



Missouri
Department of
Natural Resources

Use Attainability Analysis

for

WBID 0316 Todd Creek

Submitted by
BWR

to

Missouri Department of Natural Resources
Water Protection Program

Date received: June 1, 2007

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):	TODD CREEK		
Missouri Water Body Identification (WBID) Number:	316		
8-digit HUC:	10240012	County:	PLATE
Upstream Legal Description (from Table H):	15, 52N, 34W		
Downstream Legal Description (from Table H):	MOUTH		
Number of sites evaluated	6		
List all sites numbers, listed consequently upstream to downstream:	1, 2, 3, 4, 5, 6		

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest.

II. Subsegmentation (fill this section out only in cases where subsegmentation is being proposed)

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Upstream Coordinates:		Downstream Coordinates:	
UTM X	Y	UTM X	Y
HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the locational data.)			
Global Positioning System (GPS)		Interpolation:	
Static Mode		Topographic Map or DRG	
Dynamic Mode (Kinematic)		Aerial Photograph or DOQQ	
Precise Positioning Service		Satellite Imagery	
Signal Averaging		Interpolation Other	
Real Time Differential Processing			
HORIZONTAL ACCURACY ESTIMATE			
GPS Data Quality		Interpolation Data Quality	
FOM	± _____ Meters	Source Map Scale: 1:24,000 1:100,000 Other _____	
EPE	± _____ Feet or ± _____ Meters	_____	
PDOP		± _____ Feet or ± _____ Meters	

III. Discharger Facility Information (list all permitted dischargers on the stream)

Discharger Facility Name(s):	KC, Todd Creek WWTP ; PCRSO, Alan Acres WWTF		
Discharger Permit Number(s):	↓	↓	
	M00024961	M00119393	

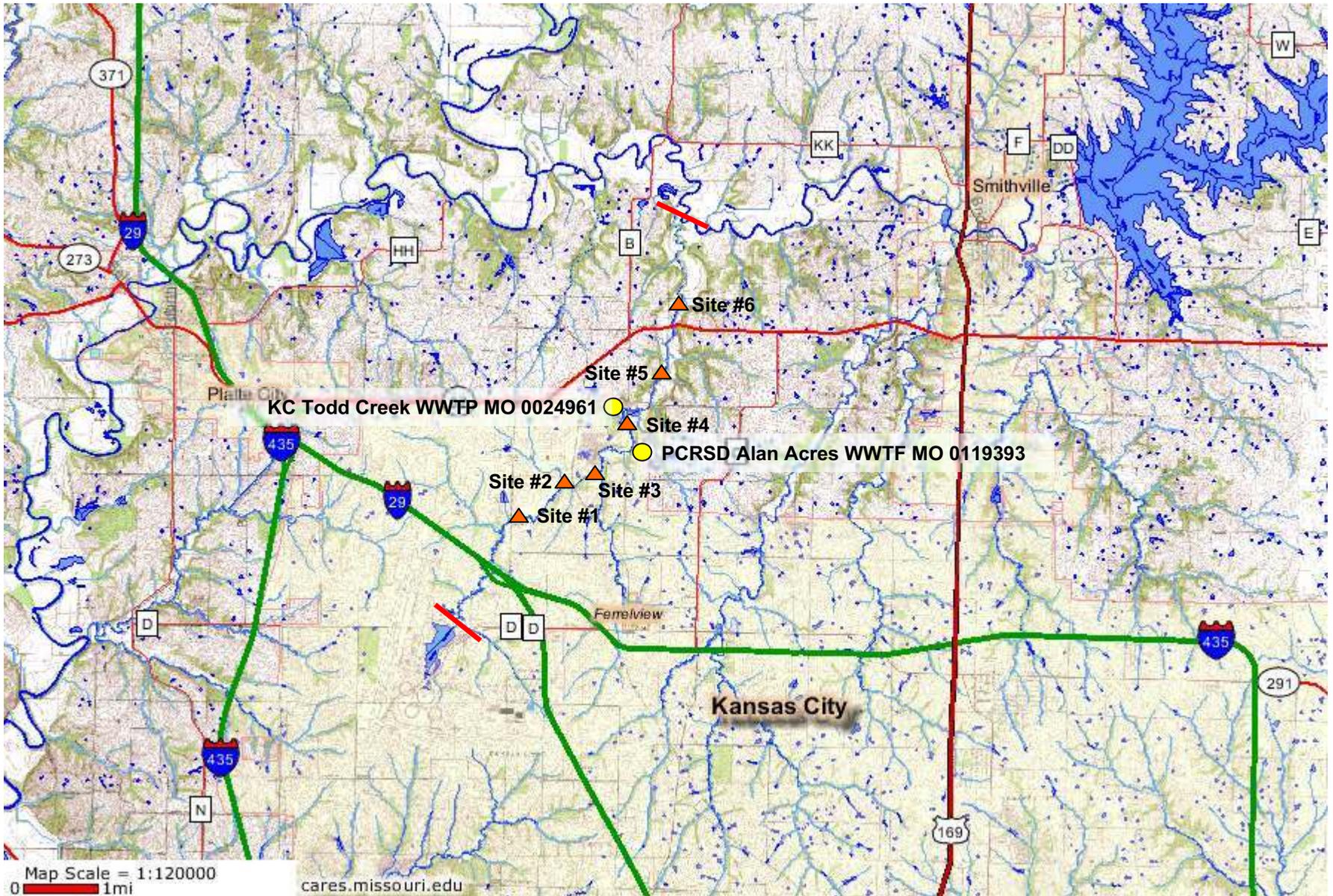
IV. UAA Surveyor (please print legibly)

Name of Surveyor:	Alan Mitchell	Telephone Number:	816.363.2696
Organization/Employer:	EAF, INC.		
Position:	ENV. ENGR.		

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

Signed: Alan Mitchell

Date: May 29, 2007



Todd Creek
WBID #316



WBID# 316
 Site# 1

Field Data Sheets for Recreational Use Stream Surveys
Data Sheet B - Site Characterization
 (must be completed for each site)

Date & Time: <u>Site 5/29/2007</u>	Site Location Description (c.g., road crossing): <u>Bridge - upstream from</u>
Personnel (Data Collectors): <u>Alan Mitchell, Jonathan Studtmann</u>	<u>MINNAP/O</u>
Current Weather Conditions: <u>sunny, humid</u>	Facility Name: <u>KC, Todd Creek WWP, PC KSD, Alan Beck</u>
Weather Conditions for Past 10 days: <u>Relmly 24 hrs ago</u>	Permit Number: <u>M00024961, M00119393</u>
Drought Conditions?: 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 Locations:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)	
Site GPS Coordinates: UTM X: <u>094.69558°W</u> Y: <u>89.33114°N</u>	
HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the locational data.)	
Global Positioning System (GPS)	
Static Mode	Interpolation
Dynamic Mode (Kinematic)	Topographic Map or DRG
Precise Positioning Service	Aerial Photograph or DOQQ
Signal Averaging	Satellite Imagery
Real Time Differential Processing	Interpolation Other
HORIZONTAL ACCURACY ESTIMATE	
GPS Data Quality	Interpolation Data Quality
FOM ± _____ Meters	Source Map Scale: 1:24,000 1:100,000 Other _____ ± _____ Feet or ± _____ Meters
EPE ± <u>19</u> Feet or ± _____ Meters	
PDOP	

Photos:

Upstream Photos		Downstream Photos		Other Photos	
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>82683</u>		<u>84685</u>			

Uses Observed*: (Uses actually observed at 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 *Data Sheet D- Recreational Use Interview* when conducting interviews.)

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"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Comments:

Indications of Human Use*: (attach photos)

<input type="checkbox"/> Roads	<input type="checkbox"/> Rope swings	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Other:	

Comments: No evidence of human use.

90 CHANNEL FEATURES

Run - 70
Riffle - 20
Pool - 0

* Page Two - Data Sheet B for WBID # 316 : SITE # 1

Stream Morphology:
Upstream View's Physical Dimensions: Is there any water present at this view? Yes No
If so, is there an obvious current? Yes No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

Downstream View's Physical Dimensions: Is there any water present at this view? Yes No
If so, is there an obvious current? Yes No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

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

5 % Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	95 % Bedrock
------------	----------	--------	--------	------------	--------------

Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

periphytes on bank in bedrock bottom

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 checked="" 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:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach any additional comments () to this form.

*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 effect another use.

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

Surveyor's Signature: [Signature] Date of Survey: May 29, 2007

Organization: EAC Inc. Position: Env. Eng.

Data Sheet C - Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 316

Site # 1

	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
Transect A	1 wetted width	0.1			
	2 7.5 m	0.1		1	Channel Feature:
	3	0.1		2	RUN 100%
	4 measurements	0.1		3	
	5 0.7 m	<0.1		4	Dissolved Oxygen:
	6 apart	0.1		5	
	7	0.1		6	8.31 ppm
	8	0.1		7	93.6 %
	9	<0.1		8	21.3 °C
	10	<0.1		9	
Transect B	1 wetted width	0.1		10	
	2 6.5 m	0.1		11	
	3	0.1		12	Channel Feature:
	4 measurements	0.1		13	RUN 100%
	5 0.6 m	0.1		14	
	6 apart	0.1		15	Dissolved Oxygen:
	7	0.1		16	
	8	0.1		17	8.31 ppm
	9	0.1		18	98.7 %
	10	0.1		19	21.3 °C
Transect C	1 wetted width	<0.1		20	
	2 6.0 m	<0.1		21	
	3	0.1		22	
	4 measurements	0.1		23	Channel Feature:
	5 0.6 m	0.1		24	RIFFLE 50%
	6 apart	0.1		25	RUN 50%
	7	<0.1		26	Dissolved Oxygen:
	8	<0.1			8.30 ppm
	9	<0.1			94.0 %
	10	<0.1		n	21.3 °C

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth to the middle rank is the median depth.
 If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Oliver W. Mitchell Date: May 29, 2007

Organization: EAF, Inc. Position: EAF Engr.

Data Sheet C - Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 316

Site # 1

Transect	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
D	1 wetted width	<0.1			
	2 7.0 m	<0.1		1	Channel Feature:
	3	<0.1		2	RUN 50%
	4 measurements	0.1		3	RIFFLE 50%
	5 0.7 m	<0.1		4	Dissolved Oxygen
	6 apart	<0.1		5	
	7	0.1		6	8.26 ppm
	8	0.1		7	93.3 %
	9	<0.1		8	21.3 °C
	10	<0.1		9	
E	1 wetted width	0.1		10	
	2 4.5 m	0.1		11	
	3	<0.1		12	Channel Feature:
	4 measurements	<0.1		13	RIFFLE 100%
	5 0.4 m	<0.1		14	
	6 apart	<0.1		15	Dissolved Oxygen:
	7	<0.1		16	
	8	<0.1		17	8.15 ppm
	9	<0.1		18	92.1 %
	10	<0.1		19	21.3 °C
F	1 wetted width	<0.1		20	
	2 6.5 m	0.2		21	
	3	0.1		22	
	4 measurements	0.1		23	Channel Feature:
	5 0.6 m	0.2		24	RIFFLE 50%
	6 apart	0.2		25	RUN 50%
	7	0.1		26	Dissolved Oxygen
	8	0.1			8.07 ppm
	9	<0.1			91.5 %
	10	<0.1		n	191.3 °C

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth to the middle rank is the median depth.
 If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Albert M. Wittell Date: Mar 22 2007
 Organization: EAE, Inc. Position: Env. Eng.

Data Sheet C - Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 314

Site # 1

	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
Transect G	wetted width	0.1			
	<u>7.0</u> m	0.1		1	Channel Feature:
	0	0.1		2	RUN 100%
	measurements	0.1		3	
	<u>0.7</u> m	0.1		4	Dissolved Oxygen:
	apart	0.1		5	
		0.1		6	7.98 ppm
		0.1		7	29.7 °C
		0.1		8	21.1 °C
		0.1		9	
Transect H	wetted width	<0.1			
	<u>6.0</u> m	<0.1		12	Channel Feature:
		<0.1		13	RIPPLE 100%
	measurements	<0.1		14	
	<u>0.6</u> m	<0.1		15	Dissolved Oxygen:
	apart	0.1		16	
		<0.1		17	7.86 ppm
		<0.1		18	28.2 °C
		<0.1		19	21.1 °C
		<0.1		20	
Transect I	wetted width	<0.1			
	<u>5.5</u> m	<0.1		23	Channel Feature:
		<0.1		24	RIPPLE 100%
	measurements	<0.1		25	
	<u>0.5</u> m	<0.1		26	Dissolved Oxygen:
	apart	<0.1			
		<0.1			7.72 ppm
		<0.1			28.8 °C
		<0.1		n	21.1 °C
		<0.1			

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth to the middle rank is the median depth.
 If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: [Signature] Date: July 29, 2007
 Organization: EKE, Inc. Position: Event Recorder

Data Sheet C - Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 316

Site # 1

Transect	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
Transect J	wetted width	0.1			
	5.0 m	0.1		1	Channel Feature:
		0.1		2	RIFLE 10%
	measurements	0.1		3	RUN 90%
	0.5 m	0.1		4	Dissolved Oxygen
	apart	0.1		5	
		0.1		6	7.02 ppm
		0.1		7	8.75 %
		0.1		8	2.02
		0.1		9	
Transect K	wetted width	<0.1		10	
	7.0 m	<0.1		11	
		<0.1		12	Channel Feature:
	measurements	<0.1		13	RIFLE
	0.7 m	<0.1		14	RUN 33%
	apart	<0.1		15	Dissolved Oxygen:
		<0.1		16	
		<0.1		17	7.39 ppm
		<0.1		18	82.0 %
		<0.1		19	2.11 °C
Transect	wetted width			20	
	— m			21	
				22	
	measurements			23	Channel Feature:
	— m			24	
	apart			25	
				26	Dissolved Oxygen
				.	
				.	ppm
				n	%

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth to the middle rank is the median depth.
 If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: [Signature] Date: 5/22/07

Organization: EAE, Inc. Position: [Signature]

WBID# 316
 Site# 2

Field Data Sheets for Recreational Use Stream Surveys
Data Sheet B - Site Characterization
 (must be completed for each site)

Date & Time: <u>10:45 am</u>	Site Location Description (e.g., road crossing): <u>Upstream: Bridge Crossing @ Inter Urban</u>
Personnel (Data Collectors): <u>AM + JS</u>	Facility Name: <u>KC Todd Creek WWTR, PCFSD Along Hwy</u>
Current Weather Conditions: <u>SUNNY + WINDY</u>	Permit Number: <u>M000496, M00119393</u>
Weather Conditions for Past 10 days: <u>Scattered Thunder</u>	
Drought Conditions?: No drought <input 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 Locations:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)	
Site GPS Coordinates: UTM X: <u>94.68037°W</u>	Y: <u>39.33827°N</u>
HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the locational data.)	
Global Positioning System (GPS)	
Static Mode	Interpolation
Dynamic Mode (Kinematic)	Topographic Map or DRG
Precise Positioning Service	Aerial Photograph or DOQQ
Signal Averaging	Satellite Imagery
Real Time Differential Processing	Interpolation Other
HORIZONTAL ACCURACY ESTIMATE	
GPS Data Quality	
FOM ± _____ Meters	Interpolation Data Quality
EPE ± <u>20</u> Feet or ± _____ Meters	
PDOP	
Source Map Scale: 1:24,000 1:100,000 Other _____	
± _____ Feet or ± _____ Meters	

Photos:

Upstream Photos		Downstream Photos		Other Photos	
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>902 91</u>		<u>922 93</u>			

Uses Observed*: (Uses actually observed at 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 *Data Sheet D- Recreational Use Interview* when conducting interviews.)

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"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Comments:

Indications of Human Use*: (attach photos)

<input type="checkbox"/> Roads	<input type="checkbox"/> Rope swings	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Other:	

Comments: Construction on Inter Urban Rd.

91% CHANNEL FEATURES

* Page Two - Data Sheet B for WBID # 316 : SITE # 2

Run - 60%
Riffle - 10%
Pool - 30%

Stream Morphology:

Upstream View's Physical Dimensions: Is there any water present at this view? Yes No

If so, is there an obvious current? Yes No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

Downstream View's Physical Dimensions: Is there any water present at this view? Yes No

If so, is there an obvious current? Yes No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

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

5 % Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	95 % Bedrock
------------	----------	--------	--------	------------	--------------

Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

periphytes 2%

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 checked="" 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:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach any additional comments () to this form.

*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 effect another use.

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

Surveyor's Signature: [Signature] Date of Survey: 5/29/2007

Organization: EAF, Inc. Position: Env. Eng.

Data Sheet C - Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 316 Site # 2

	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
Transect A	1 wetted width	<0.1			
	2 <u>2.5</u> m	<0.1		1	Channel Feature:
	3	0.1		2	RUN 100%
	4 measurements	<0.1		3	
	5 <u>1.8</u> m	<0.1		4	Dissolved Oxygen:
	6 apart	<0.1		5	
	7	<0.1		6	<u>9.36</u> ppm
	8	<0.1		7	<u>105.9</u> %
	9	<0.1		8	<u>21.3</u> °C
	10	<0.1		9	
Transect B	1 wetted width	0.1			
	2 <u>12.0</u> m	0.2		12	Channel Feature:
	3	0.1		13	RUN 100%
	4 measurements	0.1		14	
	5 <u>1.2</u> m	0.2		15	Dissolved Oxygen:
	6 apart	0.1		16	
	7	0.1		17	<u>9.10</u> ppm
	8	0.1		18	<u>102.6</u> %
	9	0.1		19	<u>21.1</u> °C
	10	0.1		20	
Transect C	1 wetted width	0.1			
	2 <u>13.5</u> m	0.1		23	Channel Feature:
	3	<0.1		24	RUN 100%
	4 measurements	0.1		25	
	5 <u>1.3</u> m	0.1		26	Dissolved Oxygen:
	6 apart	0.1			
	7	0.1			<u>9.00</u> ppm
	8	0.1			<u>101.1</u> %
	9	0.1		n	<u>21.1</u> °C
	10	0.1			

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth to the middle rank is the median depth.
 If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: [Signature]

Date: March 2007

Organization: EAE, Inc.

Position: Env. Eng.

Data Sheet C - Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 316

Site # 2

Transect	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
D	1 wetted width	<0.1			
	2 12.1 m	0.1		1	Channel Feature:
	3	0.3		2	RUN 100%
	4 measurements	0.2		3	
	5 1.2 m	0.2		4	Dissolved Oxygen:
	6 apart	0.2		5	
	7	0.2		6	8.79 ppm
	8	0.2		7	98.9%
	9	0.2		8	21.0 °C
	10	0.2		9	
E	1 wetted width	0.2		10	
	2 13.0 m	0.4		11	
	3	0.3		12	Channel Feature:
	4 measurements	0.4		13	POOL 100%
	5 1.2 m	0.4		14	
	6 apart	0.3		15	Dissolved Oxygen:
	7	0.3		16	
	8	0.3		17	8.94 ppm
	9	0.3		18	99.9%
	10	0.3		19	21.0 °C
F	1 wetted width	0.4		20	
	2 14.0 m	0.5		21	
	3	0.5		22	
	4 measurements	0.5		23	Channel Feature:
	5 1.4 m	0.4		24	POOL 100%
	6 apart	0.3		25	
	7	0.4		26	Dissolved Oxygen:
	8	0.5		.	8.85 ppm
	9	0.4		.	99.1%
	10	0.3		n	21.0 °C

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth to the middle rank is the median depth.
 If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: [Signature]

Date: May 29, 2007

Organization: EAE, Inc.

Position: Env. Eng.

Data Sheet C - Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 316 Site # 2

	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
Transect G	wetted width	0.1			
	9.5 m	0.2		1	Channel Feature:
		0.4		2	RIFPLE 10%
	measurements	0.5		3	70%
	0.9 m	0.5		4	Dissolved Oxygen:
	apart	0.5		5	
		0.5		6	9.59 ppm
		0.5		7	107.7 %
		0.2		8	21.9 °C
		<0.1		9	
Transect H	wetted width	<0.1		11	
	7.0 m	<0.1		12	Channel Feature:
		0.1		13	RIFPLE 60%
	measurements	<0.1		14	RUN 40%
	0.4 m	0.1		15	Dissolved Oxygen:
	apart	0.1		16	
		0.1		17	9.63 ppm
		0.1		18	108.9 %
		<0.1		19	21.4 °C
		<0.1		20	
Transect I	wetted width	0.1		22	
	22.0 m	0.3		23	Channel Feature:
		<0.1		24	RUN 100
	measurements	<0.1		25	
	3.2 m	0.1		26	Dissolved Oxygen:
	apart	<0.1		.	
		0.2		.	9.59 ppm
		0.2		.	108.0 %
		0.1		n	21.2 °C
		0.1			

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth to the middle rank is the median depth.
 If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: [Signature]

Date: Apr 29, 2007

Organization: EAE, Inc.

Position: Field Tech

Data Sheet C - Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 316

Site # 2

Transect	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth	
Transect 1	wetted width	<0.1				
	8.0 m	0.1		1	Channel Feature:	
		0.3		2	POOL	
	measurements	0.5		3		
	0.8 m	0.7		4	Dissolved Oxygen	
	apart	0.9		5		
		0.7		6	9.77	ppm
		0.6		7	110.3	%
		0.5		8	21.4	oc
		0.3		9		
Transect 2	wetted width	<0.1		10		
	7.0 m	0.1		11		
		0.1		12	Channel Feature:	
	measurements	<0.1		13	RILL	
	0.7 m	0.1		14	RILL	
	apart	0.1		15	Dissolved Oxygen:	
		0.1		16		
		<0.1		17	9.92	ppm
		<0.1		18	113.5	%
		<0.1		19	21.9	oc
Transect 3	wetted width			20		
	_____ m			21		
				22		
	measurements			23	Channel Feature:	
	_____ m			24		
	apart			25		
				26	Dissolved Oxygen	
				.		
				.		
				n		

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth is the middle rank is the median depth.
 If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: [Signature] Date: May 29 2007
 Organization: FME, Inc. Position: Secretary

WBID# 316
 Site# 3

Field Data Sheets for Recreational Use Stream Surveys
Data Sheet B - Site Characterization
 (must be completed for each site)

Date & Time: <u>10:00 am 5/29/2007</u>	Site Location Description (e.g., road crossing): <u>Downstream: Interurban Bridge</u>
Personnel (Data Collectors): <u>Alan Mitchell, John Studd + UAH</u>	Facility Name: <u>KCTodd Creek WWTP, PCRSD Mainline</u>
Current Weather Conditions: <u>Overcast</u>	Permit Number: <u>MO 0024961, MO 0119393 WWTP</u>
Weather Conditions for Past 10 days: <u>Rain 24 hrs ago</u>	
Drought Conditions?: 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 Locations:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION IN METERS)	
Site GPS Coordinates: UTM X: <u>94.075980W</u>	Y: <u>39.33862°N</u>
HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the locational data.)	
Global Positioning System (GPS)	
Static Mode	Interpolation
Dynamic Mode (Kinematic)	Topographic Map or DRG
Precise Positioning Service	Aerial Photograph or DOQQ
Signal Averaging	Satellite Imagery
Real Time Differential Processing	Interpolation Other
HORIZONTAL ACCURACY ESTIMATE	
GPS Data Quality	
FOM ± _____ Meters	Interpolation Data Quality
EPE ± <u>20</u> Feet or ± _____ Meters	
PDOP	
Source Map Scale: 1:24,000 1:100,000 Other _____	
± _____ Feet or ± _____ Meters	

Photos:

Upstream Photos		Downstream Photos		Other Photos	
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>86 & 87</u>		<u>88 & 89</u>			

Uses Observed*: (Uses actually observed at 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 Data Sheet D- Recreational Use Interview when conducting interviews.)

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"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Comments:

Indications of Human Use*: (attach photos)

<input type="checkbox"/> Roads	<input type="checkbox"/> Rope swings	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Other:	

Comments: Construction on bridge at Interurban Rd.

90 CHANNEL FEATURES

* Page Two - Data Sheet B for WBID # 316 : SITE # 3

Run - 75%
Riffle - 20%
Pool - 5%

Stream Morphology:

Upstream View's Physical Dimensions: Is there any water present at this view? Yes No
If so, is there an obvious current? Yes No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

Downstream View's Physical Dimensions: Is there any water present at this view? Yes No
If so, is there an obvious current? Yes No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

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

<u>80</u> % Cobble	% Gravel	<u>10</u> % Sand	<u>10</u> % Silt	% Mud/Clay	% Bedrock
--------------------	----------	------------------	------------------	------------	-----------

Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

No aquatic vegetation

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 checked="" 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:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach any additional comments () to this form.

*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 effect another use.

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

Surveyor's Signature: [Signature] Date of Survey: May 29, 2007

Organization: EAE, Inc. Position: Env. Eng'r.

Data Sheet C - Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 316 Site # 3

	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
Transect A	1 wetted width	0.1			
	2 8.5 m	0.1		1	Channel Feature:
	3	0.1		2	TUM 100%
	4 measurements	0.2		3	
	5 0.8 m	0.2		4	Dissolved Oxygen
	6 apart	0.3		5	
	7	0.2		6	9.18 ppm
	8	0.2		7	103.0%
	9	0.3		8	21.4 °C
	10	0.1		9	
Transect B	1 wetted width	<0.1			
	2 8.5 m	<0.1		12	Channel Feature:
	3	<0.1		13	TUM 100%
	4 measurements	<0.1		14	
	5 0.8 m	<0.1		15	Dissolved Oxygen:
	6 apart	0.1		16	
	7	0.1		17	9.22 ppm
	8	0.1		18	104.5%
	9	0.1		19	21.5 °C
	10	<0.1		20	
Transect C	1 wetted width	<0.1			
	2 6.5 m	0.1		23	Channel Feature:
	3	0.1		24	FOOL 50%
	4 measurements	0.1		25	WFFLE 50%
	5 0.6 m	0.1		26	Dissolved Oxygen
	6 apart	0.1			
	7	0.1			9.30 ppm
	8	0.1			104.0%
	9	<0.1		n	21.5 °C
	10	<0.1			

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth to the middle rank is the median depth.
 If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: [Signature] Date: March 29, 2007
 Organization: EHE Inc. Position: Low Energy

Data Sheet C - Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 316 Site # 3

Transect	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth	
Transect D	1 wetted width	<0.1				
	2 5.0 m	0.1		1	Channel Feature:	
	3	0.1		2	POOL 100%	
	4 measurements	0.2		3		
	5 0.5 m	0.2		4	Dissolved Oxygen	
	6 apart	0.2		5		
	7	0.2		6	9.32	ppm
	8	0.2		7	105.2	%
	9	0.1		8	21.5	°C
	10	<0.1		9		
Transect E	1 wetted width	0.2		10		
	2 12.0 m	0.1		11		
	3	0.1		12	Channel Feature:	
	4 measurements	<0.1		13	RIFLE 30%	
	5 1.2 m	<0.1		14	POOL 70.5	
	6 apart	<0.1		15	Dissolved Oxygen:	
	7	<0.1		16		
	8	<0.1		17	9.23	ppm
	9	<0.1		18	105.3	%
	10	<0.1		19	21.4	°C
Transect F	1 wetted width	0.2		20		
	2 9.0 m	0.1		21		
	3	<0.1		22	Channel Feature:	
	4 measurements	0.1		23	RUN <10%	
	5 0.9 m	0.1		24	EFF 60%	
	6 apart	0.1		25	Dissolved Oxygen	
	7	0.1		26		
	8	0.2			9.22	ppm
	9	0.1			104.0	%
	10	<0.1		n	21.3	°C

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth is the middle rank is the median depth.
 If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: [Signature] Date: May 29, 2007
 Organization: EAE, Inc. Position: Environment

Data Sheet C - Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 316

Site # 3

	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
Transect G	wetted width	<0.1			
	7.0 m	<0.1		1	Channel Feature:
		0.2		2	RIFLE 90%
	measurements	<0.1		3	RUN 10%
	0.7 m	0.2		4	Dissolved Oxygen
	apart	0.1		5	
		0.1		6	9.12 ppm
		0.1		7	103.4 %
		<0.1		8	21.3 °C
		<0.1		9	
Transect H	wetted width	0.1		10	
	7.0 m	0.1		11	
		<0.1		12	Channel Feature:
	measurements	<0.1		13	RIFLE 100%
	0.7 m	<0.1		14	
	apart	0.1		15	Dissolved Oxygen:
		0.2		16	
		0.1		17	9.10 ppm
		<0.1		18	102.0 %
		<0.1		19	21.4 °C
Transect I	wetted width	0.1		20	
	7.5 m	0.3		21	
		0.2		22	
	measurements	<0.1		23	Channel Feature:
	0.7 m	<0.1		24	RUN 100%
	apart	0.1		25	
		0.1		26	Dissolved Oxygen
		0.1			9.10 ppm
		<0.1			102.2 %
		<0.1		n	21.1 °C

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth to the middle rank is the median depth.
 If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: [Signature]

Date: May 29, 2007

Organization: EAE, Inc.

Position: Point Engineer

Data Sheet C - Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 316

Site # 3

Transect	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
Transect J	1 wetted width	0.2			
	2 8.5 m	0.2		1	Channel Feature:
	3	<0.1		2	RIFFLE 20%
	4 measurements	0.1		3	RUN 80%
	5 0.8 m	<0.1		4	Dissolved Oxygen
	6 apart	0.1		5	
	7	0.2		6	9.13 ppm
	8	0.2		7	102.2%
	9	0.1		8	21.1 °C
	10	<0.1		9	
Transect K	1 wetted width	<0.1		10	
	2 12.0 m	<0.1		11	
	3	0.1		12	Channel Feature:
	4 measurements	0.1		13	RIFFLE 10%
	5 1.20 m	0.2		14	RUN 90%
	6 apart	0.1		15	Dissolved Oxygen:
	7	0.1		16	
	8	0.1		17	9.20 ppm
	9	<0.1		18	102.4%
	10	0.2		19	21.1 °C
Transect L	1 wetted width			20	
	2 _____ m			21	
	3			22	
	4 measurements			23	Channel Feature:
	5 _____ m			24	
	6 apart			25	
	7			26	Dissolved Oxygen
	8			.	
	9			.	
	10			n	

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth to the middle rank is the median depth.
 If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: [Signature]

Date: May 29, 2007

Organization: UAE, Inc

Position: Eqmt. Supv.

February 5, 2007

WBID# 316
 Site# 4

Field Data Sheets for Recreational Use Stream Surveys
Data Sheet B - Site Characterization
 (must be completed for each site)

Date & Time: <u>12:00pm 5/29/2007</u>	Site Location Description (e.g., road crossing): <u>(upstream) - Todd Creek Road</u>
Personnel (Data Collectors): <u>Alan Mitchell</u> <u>Jon J. U. d. m. m.</u>	Facility Name: <u>KE, Todd Creek WWTF</u>
Current Weather Conditions: <u>Overcast</u>	Permit Number: <u>MO0024961</u>
Weather Conditions for Past 10 days: <u>RAIN 24 hrs</u>	
Drought Conditions?: 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 Locations:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)	
Site GPS Coordinates: UTM X: <u>94.66790°W</u>	Y: <u>33.35359°N</u>
HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the locational data.)	
Global Positioning System (GPS)	
Static Mode	Interpolation
Dynamic Mode (Kinematic)	Topographic Map or DRG
Precise Positioning Service	Aerial Photograph or DOQQ
Signal Averaging	Satellite Imagery
Real Time Differential Processing	Interpolation Other
HORIZONTAL ACCURACY ESTIMATE	
GPS Data Quality	
FOM	± _____ Meters
EPE	± <u>24</u> Feet or ± _____ Meters
PDOP	
Interpolation Data Quality	
Source Map Scale: 1:24,000 1:100,000 Other _____	
± _____ Feet or ± _____ Meters	

Photos:

Upstream Photos		Downstream Photos		Other Photos	
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>946005</u>		<u>946007</u>			

Uses Observed*: (Uses actually observed at 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 Data Sheet D- Recreational Use Interview when conducting interviews.)

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"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Comments:

Indications of Human Use*: (attach photos)

<input type="checkbox"/> Roads	<input type="checkbox"/> Rope swings	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Other:	

Comments:

90 CHANNEL FEATURES

Run - 70%
Riffle - 5%
Pool - 25%

* Page Two - Data Sheet B for WBID # 316: SITE # 4
Stream Morphology:

Upstream View's Physical Dimensions: Is there any water present at this view? Yes No

If so, is there an obvious current? Yes No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

Downstream View's Physical Dimensions: Is there any water present at this view? Yes No

If so, is there an obvious current? Yes No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

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

95 % Cobble	% Gravel	% Sand	% Silt	5 % Mud/Clay	% Bedrock
-------------	----------	--------	--------	--------------	-----------

Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

No appreciable algal or aquatic vegetation.

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 checked="" 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:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach any additional comments () to this form.

*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 effect another use.

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

Surveyor's Signature: [Signature] Date of Survey: May 29, 2007
Organization: EAE, Inc. Position: Environment

Data Sheet C - Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 316

Site # 4

	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
Transect A	wetted width	0.1		1	Channel Feature:
	<u>11.5 m</u>	0.1		2	Pool 90%
		<0.1		3	RIPPLE 10%
	measurements	<0.1		4	Dissolved Oxygen:
	<u>1.1 m</u>	<0.1		5	
	apart	0.2		6	8.50 ppm
		0.3		7	98.0 %
		0.5		8	23.1 °C
		0.6		9	
		0.5		10	
Transect B	wetted width	0.1		11	
	<u>7.0 m</u>	0.2		12	Channel Feature:
		0.3		13	RUN 100%
	measurements	0.3		14	
	<u>0.7 m</u>	0.4		15	Dissolved Oxygen:
	apart	0.4		16	
		0.3		17	8.43 ppm
		0.3		18	99.0 %
		0.3		19	23.2 °C
		0.3		20	
Transect C	wetted width	0.2		22	
	<u>8.2 m</u>	0.6		23	Channel Feature:
		0.7		24	RUN 100%
	measurements	0.8		25	
	<u>0.8 m</u>	0.7		26	Dissolved Oxygen:
	apart	0.4			
		0.4			8.62 ppm
		0.3			101.2 %
		0.2		n	23.2 °C
		0.1			

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth the middle rank is the median depth.
 If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UA datasheet is true and accurate.

Signed: [Signature]

Date: 2/29/2007

Organization: FNE, Inc.

Position: Comm. Engr

Data Sheet C - Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 316

Site # 4

Transect	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
D	1 wetted width	0.2			
	2 14.0 m	0.7		1 Channel Feature:	
	3	0.5		2 RUN	90%
	4 measurements	0.3		3 RIFFLE	10%
	5 1.5 m	0.4		4 Dissolved Oxygen	
	6 apart	0.3		5	
	7	0.2		6 8.65	ppm
	8	0.2		7 101.5	%
	9	0.1		8 23.2	°C
	10	0.1		9	
E	1 wetted width	<0.1			
	2 6.5 m	0.2		12 Channel Feature:	
	3	0.2		13 RUN	100%
	4 measurements	0.1		14	
	5 0.6 m	0.1		15 Dissolved Oxygen:	
	6 apart	0.1		16	
	7	0.2		17 8.81	ppm
	8	0.2		18 103.1	%
	9	0.1		19 23.2	°C
	10	0.1		20	
F	1 wetted width	0.1			
	2 7.0 m	0.1		23 Channel Feature:	
	3	0.2		24 POOL	100%
	4 measurements	0.3		25	
	5 0.7 m	0.4		26 Dissolved Oxygen:	
	6 apart	0.4		.	
	7	0.5		. 8.77	ppm
	8	0.5		. 102.5	%
	9	0.5		n 23.2	°C
	10	0.1			

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth the middle rank is the median depth.
 If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UA datasheet is true and accurate.

Signed: [Signature] Date: May 29, 2007
 Organization: [Signature] Position: ENR. Eng.

Data Sheet C - Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 366

Site # 4

Transect	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
Transect G	wetted width	0.2			
	10.0 m	0.5		1	Channel Feature:
		0.5		2	POOL 100%
	measurements	0.5		3	
	1.0 m	0.6		4	Dissolved Oxygen
	apart	0.6		5	
		0.5		6	8.80 ppm
		0.5		7	103.1 %
		0.3		8	23.3
		0.1		9	
Transect H	wetted width	>1.0			
	11.0 m	>1.0		12	Channel Feature:
		>1.0		13	POOL
	measurements	>1.0		14	
	1.1 m	>1.0		15	Dissolved Oxygen:
	apart	>1.0		16	
		0.9		17	8.83 ppm
		0.5		18	103.7 %
		0.1		19	23.4 °C
				20	
Transect I	wetted width	0.1			
	8.0 m	0.2		23	Channel Feature: RUN-45%
		0.3		24	POOL 50%
	measurements	0.3		25	RIFPLE 5%
	0.8 m	0.4		26	Dissolved Oxygen:
	apart	0.4			
		0.3			8.85 ppm
		0.2			104.6 %
		0.1		n	23.5 °C
		0.1			

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth is the middle rank is the median depth.
 If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: [Signature]

Date: February 5, 2007

Organization: EAF, Inc.

Position: Env. Eng.

Data Sheet C - Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 316

Site # 4

Transect	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
Transect J	1 wetted width	<0.1			
	2 5.5 m	0.1		1	Channel Feature:
	3	0.1		2	RUN 100%
	4	0.1		3	
	5 measurements	0.2		4	Dissolved Oxygen:
	6 0.5 m	0.3		5	
	7 apart	0.2		6	8.76 ppm
	8	0.2		7	102.9 %
	9	0.1		8	23.4 °C
	10	<0.1		9	
Transect K	1 wetted width	0.1		10	
	2 5.0 m	0.1		11	
	3	0.1		12	Channel Feature:
	4	0.1		13	RIFLE 50%
	5 measurements	0.1		14	POOL 50%
	6 0.5 m	0.1		15	Dissolved Oxygen:
	7 apart	0.1		16	
	8	0.1		17	8.77 ppm
	9	<0.1		18	103.1 %
	10	<0.1		19	23.4 °C
Transect L	1 wetted width			20	
	2 m			21	
	3			22	
	4			23	Channel Feature:
	5 measurements			24	
	6 m			25	
	7 apart			26	Dissolved Oxygen:
	8				
	9				
	10			n	

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth is the median depth.
 If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Alan W. Mitchell

Date: May 29, 2007

Organization: EAE Inc.

Position: Project Editor

WBID# 316
 Site# 5

Field Data Sheets for Recreational Use Stream Surveys
Data Sheet B - Site Characterization
 (must be completed for each site)

Date & Time: <u>1:00 PM May 29, 2007</u>	Site Location Description (e.g., road crossing): <u>Upstream of bridge on road</u>
Personnel (Data Collectors): <u>Alfred Mitchell Dana Stuchman</u>	Facility Name: <u>KC, Todd Creek WWT, KCESD</u>
Current Weather Conditions: <u>partly cloudy</u>	Permit Number: <u>6M00424961</u>
Weather Conditions for Past 10 days: <u>Rain 24 hrs</u>	<u>WA 0119392</u>
Drought Conditions?: 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 Locations:

LOCATION COORDINATES, UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS	
Site GPS Coordinates: UTM X: <u>39-656160 W</u>	Y: <u>39,36944 N</u>
HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the locational data.)	
Global Positioning System (GPS)	
Static Mode	Interpolation
Dynamic Mode (Kinematic)	Topographic Map or DRG
Precise Positioning Service	Aerial Photograph or DOQQ
Signal Averaging	Satellite Imagery
Real Time Differential Processing	Interpolation Other
HORIZONTAL ACCURACY ESTIMATE	
GPS Data Quality	
FOM ± _____ Meters	Interpolation Data Quality
EPE ± <u>25</u> Feet or ± _____ Meters	
PDOP	
Source Map Scale: 1:24,000 1:100,000 Other _____	
± _____ Feet or ± _____ Meters	

Photos:

Upstream Photos		Downstream Photos		Other Photos	
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>99</u>		<u>100</u>			

Uses Observed*: (Uses actually observed at 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 checked="" type="checkbox"/> Fishing	<input 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 Data Sheet D- Recreational Use Interview when conducting interviews.)

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"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Comments:

Indications of Human Use*: (attach photos)

<input type="checkbox"/> Roads	<input type="checkbox"/> Rope swings	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input checked="" type="checkbox"/> Other:	

Comments: Fishing observed - 2 persons

90 CHANNEL FEATURES

Run - 95%
Riffle - 0%
Pool - 5%

* Page Two - Data Sheet B for WBID # 316 : SITE # 5

Stream Morphology:

Upstream View's Physical Dimensions: Is there any water present at this view? Yes No

If so, is there an obvious current? Yes No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

Downstream View's Physical Dimensions: Is there any water present at this view? Yes No

If so, is there an obvious current? Yes No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

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

% Cobble	<u>30</u>	% Gravel	<u>50</u>	% Sand		% Silt	<u>10</u>	% Mud/Clay		% Bedrock
----------	-----------	----------	-----------	--------	--	--------	-----------	------------	--	-----------

Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

[Empty box for Aquatic Vegetation data]

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 checked="" 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:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach any additional comments () to this form.

*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 effect another use.

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

Surveyor's Signature: [Signature] Date of Survey: Mar 27, 2007

Organization: EAE, Inc. Position: Site Mgr.

Data Sheet C - Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 316

Site # 5

	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
Transect A	1 wetted width	<0.1			
	2 8.0 m	<0.1		1	Channel Feature:
	3			2	RUN 100%
	4	0.1		3	
	5 0.3 m	0.1		4	Dissolved Oxygen:
	6	0.2		5	
	7	0.2		6	8.29 ppm
	8	0.3		7	96.1 %
	9	0.3		8	22.6 °C
	10	0.7		9	
Transect B	1 wetted width	0.2		10	
	2 9.0 m	0.4		11	
	3	0.4		12	Channel Feature:
	4	0.4		13	RUN 100%
	5 0.9 m	0.5		14	
	6	0.5		15	Dissolved Oxygen:
	7	0.5		16	
	8	0.5		17	8.32 ppm
	9	0.4		18	96.1 %
	10	0.1		19	22.5 °C
Transect C	1 wetted width	0.4		20	
	2 7.5 m	0.7		21	
	3	0.6		22	
	4	0.7		23	Channel Feature:
	5 0.7 m	0.5		24	RUN 100%
	6	0.4		25	
	7	0.4		26	Dissolved Oxygen:
	8	0.7			8.39 ppm
	9	0.2			96.3 %
	10	0.1		n	22.5

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth the middle rank is the median depth.
 If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UA datasheet is true and accurate.

Signed: [Signature]

Date: May 2007

Organization: U.S. Army Corps of Engineers

Position: Hydrologist

Data Sheet C - Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 316

Site # 5

Transsect	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
D	1 wetted width	0.1			
	2 7.5 m	0.4		1	Channel Feature:
	3	0.4		2	RUN 100%
	4 measurements	0.3		3	
	5 0.75 m	0.2		4	Dissolved Oxygen:
	6 apart	0.3		5	
	7	0.3		6	8.45 ppm
	8	0.1		7	97.3 %
	9	<0.1		8	22.5 °C
	10	<0.1		9	
E	1 wetted width	0.2		11	
	2 5.0 m	0.4		12	Channel Feature:
	3	0.5		13	RUN 100%
	4 measurements	0.4		14	
	5 0.5 m	0.3		15	Dissolved Oxygen:
	6 apart	0.3		16	
	7	0.3		17	8.40 ppm
	8	0.3		18	97.0 %
	9	0.2		19	22.6 °C
	10	0.1		20	
F	1 wetted width	0.3		22	
	2 7.0 m	0.5		23	Channel Feature:
	3	0.5		24	RUN 100%
	4 measurements	0.5		25	
	5 0.4 m	0.5		26	Dissolved Oxygen:
	6 apart	0.5			
	7	0.4			8.41 ppm
	8	0.4			97.2 %
	9	0.4		n	22.6 °C
	10	0.1			

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth the middle rank is the median depth.
 If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this U.S. datasheet is true and accurate.

Signed: [Signature] Date: [Date]
 Organization: [Organization] Position: [Position]
 February 5, 2007

Data Sheet C - Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 316

Site # 5

Transect	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
Transect G	wetted width	0.3			
	4.5 m	0.3		1	Channel Feature:
		0.3		2	RUN 100%
		0.3		3	
	measurements	0.3		4	Dissolved Oxygen:
	0.4 m	0.2		5	
	apart	0.2		6	8.38 ppm
		0.3		7	96.9 %
		0.3		8	22.6 °C
		0.1		9	
Transect H	wetted width	<0.1			
	6.0 m	0.2		12	Channel Feature:
		0.3		13	RUN 100%
		0.3		14	
	measurements	0.3		15	Dissolved Oxygen:
	0.6 m	0.2		16	
	apart	0.2		17	8.50 ppm
		0.2		18	97.5 %
		0.1		19	22.6 °C
		0.1		20	
Transect I	wetted width	0.1			
	8.0 m	0.1		23	Channel Feature:
		<0.1		24	RIFFLE 40%
		<0.1		25	RUN 60%
	measurements	<0.1		26	Dissolved Oxygen:
	0.8 m	<0.1			
	apart	0.1			
		0.1			8.42 ppm
		0.3			97.1 %
		0.2		n	22.7 °C
	0.1				

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth is the middle rank is the median depth.
 If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Alvin B. Mitchell

Date: May 29, 2007

Organization: EAF, Inc.

Position: Env. Eng.

Data Sheet C - Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 316

Site # 5

Transsect	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
Transsect J	wetted width	0.1			
	<u>9.0 m</u>	0.1		1	Channel Feature:
		0.1		2	RIFLE 100%
	measurements	<0.1		3	
	<u>0.9 m</u>	0.1		4	Dissolved Oxygen:
	apart	<0.1		5	
		0.1		6	8.33 ppm
		0.1		7	96.3%
		<0.1		8	22.7 °C
		0.2		9	
Transsect K	wetted width	0.1		10	
	<u>5.0 m</u>	0.2		11	
		0.2		12	Channel Feature:
	measurements	0.2		13	RUN 100%
	<u>1 m</u>	0.2		14	
	apart	0.2		15	Dissolved Oxygen:
		0.2		16	
		0.2		17	8.33 ppm
		0.2		18	96.6%
		0.1		19	22.7 °C
Transsect	wetted width			20	
	<u> m</u>			21	
				22	Channel Feature:
	measurements			23	
	<u> m</u>			24	
	apart			25	Dissolved Oxygen:
				26	
				n	

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth the middle rank is the median depth.
 If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UA datasheet is true and accurate.

Signed: [Signature]

Date: March 2007

Organization: EAE, Inc.

Position:

WBID# 316
 Site# 6

Field Data Sheets for Recreational Use Stream Surveys
Data Sheet B - Site Characterization
 (must be completed for each site)

Date & Time: <u>1:40 am 5/29/2007</u>	Site Location Description (e.g., road crossing): <u>Mo. Bridge over Todd Cr. at 92 - Downstream</u>
Personnel (Data Collectors): <u>Alan K. J. Chell</u> <u>Jane Strickland</u>	Facility Name: <u>KC, Todd Creek WWT</u>
Current Weather Conditions: <u>Partly Cloudy</u>	Permit Number: <u>MO 0024961</u>
Weather Conditions for Past 10 days: <u>Rain & Wind</u>	
Drought Conditions?: 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 Locations:

LOCATION COORDINATES, UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS

Site GPS Coordinates: UTM X: 94.655526°W Y: 39.37045°N

HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the locational data.)

Global Positioning System (GPS)		Interpolation	
Static Mode		Topographic Map or DRG	
Dynamic Mode (Kinematic)		Aerial Photograph or DOQQ	
Precise Positioning Service		Satellite Imagery	
Signal Averaging		Interpolation Other	
Real Time Differential Processing			

HORIZONTAL ACCURACY ESTIMATE

GPS Data Quality		Interpolation Data Quality	
FOM	± _____ Meters	Source Map Scale: 1:24,000 1:100,000 Other _____	
EPE	± <u>17</u> Feet or ± _____ Meters	± _____ Feet or ± _____ Meters	
PDOP			

Photos:

Upstream Photos		Downstream Photos		Other Photos	
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>1016102</u>		<u>1036104</u>			

Uses Observed*: (Uses actually observed at 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 checked="" type="checkbox"/> Fishing	<input 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 Data Sheet D- Recreational Use Interview when conducting interviews.)

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"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Comments:

Indications of Human Use*: (attach photos)

<input type="checkbox"/> Roads	<input type="checkbox"/> Rope swings	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Other:	

Comments: Fishing - 2 persons

90 CHANNEL FEATURES

Run - 65%
Riffle - 20%
Pool - 15%

* Page Two - Data Sheet B for WBID # 316 : SITE # 6
Stream Morphology:

Upstream View's Physical Dimensions: Is there any water present at this view? Yes No

If so, is there an obvious current? Yes No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

Downstream View's Physical Dimensions: Is there any water present at this view? Yes No

If so, is there an obvious current? Yes No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

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

% Cobble	% Gravel	50 % Sand	% Silt	50 % Mud/Clay	% Bedrock
----------	----------	-----------	--------	---------------	-----------

Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

[Empty box for Aquatic Vegetation notes]

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 checked="" 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:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach any additional comments () to this form.

*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 effect another use.

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

Surveyor's Signature: [Signature] Date of Survey: Mar 22 2007

Organization: EHE, Inc. Position: Surveyor

Data Sheet C - Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 316 Site # 6

	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
Transect A	1 wetted width	0.1		1	Channel Feature:
	2 7.5 m	0.1		2	RIFLE 100%
	3	<0.1		3	
	4 measurements	<0.1		4	Dissolved Oxygen
	5 0.9 m	0.1		5	
	6 apart	0.1		6	8.13 ppm
	7	0.1		7	94.7 %
	8	0.1		8	23.0 %
	9	0.2		9	
	10	0.1		10	
Transect B	1 wetted width	<0.1		11	
	2 7.5 m	0.1		12	Channel Feature:
	3	0.2		13	RUN 100%
	4 measurements	0.2		14	
	5 0.7 m	0.3		15	Dissolved Oxygen:
	6 apart	0.2		16	
	7	0.2		17	8.13 ppm
	8	0.2		18	94.2 %
	9	0.2		19	22.9 %
	10	0.1		20	
Transect C	1 wetted width	0.1		21	
	2 8.0 m	0.2		22	
	3	0.2		23	Channel Feature:
	4 measurements	<0.1		24	RUN 100%
	5 0.8 m	<0.1		25	
	6 apart	<0.1		26	Dissolved Oxygen
	7	0.1			8.20 ppm
	8	0.1			95.3 %
	9	0.1		n	23.3 %
	10	0.1			

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth the middle rank is the median depth.
 If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UA datasheet is true and accurate.

Signed: Alan W. Mitchell Date: May 29, 2007
 Organization: EAE Inc. Position: Env. Eng.

Data Sheet C - Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 316

Site # 6

Transect	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
D	wetted width	<0.1			
	9.5 m	<0.1		1	Channel Feature:
		<0.1		2	RUN 100%
		<0.1		3	
	measurements	0.2		4	Dissolved Oxygen:
	0.9 m	0.2		5	
	apart	0.2		6	8.24 ppm
		0.2		7	75.8 %
		0.2		8	23.0 °C
		0.1		9	
E	wetted width	<0.1		10	
	9.0 m	0.1		11	
		<0.1		12	Channel Feature:
		<0.1		13	RUN 100%
	measurements	0.1		14	
	0.9 m	0.1		15	Dissolved Oxygen:
	apart	0.2		16	
		0.2		17	8.31 ppm
		0.2		18	96.7 %
		0.2		19	22.9 °C
F	wetted width	<0.1		20	
	7.0 m	0.2		21	
		0.2		22	
	measurements	0.3		23	Channel Feature:
	0.9 m	0.3		24	700L 30%
	apart	0.3		25	RUN 70%
		0.3		26	Dissolved Oxygen:
		0.2		.	8.187 ppm
		0.2		.	75.1 %
		0.2		n	23.0 °C

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth the middle rank is the median depth.
 If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this U.S. datasheet is true and accurate.

Signed: Alan W. Pittman III Date: Feb 2007

Organization: EAE, Inc. Position: Manager

Data Sheet C - Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 366

Site # 10

Transect	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
Transect G	wetted width	0.3			
	7.0 m	0.4		1	Channel Feature:
		0.5		2	FOO2
	measurements	0.6		3	
	0.7 m	0.6		4	Dissolved Oxygen
	apart	0.6		5	
		0.5		6	8.21
		0.4		7	95.5
		0.3		8	23.0
		0.1		9	
Transect H	wetted width	0.1		10	
	6.0 m	0.3		11	
		0.4		12	Channel Feature:
	measurements	0.4		13	PCO2
	0.6 m	0.6		14	100%
	apart	0.5		15	Dissolved Oxygen:
		0.3		16	
		0.2		17	8.29
		0.2		18	97.8
		0.2		19	23.0
Transect I	wetted width	0.2		20	
	7.0 m	0.3		21	
		0.3		22	Channel Feature:
	measurements	0.2		23	RIFLE
	0.7 m	0.1		24	50%
	apart	0.1		25	KUN
		<0.1		26	50%
		0.1			Dissolved Oxygen
		<0.1			
		<0.1			8.87
				97.4	
			n	22.9	

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth to the middle rank is the median depth.
 If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: [Signature]

Date: Feb 29, 2007

Organization: BAE, Inc.

Position: Field Tech

Data Sheet C - Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 316

Site # 6

Transsect	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
1	wetted width	0.2			
	8.0 m	0.2		1 Channel Feature:	
				2 RIFFLE	30%
		0.2		3 RUN	70%
	measurements	0.1		4 Dissolved Oxygen	
	0.9 m	0.2		5	
	apart	0.1		6 8.28	ppm
		0.1		7 96.2	%
		0.1		8 22.9	oc
		<0.1		9	
2	wetted width	0.1		10	
	8.0 m	0.2		11	
		0.2		12 Channel Feature:	
		0.2		13 RUN	100%
	measurements	0.3		14	
	0.8 m	0.2		15 Dissolved Oxygen:	
	apart	0.2		16	
		0.2		17 8.28	ppm
		0.1		18 96.2	%
		0.1		19 22.9	oc
3	wetted width			20	
	m			21	
				22	
				23 Channel Feature:	
	measurements			24	
	m			25	
	apart			26 Dissolved Oxygen	

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth the middle rank is the median depth.
 If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UA datasheet is true and accurate.

Signed: Alexis Mitchell

Date: May 29, 2009

Organization: EAE Inc.

Position: Env. Eng.



Upstream (Site 1) of Todd Creek



Downstream (Site 1) of Todd Creek



Upstream (Site 2) of Todd Creek



Downstream (Site 2) of Todd Creek



Upstream (Site 3) of Todd Creek



Downstream (Site 3) of Todd Creek



Upstream (Site 4) of Todd Creek



Downstream (Site 4) of Todd Creek



Upstream (Site 5) of Todd Creek



Downstream (Site 5) of Todd Creek



Upstream (Site 6) of Todd Creek



Downstream (Site 6) of Todd Creek