m [3]	☐☐-RESIDENTIAL,PARK,NEW FIELD [1]	☐☐-OPEN PASTURE,ROWCROP [0]	☐☐-HEAVY/SEVERE[1]	
☐☐- NARROW 5-10 m [2]	☐☐-FENCED PASTURE [1]	☐☐-MINING/CONSTRUCTION [0]		
☐☐- VERY NARROW <5 m[1]				
☐☐- NONE [0]				

Riparian ☐ Max 10

Comments:

5.]POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY!)	MORPHOLOGY (Check 1 or 2 & AVERAGE)	CURRENT VELOCITY [POOLS & RIFFLES!] (Check All That Apply)	
☑- >1m [6]	☑-POOL WIDTH > RIFFLE WIDTH [2]	☑-EDDIES[1]	☐-TORRENTIAL[-1]
☐- 0.7-1m [4]	☐-POOL WIDTH = RIFFLE WIDTH [1]	☑-FAST[1]	☐-INTERSTITIAL[-1]
☐- 0.4-0.7m [2]	☐-POOL WIDTH < RIFFLE W. [0]	☑-MODERATE [1]	☐-INTERMITTENT[-2]
☐- 0.2- 0.4m [1]	☐-IMPOUNDED [-1]	☑-SLOW [1]	☑-VERY FAST[1]
☐- < 0.2m [POOL=0]	COMMENTS:	☐-NONE [-1]	

Pool/ Current ☐ Max 12

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
☑- Best Areas >10 cm [2]	☑- MAX > 50 [2]	☑-STABLE (e.g.,Cobble, Boulder) [2]	☑-NONE [2]
☐- Best Areas 5-10 cm[1]	☐- MAX < 50[1]	☐-MOD. STABLE (e.g.,Large Gravel) [1]	☐- LOW [1]
☐- Best Areas < 5 cm		☐-UNSTABLE (Fine Gravel,Sand) [0]	☐- MODERATE [0]
☐- NO RIFFLE [Metric=0]			☐- EXTENSIVE [-1]

COMMENTS

Riffle/Run ☐ Max 8

Gradient ☐ Max 10

6] GRADIENT (ft/mi): _____ DRAINAGE AREA (sq.mi.) :_____ %POOL: 60 %GLIDE: 10 %RIFFLE: 15 %RUN: 15

** Best areas must be large enough to support a population of riffle-obligate species

Modified 06/01/2005

Is Sampling Reach Representative of the Stream (Y/N)___ If Not, Explain:

Lat/Long (Beg):	
Lat/Long (Mid):	
Lat/Long (End):	
Lat/Long(X-Loc):	

Major Suspected Sources of Impacts (Check All That Apply):
- None ☐
- Industrial ☑
- WWTP ☑
- Ag ☐
- Livestock ☐
- Silviculture ☐
- Construction ☐
- Urban Runoff ☑
- CSOs ☐
- Suburban Impacts ☐
- Mining ☐
- Channelization ☐
- Riparian Removal ☑
- Landfills ☐
- Natural ☐
- Dams ☐
- Other Flow Alteration ☐
- Other:_____

	Gear:	Distance:	Water Clarity:	Water Stage:	Canopy -% Open
First Sampling Pass	A	5 km	75cm	normal	% 100

Subjective Rating (1-10): 5

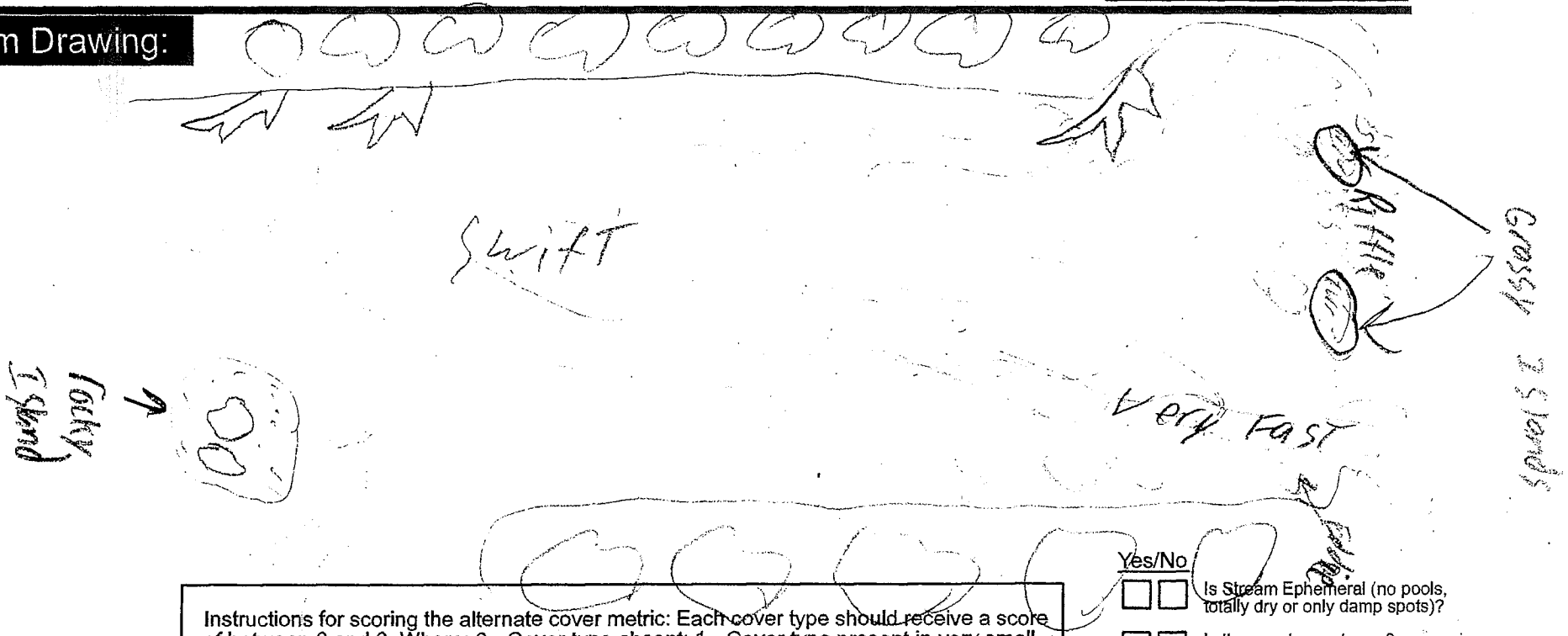
Aesthetic Rating (1-10): 5

Gradient: ☐ - Low, ☐ - Moderate, ☐ -High

Stream Measurements:

Average Width	Average Depth	Maximum Depth	Av. Bankfull Width	Bankfull Mean Depth	W/D Ratio	Bankfull Max Depth	Floodprone Area Width	Entrench. Ratio

Stream Drawing:



Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Yes/No	
☐ ☐	Is Stream Ephemeral (no pools, totally dry or only damp spots)?
☐ ☐	Is there water upstream? How Far:_____
☐ ☐	Is There Water Close Downstream? How Far:_____
☐ ☐	Is Dry Channel Mostly Natural?

NOT 1-11-06

Qualitative Habitat Evaluation Index Field Sheet QHEI Score: ☐

River Code: 95-660 **RM:** 246.5 **Stream:** Illinois River
Station ID: OP-14 **Location:** DST Marseilles Tailwater
Date: 7-25-06 **Scorer:** AAV **Latitude:** 41.31986 **Longitude:** -88.69300

1] SUBSTRATE (Check ONLY Two SubstrateTYPE BOXES; Estimate % present

TYPE	POOL	RIFFLE
☐☐-BLDR /SLBS[10]	✓	
☐☐-Lg BOULD. [10]		
☐☐-BOULDER [9]	✓	
☑☐-COBBLE [8]		
☐☑-HARDPAN [4]	✓	
☐☐-MUCK [2]		
☐☐-GRAVEL [7]	✓	
☐☐-SAND [6]	✓	
☐☐-BEDROCK[5]		
☐☐-DETRITUS[3]		
☐☐-ARTIFICIAL[0]		
☐☐-SILT [2]	✓	

SUBSTRATE ORIGIN (Check ONE (OR 2 & AVERAGE)): ☐-LIMESTONE [1] ☑-TILLS [1] ☐-WETLANDS[0] ☐-HARDPAN [0] ☐-SANDSTONE [0] ☐-RIP/RAP [0] ☐-LACUSTRINE [0] ☐-SHALE [-1] ☐-COAL FINES [-2]

SUBSTRATE QUALITY (Check ONE (OR 2 & AVERAGE)): ☐-SILT HEAVY [-2] ☐-SILT MODERATE [-1] ☑-SILT NORMAL [0] ☐-SILT FREE [1]

EMBEDDEDNESS: ☐-EXTENSIVE [-2] ☐-MODERATE [-1] ☑-NORMAL [0] ☐-NONE [1]

Substrate ☐ Max 20

NUMBER OF SUBSTRATE TYPES: (High Quality Only, Score 5 or >) ☑-4 or More [2] ☐-3 or Less [0]

COMMENTS

2] INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

(Structure)
8 UNDERCUT BANKS [1]
8 OVERHANGING VEGETATION [1]
1 SHALLOWS (IN SLOW WATER) [1]
0 ROOTMATS [1]

TYPE: Score All That Occur
1 POOLS> 70 cm [2]
8 ROOTWADS [1]
8 BOULDERS [1]
8 OXBOWS, BACKWATERS [1]
8 AQUATIC MACROPHYTES [1]
8 LOGS OR WOODY DEBRIS [1]

COMMENTS:

AMOUNT: (Check ONLY One or check 2 and AVERAGE) ☐ - EXTENSIVE > 75% [11] ☐ - MODERATE 25-75% [7] ☑ - SPARSE 5-25% [3] ☐ - NEARLY ABSENT < 5%[1]

Cover ☐ Max 20

3] CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER	
☐ - HIGH [4]	☐ - EXCELLENT [7]	☑ - NONE [6]	☑ - HIGH [3]	☐ - SNAGGING	☐ - IMPOUND.
☐ - MODERATE [3]	☑ - GOOD [5]	☐ - RECOVERED [4]	☐ - MODERATE [2]	☐ - RELOCATION	☐ - ISLANDS
☑ - LOW [2]	☐ - FAIR [3]	☐ - RECOVERING [3]	☐ - LOW [1]	☐ - CANOPY REMOVAL	☐ - LEVEED
☐ - NONE [1]	☐ - POOR [1]	☐ - RECENT OR NO RECOVERY [1]		☐ - DREDGING	☐ - BANK SHAPING
		☐ - IMPOUNDED [-1]		☐ - ONE SIDE CHANNEL MODIFICATIONS	

Channel ☐ Max 20

COMMENTS:

4]. RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) River Right Looking Downstream

RIPARIAN WIDTH (L R Per Bank)	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN) (L R Most Predominant Per Bank)		BANK EROSION (L R Per Bank)	
☑☑ - VERY WIDE > 100m [5]	☑☑-FOREST, SWAMP [3]	☐☐-CONSERVATION TILLAGE [1]	☑☑-NONE/LITTLE [3]	
☐☐ - WIDE > 50m [4]	☐☐-SHRUB OR OLD FIELD [2]	☐☐-URBAN OR INDUSTRIAL [0]	☐☐-MODERATE [2]	
☐☐ - MODERATE 10-50m [3]	☐☐-RESIDENTIAL,PARK,NEW FIELD [1]	☐☐-OPEN PASTURE,ROWCROP [0]	☐☐-HEAVY/SEVERE[1]	
☐☐ - NARROW 5-10 m [2]	☐☐-FENCED PASTURE [1]	☐☐-MINING/CONSTRUCTION [0]		
☐☐ - VERY NARROW <5 m[1]				
☐☐ - NONE [0]				

Riparian ☐ Max 10

Comments:

5.]POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY!)
☑ - >1m [6]
☐ - 0.7-1m [4]
☐ - 0.4-0.7m [2]
☐ - 0.2- 0.4m [1]
☐ - < 0.2m [POOL=0]

MORPHOLOGY (Check 1 or 2 & AVERAGE)
☑-POOL WIDTH > RIFFLE WIDTH [2]
☐-POOL WIDTH = RIFFLE WIDTH [1]
☐-POOL WIDTH < RIFFLE W. [0]
☐-IMPOUNDED [-1]

CURRENT VELOCITY [POOLS & RIFFLES!] (Check All That Apply)
☑-EDDIES[1] ☐-TORRENTIAL[-1]
☑-FAST[1] ☐-INTERSTITIAL[-1]
☑-MODERATE [1] ☐-INTERMITTENT[-2]
☑-SLOW [1] ☐-VERY FAST[1]
☐-NONE [-1]

COMMENTS:

Pool/ Current ☐ Max 12

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH
☐ - Best Areas >10 cm [2]
☑ - Best Areas 5-10 cm[1]
☐ - Best Areas < 5 cm
☐ - NO RIFFLE [Metric=0]

RUN DEPTH
☑ - MAX > 50 [2]
☐ - MAX < 50[1]

RIFFLE/RUN SUBSTRATE
☑-STABLE (e.g.,Cobble, Boulder) [2]
☑-MOD. STABLE (e.g.,Large Gravel) [1]
☐-UNSTABLE (Fine Gravel,Sand) [0]

RIFFLE/RUN EMBEDDEDNESS
☐ - NONE [2]
☐ - LOW [1]
☑ - MODERATE [0]
☐ - EXTENSIVE [-1]

COMMENTS

Riffle/Run ☐ Max 8

Gradient ☐ Max 10

6] GRADIENT (ft/mi): _____ DRAINAGE AREA (sq.mi.) : _____

%POOL: 60 %GLIDE: 5
%RIFFLE: 5 %RUN: 30

** Best areas must be large enough to support a population of riffle-obligate species

Modified 06/01/2005

Is Sampling Reach Representative of the Stream (Y/N)___ If Not, Explain:

Lat/Long (Beg):	
Lat/Long (Mid):	
Lat/Long (End):	
Lat/Long(X-Loc):	

Major Suspected Sources of Impacts (Check All That Apply):
- None ☐
- Industrial ☑
- WWTP ☑
- Ag ☐
- Livestock ☐
- Silviculture ☐
- Construction ☐
- Urban Runoff ☑
- CSOs ☐
- Suburban Impacts ☐
- Mining ☐
- Channelization ☐
- Riparian Removal ☑
- Landfills ☐
- Natural ☐
- Dams ☐
- Other Flow Alteration ☐
- Other:_____

	Gear:	Distance:	Water Clarity:	Water Stage:	Canopy -% Open
First Sampling Pass	A	.5 Km	75 cm	normal	%100

Subjective Rating (1-10): 6

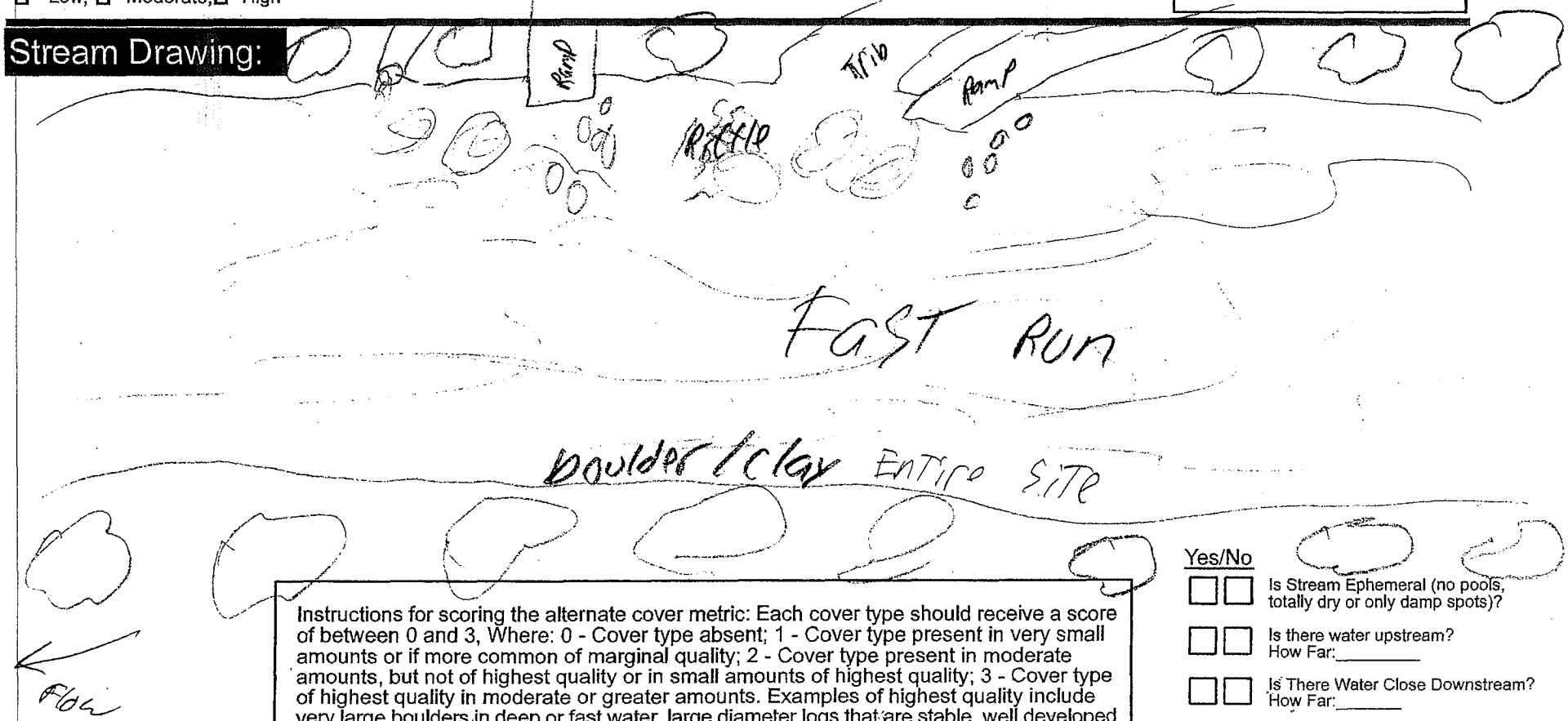
Aesthetic Rating (1-10): 6

Gradient: ☐ - Low, ☐ - Moderate, ☐ -High

Stream Measurements:

Average Width	Average Depth	Maximum Depth	Av. Bankfull Width	Bankfull Mean Depth	W/D Ratio	Bankfull Max Depth	Floodprone Area Width	Entrench. Ratio

Stream Drawing:



Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Yes/No	
☐ ☐	Is Stream Ephemeral (no pools, totally dry or only damp spots)?
☐ ☐	Is there water upstream? How Far:_____
☐ ☐	Is There Water Close Downstream? How Far:_____
☐ ☐	Is Dry Channel Mostly Natural?