



Use Attainability Analysis

for

WBID 2785 Williams Creek

Submitted by
Olsson Associates

To
Missouri Department of Natural Resources
Water Protection Program

On
October 14, 2008

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet A – Water Body Identification

I. Water Body Information (for water body being surveyed)

Water Body Name (from USGS 7.5' quad): Williams Cr.
Missouri Water Body Identification (WBID) Number: 2785
8-digit HUC: 110010007
County(ies), Listed Upstream to Downstream: Wayne
Upstream Legal Description (from Table H): Mouth
Downstream Legal Description (from Table H): 18, 27N, 5E
Number of sites evaluated: 3
List all site numbers, <u>consecutively upstream to downstream</u> : 2785-1, 2785-2, 2785-3
Include a Site Location Map(s). The map must include all requirements detailed in the <i>Missouri Recreational Use Attainability Analyses: Water Body Survey and Assessment Protocol</i> (Section IV.D.8.a).

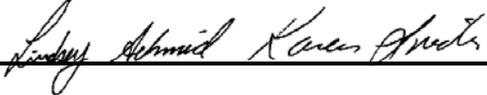
II. Facility Information (list all permitted discharges to this water body segment)

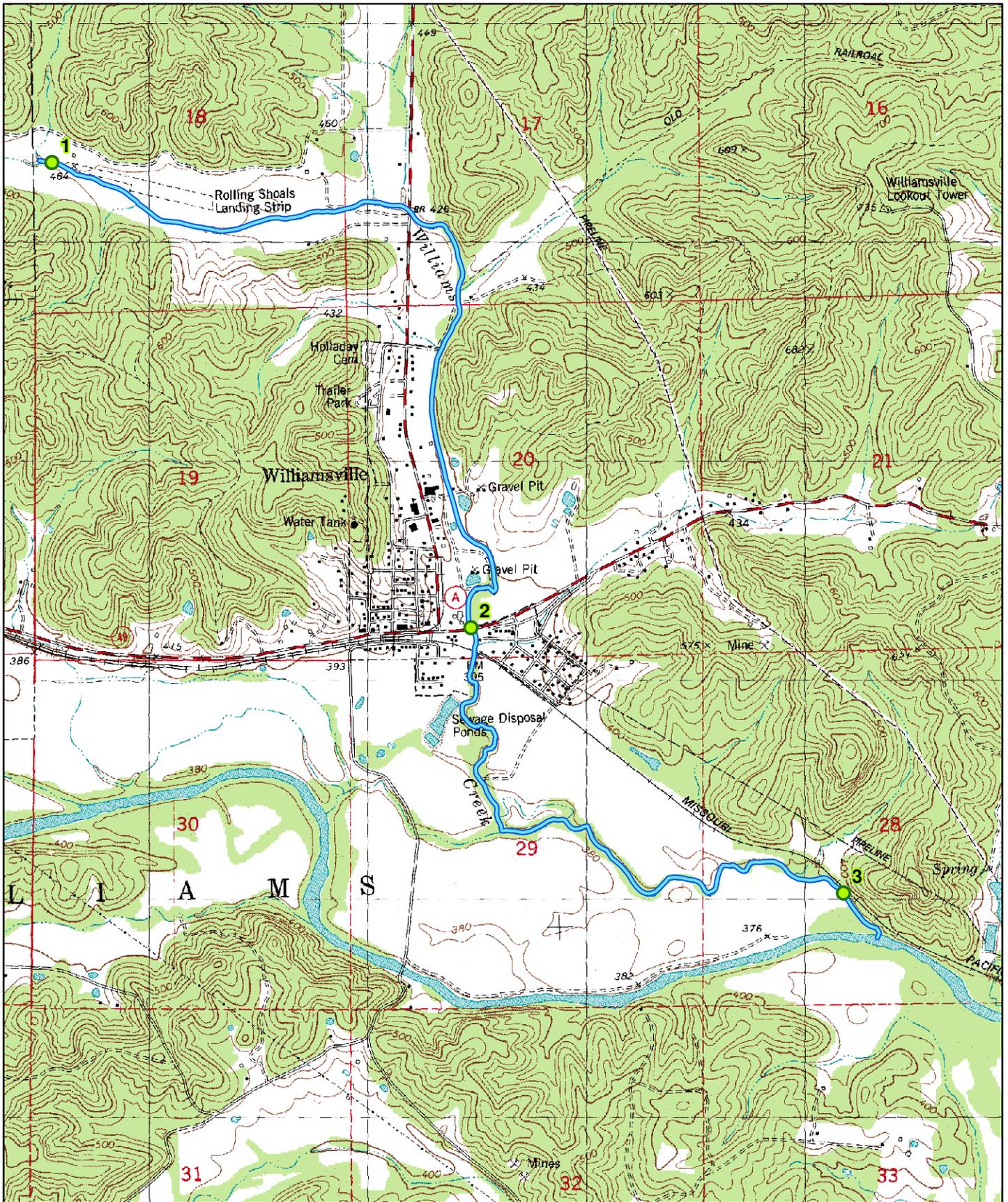
Facility Name(s) and Permit Number(s): Williamsville WWTF

III. UAA Surveyor (please **PRINT** legibly)

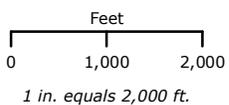
Name of Surveyor: Lindsey Schmid / Karen Snider	Telephone Number: 417-890-8802
Organization/Employer: Olsson Associates	

Please verify that you have completed all sections of all data sheets, checked all applicable boxes, provided a map (that includes all requirements listed in the *Missouri Recreational Use Attainability Analyses: Water Body Survey and Assessment Protocol*) and that this form is complete.

Signed:  Date: 09-19-08



**MISSOURI RECREATIONAL
USE ATTAINABILITY ANALYSIS**



Stream: Williams Cr.
WBID: 2785

Map Sheet: 1/1
County: Wayne



Project No. 008-1298

WBID # 2785

Site # 1

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)

(must be completed for each site)

Date & Time: 09-19-08 2:30 p.m.	Location Description (e.g., road crossing): CR 433
Stream Name: Williams Cr.	
Current Weather Conditions: Partly cloudy, cool	Facility Name(s): Williamsville WWTF
Weather Conditions for Past 10 days: 1.92" @ Arcadia	Permit Number(s): MO 0090654
Official Drought Conditions at time of this survey (search DNR home page for "drought"): No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): 718175	Northing (UTM Y): 4096334	Horizontal Accuracy: (EPE / FOM / PDOP) 125 ft. Meters
Site 11	Easting (UTM X): 718339	Northing (UTM Y): 4096275	Horizontal Accuracy: (EPE / FOM / PDOP) 75 ft. Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
2785-1-A	Bridge	2785-1-B	Upstream looking down	2785-1-C	Downstream looking up
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed*: (Uses actually observed at the time of survey.)

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use <i>Data Sheet D- Recreational Use Interview</i> when conducting interviews.)				

Site # 1

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 2 of 3)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: small town
Comments:				

Evidence of Human Use*: (Attach photos and reference in “Photos” section.)

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV / ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock Watering
<input type="checkbox"/> None of the above	Comments / Other:			

Substrate*: (These values should add up to 100%.)

% Cobble	80% Gravel	20% Sand	% Silt	% Mud/Clay	% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

N/A

Water Characteristics*: (Mark all that apply.)

Odor: N/A	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Color: N/A	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit: N/A	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input type="checkbox"/> None	<input type="checkbox"/> Other:

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that affect another use.

Site # 1

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 3 of 3)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses.)

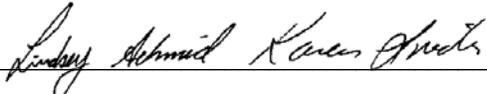
Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

Moved site downstream to next road access due to denial to enter property to get the original site location. Another local said that Williams Creek was dry the majority of the year @ site 1. They have also never seen or heard anyone using it for recreation.

Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.

Printed Names of Personnel Collecting Data: Lindsey Schmid / Karen Snider

Surveyor's Signature:  Date of Survey: 09-16-08

Organization: Olsson Associates Position: Field Service

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Williams Cr.</u> Waterbody ID: <u>2785</u> Site #: <u>1</u> Estimated Channel Incision: _____ (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>718175</u> UTM Y: <u>4096334</u> +/- <u>125 ft.</u> (meters) 11 UTM X: <u>718339</u> UTM Y: <u>4096275</u> +/- <u>75 ft.</u> (meters) Average Stream Width: <u>4</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Lindsey Schmid / Karen Snider</u>	<p align="center">Dissolved Oxygen</p> Date: <u>9/19/2008</u> Time: <u>2:30 p.m.</u> Dissolved Oxygen: _____ * (mg/L) Dissolved Oxygen: _____ * (% sat) Specific Cond: _____ * (µS/cm) Water Temperature: _____ * (°C) *DRY
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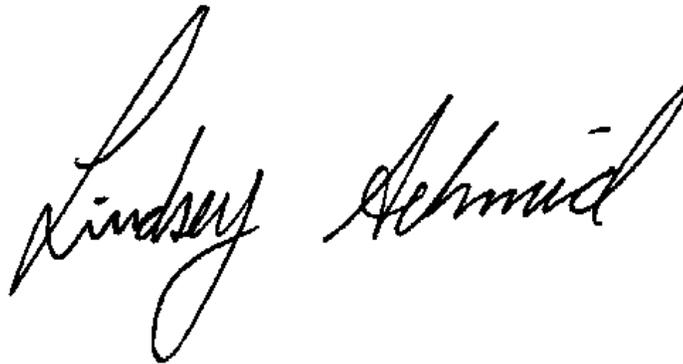
Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)																				
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	0.34	0.00	0.24	0.00	0.43	0.00	0.49	0.00	0.39	0.00	0.40	0.00	0.49	0.00	0.68	0.00	0.36	0.00	0.44	0.00	0.60	0.00
2	0.68	0.00	0.48	0.00	0.86	0.00	0.98	0.00	0.78	0.00	0.80	0.00	0.98	0.00	1.36	0.00	0.72	0.00	0.88	0.00	1.20	0.00
3	1.02	0.00	0.72	0.00	1.29	0.00	1.47	0.00	1.17	0.00	1.20	0.00	1.47	0.00	2.04	0.00	1.08	0.00	1.32	0.00	1.80	0.00
4	1.36	0.00	0.96	0.00	1.72	0.00	1.96	0.00	1.56	0.00	1.60	0.00	1.96	0.00	2.72	0.00	1.44	0.00	1.76	0.00	2.40	0.00
5	1.70	0.00	1.20	0.00	2.15	0.00	2.45	0.00	1.95	0.00	2.00	0.00	2.45	0.00	3.40	0.00	1.80	0.00	2.20	0.00	3.00	0.00
6	2.04	0.00	1.44	0.00	2.58	0.00	2.94	0.00	2.34	0.00	2.40	0.00	2.94	0.00	4.08	0.00	2.16	0.00	2.64	0.00	3.60	0.00
7	2.38	0.00	1.68	0.00	3.01	0.00	3.43	0.00	2.73	0.00	2.80	0.00	3.43	0.00	4.76	0.00	2.52	0.00	3.08	0.00	4.20	0.00
8	2.72	0.00	1.92	0.00	3.44	0.00	3.92	0.00	3.12	0.00	3.20	0.00	3.92	0.00	5.44	0.00	2.88	0.00	3.52	0.00	4.80	0.00
9	3.06	0.00	2.16	0.00	3.87	0.00	4.41	0.00	3.51	0.00	3.60	0.00	4.41	0.00	6.12	0.00	3.24	0.00	3.96	0.00	5.40	0.00
Right Bank	3.40	0.00	2.40	0.00	4.30	0.00	4.90	0.00	3.90	0.00	4.00	0.00	4.90	0.00	6.80	0.00	3.60	0.00	4.40	0.00	6.00	0.00
Feature Type <small>(riffle, run, or pool)</small>	DRY		DRY																			

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width. GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order. Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten) Mark dry depth measurements as 0; record actual measurements to 0.1 meter unless depth is too deep to measure (then record as > 1) All measurements to be taken to the nearest 0.01 meter.

MAXIMUM 0.00
MEDIAN 0.00

Surveyor's Signature:



WBID # 2785

Site # 2

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)

(must be completed for each site)

Date & Time: 09-19-08 5:55 p.m.	Location Description (e.g., road crossing): HWY 49
Stream Name: Williams Cr.	
Current Weather Conditions: Partly cloudy, cool	Facility Name(s): Williamsville WWTF
Weather Conditions for Past 10 days: 1.92" @ Arcadia	Permit Number(s): MO 0090654
Official Drought Conditions at time of this survey (search DNR home page for "drought"): No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): 718447	Northing (UTM Y): 4094432	Horizontal Accuracy: (EPE / FOM / PDOP) 44 ft. Meters
Site 11	Easting (UTM X): 718462	Northing (UTM Y): 4094254	Horizontal Accuracy: (EPE / FOM / PDOP) 57 ft. Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
2785-2-A	Bridge	2785-2-B	Upstream looking down	2785-2-C	Downstream looking up
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed*: (Uses actually observed at the time of survey.)

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use <i>Data Sheet D- Recreational Use Interview</i> when conducting interviews.)				

Site # 2

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 2 of 3)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input checked="" type="checkbox"/> Urban areas small town	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments: Cuts right through town				

Evidence of Human Use*: (Attach photos and reference in "Photos" section.)

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV / ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock Watering
<input type="checkbox"/> None of the above	Comments / Other:			

Substrate*: (These values should add up to 100%.)

% Cobble	80% Gravel	20% Sand	% Silt	% Mud/Clay	% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

Grass has overgrown in creek

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: N/A
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Other: N/A
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Other: N/A

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that affect another use.

Site # 2

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 3 of 3)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses.)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

Creek is dry.
Easily accessible.

Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.

Printed Names of Personnel Collecting Data: Lindsey Schmid / Karen Snider

Surveyor's Signature: *Lindsey Schmid Karen Snider* Date of Survey: 09-16-08

Organization: Olsson Associates Position: Field Service

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Williams Cr.</u> Waterbody ID: <u>2785</u> Site #: <u>2</u> Estimated Channel Incision: _____ (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>718447</u> UTM Y: <u>4094432</u> +/- <u>44 ft.</u> (meters) 11 UTM X: <u>718462</u> UTM Y: <u>4094254</u> +/- <u>57 ft.</u> (meters) Average Stream Width: <u>2</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Lindsey Schmid / Karen Snider</u>	<p align="center">Dissolved Oxygen</p> Date: <u>9/19/2008</u> Time: <u>5:55 p.m.</u> Dissolved Oxygen: _____ * (mg/L) Dissolved Oxygen: _____ * (% sat) Specific Cond: _____ * (µS/cm) Water Temperature: _____ * (°C) *DRY
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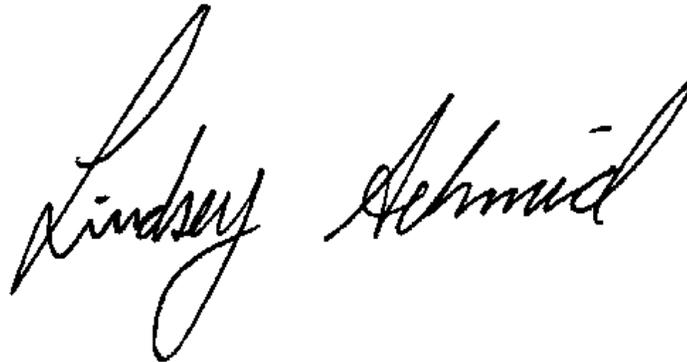
Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)																				
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.41	0.00	0.21	0.00	0.12	0.00	0.16	0.00	0.20	0.00	0.20	0.00	0.14	0.00	0.15	0.00	0.13	0.00	0.12	0.00	0.28	0.00
2	0.82	0.00	0.42	0.00	0.24	0.00	0.32	0.00	0.40	0.00	0.40	0.00	0.28	0.00	0.30	0.00	0.26	0.00	0.24	0.00	0.56	0.00
3	1.23	0.00	0.63	0.00	0.36	0.00	0.48	0.00	0.60	0.00	0.60	0.00	0.42	0.00	0.45	0.00	0.39	0.00	0.36	0.00	0.84	0.00
4	1.64	0.00	0.84	0.00	0.48	0.00	0.64	0.00	0.80	0.00	0.80	0.00	0.56	0.00	0.60	0.00	0.52	0.00	0.48	0.00	1.12	0.00
5	2.05	0.00	1.05	0.00	0.60	0.00	0.80	0.00	1.00	0.00	1.00	0.00	0.70	0.00	0.75	0.00	0.65	0.00	0.60	0.00	1.40	0.00
6	2.46	0.00	1.26	0.00	0.72	0.00	0.96	0.00	1.20	0.00	1.20	0.00	0.84	0.00	0.90	0.00	0.78	0.00	0.72	0.00	1.68	0.00
7	2.87	0.00	1.47	0.00	0.84	0.00	1.12	0.00	1.40	0.00	1.40	0.00	0.98	0.00	1.05	0.00	0.91	0.00	0.84	0.00	1.96	0.00
8	3.28	0.00	1.68	0.00	0.96	0.00	1.28	0.00	1.60	0.00	1.60	0.00	1.12	0.00	1.20	0.00	1.04	0.00	0.96	0.00	2.24	0.00
9	3.69	0.00	1.89	0.00	1.08	0.00	1.44	0.00	1.80	0.00	1.80	0.00	1.26	0.00	1.35	0.00	1.17	0.00	1.08	0.00	2.52	0.00
Right Bank	4.10	0.00	2.10	0.00	1.20	0.00	1.60	0.00	2.00	0.00	2.00	0.00	1.40	0.00	1.50	0.00	1.30	0.00	1.20	0.00	2.80	0.00
Feature Type <small>(riffle, run, or pool)</small>	DRY																					

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width. GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order. Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten). Mark dry depth measurements as 0; record actual measurements to 0.1 meter unless depth is too deep to measure (then record as > 1). All measurements to be taken to the nearest 0.01 meter.

MAXIMUM 0.00
 MEDIAN 0.00

Surveyor's Signature:



WBID # 2785

Site # 3

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)

(must be completed for each site)

Date & Time: 09-19-08 4:20 p.m.	Location Description (e.g., road crossing): Parallel with RR tracks
Stream Name: Williams Cr.	
Current Weather Conditions: Partly cloudy, warm	Facility Name(s): Williamsville WWTF
Weather Conditions for Past 10 days: 1.92" @ Arcadia	Permit Number(s): MO 0090654
Official Drought Conditions at time of this survey (search DNR home page for "drought"): No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): 719822	Northing (UTM Y): 4093352	Horizontal Accuracy: (EPE / FOM / PDOP) 68 ft. Meters
Site 11	Easting (UTM X): 719998	Northing (UTM Y): 4043293	Horizontal Accuracy: (EPE / FOM / PDOP) 61 ft. Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
2785-3-A	Upstream looking down	2785-3-B	Downstream looking up		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed*: (Uses actually observed at the time of survey.)

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input type="checkbox"/> None of the above	<input checked="" type="checkbox"/> Other:
Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use <i>Data Sheet D- Recreational Use Interview</i> when conducting interviews.)				

Site # 3

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 3 of 3)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses.)

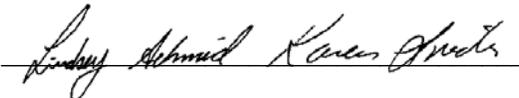
Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

Moved segment upstream .15 miles closer to railroad access, and to prevent running into Black River.

Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.

Printed Names of Personnel Collecting Data: Lindsey Schmid / Karen Snider

Surveyor's Signature:  Date of Survey: 09-19-08

Organization: Olsson Associates Position: Field Service

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Williams Cr.</u> Waterbody ID: <u>2785</u> Site #: <u>3</u> Estimated Channel Incision: <u>0.4 (m)</u> (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>719822</u> UTM Y: <u>4093352</u> +/- <u>68 ft.</u> (meters) 11 UTM X: <u>719998</u> UTM Y: <u>4043293</u> +/- <u>61 ft.</u> (meters) Average Stream Width: <u>5.5 (meters)</u> Length of Survey Segment: <u>150 (meters)</u> (To determine Length of Reach) (20x average stream width) Field Staff: <u>Lindsey Schmid / Karen Snider</u>	<p align="center">Dissolved Oxygen</p> Date: <u>9/19/2008</u> Time: <u>4:20 p.m.</u> Dissolved Oxygen: <u>3.32</u> (mg/L) Dissolved Oxygen: <u>36.6</u> (% sat) Specific Cond: <u>283</u> (µS/cm) Water Temperature: <u>20.7</u> (°C)
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Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)																				
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	0.09	0.05	0.07	0.05	0.52	0.21	0.64	0.17	0.71	0.28	0.67	0.38	0.65	0.51	0.56	0.39	0.48	0.18	0.44	0.37	0.78	0.34
2	0.18	0.05	0.14	0.05	1.04	0.28	1.28	0.24	1.42	0.26	1.34	0.49	1.30	0.62	1.12	0.38	0.96	0.22	0.88	0.62	1.56	0.39
3	0.27	0.05	0.21	0.05	1.56	0.26	1.92	0.29	2.13	0.26	2.01	0.51	1.95	0.63	1.68	0.47	1.44	0.37	1.32	0.61	2.34	0.39
4	0.36	0.05	0.28	0.05	2.08	0.24	2.56	0.38	2.84	0.27	2.68	0.52	2.60	0.63	2.24	0.50	1.92	0.39	1.76	0.53	3.12	0.47
5	0.45	0.05	0.35	0.05	2.60	0.20	3.20	0.49	3.55	0.24	3.35	0.44	3.25	0.49	2.80	0.54	2.40	0.41	2.20	0.54	3.90	0.56
6	0.54	0.07	0.42	0.05	3.12	0.23	3.84	0.56	4.26	0.22	4.02	0.35	3.90	0.45	3.36	0.55	2.88	0.41	2.64	0.47	4.68	0.54
7	0.63	0.08	0.49	0.05	3.64	0.25	4.48	0.51	4.97	0.22	4.69	0.24	4.55	0.31	3.92	0.56	3.36	0.37	3.08	0.47	5.46	0.57
8	0.72	0.07	0.56	0.05	4.16	0.25	5.12	0.48	5.68	0.26	5.36	0.26	5.20	0.30	4.48	0.42	3.84	0.33	3.52	0.46	6.24	0.59
9	0.81	0.06	0.63	0.05	4.68	0.33	5.76	0.48	6.39	0.24	6.03	0.25	5.85	0.19	5.04	0.41	4.32	0.32	3.96	0.37	7.02	0.42
Right Bank	0.90	0.00	0.70	0.00	5.20	0.00	6.40	0.00	7.10	0.00	6.70	0.00	6.50	0.00	5.60	0.00	4.80	0.00	4.40	0.00	7.80	0.00
Feature Type <small>(riffle, run, or pool)</small>	Run	Run	Run	Run																		

MAXIMUM 0.63

MEDIAN 0.31

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width.
 GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.
 Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)
 Mark dry depth measurements as 0; record actual measurements to 0.1 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature:





