



Missouri
Department of
Natural Resources

Use Attainability Analysis

for

WBID 3060 Whitewater River

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): Whitewater R.
Missouri Water Body Identification (WBID) Number: 3060
8-digit HUC: 08020204
County(ies), Listed Upstream to Downstream: Cape Girardeau, Scott
Upstream Legal Description (from Table H): 6, 28N, 12E
Downstream Legal Description (from Table H): 18, 29N, 12E
Number of sites evaluated: 3
List all site numbers, <u>consecutively upstream to downstream</u> : 3060-1, 3060-2, 3060-3
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).

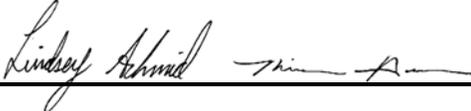
II. Facility Information (list all permitted discharges to this water body segment)

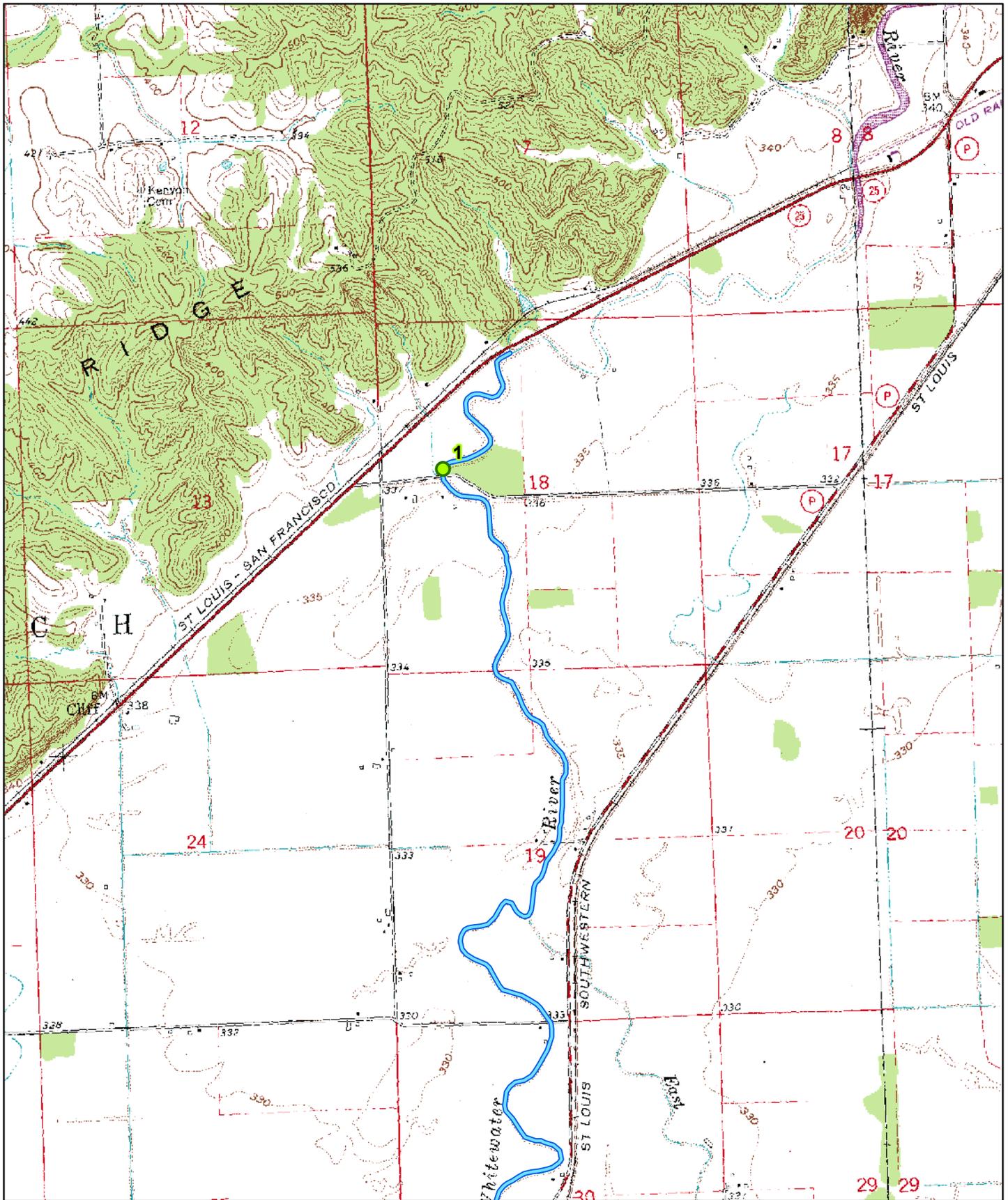
Facility Name(s) and Permit Number(s): Delta R-V Elementary School MO:0104451 Delta Wastewater Treatment MO:0052141

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

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

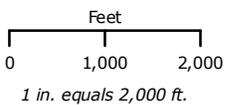
Please verify that you have completed all sections of all data sheets, checked all applicable boxes, provided a map (that includes all requirements listed in the *Missouri Recreational Use Attainability Analyses: Water Body Survey and Assessment Protocol*) and that this form is complete.

Signed:  Date: **08-28-08**



Joins to: Whitewater R. 2/2

**MISSOURI RECREATIONAL
USE ATTAINABILITY ANALYSIS**

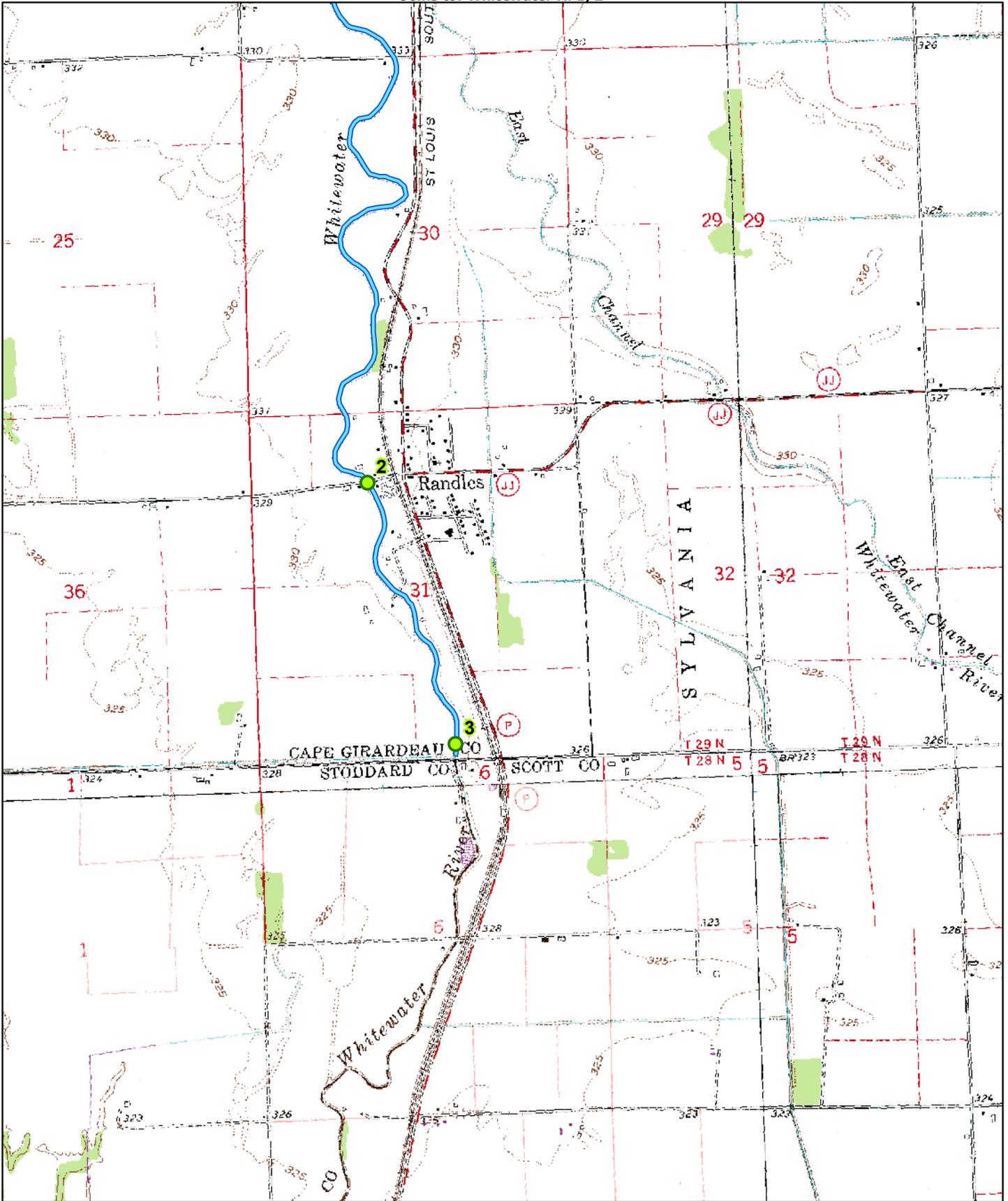


Stream: Whitewater R.
WBID: 3060

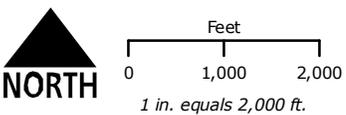
Map Sheet: 1/2
County: Cape Girardeau



Project No. 008-1298



**MISSOURI RECREATIONAL
USE ATTAINABILITY ANALYSIS**



Stream: Whitewater R.
WBID: 3060

Map Sheet: 2/2
County: Cape Girardeau/Scott



Project No. 008-1298

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: 08-28-08 2:00 p.m.	Location Description (e.g., road crossing): Road crossing
Stream Name: Whitewater R.	
Current Weather Conditions: Hot & humid	Facility Name(s): Delta R-V Elementary/Delta Wastewater Treatment
Weather Conditions for Past 10 days: 3.37" @ Cape Girardeau	Permit Number(s): MO:0104451/MO:0052141
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): 253941	Northing (UTM Y): 4118186	Horizontal Accuracy: (EPE / FOM / PDOP) 55 ft. Meters
Site 11	Easting (UTM X): 254168	Northing (UTM Y): 4118336	Horizontal Accuracy: (EPE / FOM / PDOP) 72 ft. Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
3060-1-A	Upstream looking down	3060-1-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 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 checked="" 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: Farming land
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	% Gravel	% Sand	% Silt	100% Mud/Clay	% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

Tiny green lily-like plants on water surface 100%, small amount of algae underneath.

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input checked="" type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input 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 checked="" type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Other: Plants

*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.)

Wrote wrong directions on photo cards due to confusion of flow.
 Widened and un-crossable, more swamp-like, w/no flow.
 Lots of plant debris in water; tree trunks, vines, fallen limbs, and some trash.

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 / Micah Hamer

Surveyor's Signature:  Date of Survey: 08-28-08

Organization: Olsson Associates Position: Field Service

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Whitewater R.</u> Waterbody ID: <u>3060</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>253941</u> UTM Y: <u>4118186</u> +/- <u>55 ft. (meters)</u> 11 UTM X: <u>254168</u> UTM Y: <u>4118336</u> +/- <u>72 ft. (meters)</u> Average Stream Width: _____ Approx. <u>20</u> (meters) Length of Survey Segment: _____ <u>350</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: _____ <u>Lindsey Schmid / Micah Hamer</u>	Dissolved Oxygen Date: <u>08-28-08</u> Time: <u>2:00 p.m.</u> Dissolved Oxygen: <u>1.61</u> (mg/L) Dissolved Oxygen: <u>21.2</u> (% sat) Specific Cond: <u>155</u> (µS/cm) Water Temperature: <u>26.4</u> (°C)
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Transect Cross-Section

		01		02		03		04		05		06		07		08		09		10		11	
Station		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	0.58	0.79	0.43	0.05	3.00	1.00	3.00	1.00	3.00	1.00	0.68	0.10	0.81	0.41	2.00	1.00	2.50	1.00	2.50	1.00	2.00	1.00
	2	1.16	0.80	0.86	0.06	6.00	1.00	6.00	1.00	6.00	1.00	1.36	0.49	1.62	0.50	4.00	1.00	5.00	1.00	5.00	1.00	4.00	1.00
	3	1.74	0.73	1.29	0.05	9.00	1.00	9.00	1.00	9.00	1.00	2.04	0.63	2.43	0.66	6.00	1.00	7.50	1.00	7.50	1.00	6.00	1.00
	4	2.32	0.84	1.72	0.05	12.00	1.00	12.00	1.00	12.00	1.00	2.72	0.70	3.24	0.62	8.00	1.00	10.00	1.00	10.00	1.00	8.00	1.00
	5	2.90	0.88	2.15	0.08	15.00	1.00	15.00	1.00	15.00	1.00	3.40	0.72	4.05	0.59	10.00	1.00	12.50	1.00	12.50	1.00	10.00	1.00
	6	3.48	0.82	2.58	0.11	18.00	1.00	18.00	1.00	18.00	1.00	4.08	0.61	4.86	0.64	12.00	1.00	15.00	1.00	15.00	1.00	12.00	1.00
	7	4.06	0.91	3.01	0.09	21.00	1.00	21.00	1.00	21.00	1.00	4.76	0.34	5.67	0.71	14.00	1.00	17.50	1.00	17.50	1.00	14.00	1.00
	8	4.64	1.00	3.44	0.07	24.00	1.00	24.00	1.00	24.00	1.00	5.44	0.19	6.48	0.53	16.00	1.00	20.00	1.00	20.00	1.00	16.00	1.00
9	5.22	0.98	3.87	0.05	27.00	1.00	27.00	1.00	27.00	1.00	6.12	0.11	7.29	0.32	18.00	1.00	22.50	1.00	22.50	1.00	18.00	1.00	
Right Bank		5.80	1.00	4.30	0.00	30.00	0.00	30.00	0.00	30.00	0.00	6.80	0.00	8.10	0.00	20.00	0.00	25.00	0.00	25.00	0.00	20.00	0.00
Feature Type <small>(riffle, run, or pool)</small>		Pool		Marsh		Swamp/Pool																	

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 1.00
 MEDIAN 1.00

Surveyor's Signature:



Date: 08-28-08

WBID # 3060

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: 08-28-08 4:30 p.m.	Location Description (e.g., road crossing):
Stream Name: Whitewater R.	Road crossing
Current Weather Conditions: Hot & humid	Facility Name(s):Delta R-V Elementary/Delta Wastewater Treatment
Weather Conditions for Past 10 days:3.37" @ cape Girardeau	Permit Number(s):MO:010445/MO:0052141
Official Drought Conditions at time of this survey (search DNR home page for "drought"): 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 Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): 254002	Northing (UTM Y): 4113725	Horizontal Accuracy: (EPE / FOM / PDOP) 49 ft. Meters
Site 11	Easting (UTM X): 254077	Northing (UTM Y): 4113543	Horizontal Accuracy: (EPE / FOM / PDOP) 350 ft. Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
3060-2-A	Downstream looking up	3060-2-B	Road crossing	3060-2-C	Upstream looking down
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 type="checkbox"/> Urban areas	<input checked="" 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: farm land
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	% Gravel	% Sand	% Silt	100% Mud/Clay	% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

Floating tiny lily-like plants on top of water 80%, algae underneath 30%
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Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input checked="" type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input 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 checked="" type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Other: plants

*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.)

All water is stagnant & swampy.
 Moved segment downstream to a section that had less obstructions. (fallen trees, overgrown brush, etc.)

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 Scj\hmid / Micah Hamer

Surveyor's Signature:  Date of Survey: 08-28-08

Organization: Olsson Associates Position: Field Service

Field Data Sheets for Recreational Use Stream Surveys
Data Sheet C - Field Survey Results

Stream Name: <u>Whitewater R.</u> Waterbody ID: <u>3060</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>254002</u> UTM Y: <u>4113725</u> +/- <u>49 ft.</u> (meters) 11 UTM X: <u>254077</u> UTM Y: <u>4113543</u> +/- <u>350 ft.</u> (meters) Average Stream Width: <u>7</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Lindsey Schmid / Micah Hamer</u>	Dissolved Oxygen Date: <u>8/28/2008</u> Time: <u>4:30 p.m.</u> Dissolved Oxygen: <u>0.58</u> (mg/L) Dissolved Oxygen: <u>6.5</u> (% sat) Specific Cond: <u>213</u> (µS/cm) Water Temperature: <u>26.7</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	0
1	0.84	0.21	0.61	0.12	0.73	0.18	0.78	0.05	0.69	0.13	0.83	0.10	0.78	0.09	0.81	0.07	0.64	0.13	0.67	0.08	0.86	0.09
2	1.68	0.39	1.22	0.20	1.46	0.35	1.56	0.09	1.38	0.16	1.66	0.11	1.56	0.12	1.62	0.07	1.28	0.29	1.34	0.17	1.72	0.08
3	2.52	0.40	1.83	0.31	2.19	0.48	2.34	0.09	2.07	0.26	2.49	0.13	2.34	0.25	2.43	0.12	1.92	0.42	2.01	0.32	2.58	0.16
4	3.36	0.44	2.44	0.45	2.92	0.53	3.12	0.13	2.76	0.29	3.32	0.21	3.12	0.32	3.24	0.14	2.56	0.44	2.68	0.39	3.44	0.23
5	4.20	0.42	3.05	0.32	3.65	0.51	3.90	0.25	3.45	0.30	4.15	0.24	3.90	0.37	4.05	0.18	3.20	0.41	3.35	0.38	4.30	0.21
6	5.04	0.48	3.66	0.36	4.38	0.49	4.68	0.26	4.14	0.23	4.98	0.19	4.68	0.29	4.86	0.17	3.84	0.35	4.02	0.39	5.16	0.26
7	5.88	0.40	4.27	0.30	5.11	0.49	5.46	0.21	4.83	0.12	5.81	0.16	5.46	0.30	5.67	0.19	4.48	0.22	4.69	0.33	6.02	0.20
8	6.72	0.11	4.88	0.24	5.84	0.32	6.24	0.20	5.52	0.11	6.64	0.11	6.24	0.24	6.48	0.13	5.12	0.14	5.36	0.20	6.88	0.14
9	7.56	0.05	5.49	0.12	6.57	0.15	7.02	0.17	6.21	>.05	7.47	0.08	7.02	0.14	7.29	0.08	5.76	0.08	6.03	0.13	7.74	0.10
Right Bank	8.40	0.00	6.10	0.00	7.30	0.00	7.80	0.00	6.90	0.00	8.30	0.00	7.80	0.00	8.10	0.00	6.40	0.00	6.70	0.00	8.60	0.00
Feature Type <small>(riffle, run, or pool)</small>	Run	Run																				

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 0.53
 MEDIAN 0.21

Surveyor's Signature:



Date: 8/28/2008

WBID # 3060

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: 08-28-08 3:30 p.m.	Location Description (e.g., road crossing): Road crossing
Stream Name: Whitewater R.	
Current Weather Conditions: Hot & humid	Facility Name(s): Delta R-V Elementary/Delta Wastewater Treatment
Weather Conditions for Past 10 days: 3.37" @ Cape Girardeau	Permit Number(s): MO:0104451 / MO: 0052141
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): 254335	Northing (UTM Y): 4112432	Horizontal Accuracy: (EPE / FOM / PDOP) 78 ft. Meters
Site 11	Easting (UTM X): 254382	Northing (UTM Y): 4112077	Horizontal Accuracy: (EPE / FOM / PDOP) 51 ft. Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
3060-3-A	Upstream looking down	30603-B	Road crossing	3060-3-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 # 3

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 checked="" 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:				

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	% Gravel	% Sand	% Silt	100% Mud/Clay	% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

Floating tiny green plants on top of water 100%

Water Characteristics*: (Mark all that apply.)

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

*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 # 3

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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.)

Swampy
 Local farmer claimed that no one would swim in it, nor fish.
 Said that segment was once used by a local bar for truck “mud running” competitions.

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 / Micah Hamer

Surveyor’s Signature:  Date of Survey: 08-28-08

Organization: Olsson Associates Position: Field Service

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Data Sheet C - Field Survey Results

Stream Name: <u>Whitewater R.</u> Waterbody ID: <u>3060</u> Site #: <u>3</u> Estimated Channel Incision: <u>0.6</u> (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>254335</u> UTM Y: <u>4112432</u> +/- <u>78</u> ft. (meters) 11 UTM X: <u>254382</u> UTM Y: <u>4112077</u> +/- <u>51</u> ft. (meters) Average Stream Width: <u>15</u> (meters) Length of Survey Segment: <u>300</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Lindsey Schmid / Micah Hamer</u>	Dissolved Oxygen Date: <u>8/28/2008</u> Time: <u>3:30 p.m.</u> Dissolved Oxygen: <u>3.84</u> (mg/L) Dissolved Oxygen: <u>49.5</u> (% sat) Specific Cond: <u>141</u> (µS/cm) Water Temperature: <u>28.8</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	0
1		1.45	0.24	1.53	0.37	1.44	0.58	1.28	0.41	1.62	0.60	1.48	0.56	1.71	0.62	1.37	0.70	1.42	0.41	1.56	0.38	1.61	0.57
2		2.90	0.39	3.06	0.78	2.88	0.94	2.56	0.89	3.24	0.54	2.96	0.92	3.42	0.84	2.74	0.71	2.84	1.00	3.12	0.77	3.22	0.81
3		4.35	0.62	4.59	1.00	4.32	1.00	3.84	1.00	4.86	0.89	4.44	1.00	5.13	1.00	4.11	0.85	4.26	1.00	4.68	1.00	4.83	0.97
4		5.80	0.72	6.12	1.00	5.76	1.00	5.12	1.00	6.48	1.00	5.92	1.00	6.84	0.93	5.48	0.82	5.68	1.00	6.24	1.00	6.44	1.00
5		7.25	0.76	7.65	1.00	7.20	1.00	6.40	1.00	8.10	1.00	7.40	1.00	8.55	1.00	6.85	1.00	7.10	1.00	7.80	1.00	8.05	1.00
6		8.70	0.65	9.18	1.00	8.64	1.00	7.68	1.00	9.72	1.00	8.88	1.00	10.26	1.00	8.22	1.00	8.52	1.00	9.36	1.00	9.66	1.00
7		10.15	0.61	10.71	1.00	10.08	1.00	8.96	1.00	11.34	1.00	10.36	0.85	11.97	0.97	9.59	1.00	9.94	1.00	10.92	1.00	11.27	1.00
8		11.60	0.43	12.24	0.93	11.52	1.00	10.24	0.79	12.96	0.74	11.84	0.73	13.68	0.91	10.96	1.00	11.36	1.00	12.48	0.93	12.88	1.00
9		13.05	0.30	13.77	0.54	12.96	0.49	11.52	0.35	14.58	0.29	13.32	0.67	15.39	0.86	12.33	0.72	12.78	0.74	14.04	0.62	14.49	0.82
Right Bank		14.50	0.00	15.30	0.00	14.40	0.00	12.80	0.00	16.20	0.00	14.80	0.00	17.10	0.00	13.70	0.00	14.20	0.00	15.60	0.00	16.10	0.00
Feature Type <small>(riffle, run, or pool)</small>		Run		Run		Run		Run		Run		Run		Run		Run		Run		Run		Run	

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 1.00 <-- Don't use. Taken on wrong segment - clas

MEDIAN 1.00

Surveyor's Signature:



Date: 8/28/2008







WBID-3060-30
DLU
8/28/08 4:00pm