



Missouri
Department of
Natural Resources

Use Attainability Analysis

for

WBID 2124 Mill Creek

Submitted by
Olsson Associates

To
Missouri Department of Natural Resources
Water Protection Program

On
October 14, 2008

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet A – Water Body Identification

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

Water Body Name (from USGS 7.5' quad): Mill Cr.
Missouri Water Body Identification (WBID) Number: 2124
8-digit HUC: 07140104
County(ies), Listed Upstream to Downstream: Washington
Upstream Legal Description (from Table H): 8,37N, 3E
Downstream Legal Description (from Table H): 18, 37N,3E
Number of sites evaluated: 3
List all site numbers, <u>consecutively upstream to downstream</u> : 2124-1, 2124,-2, 2124-3
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)

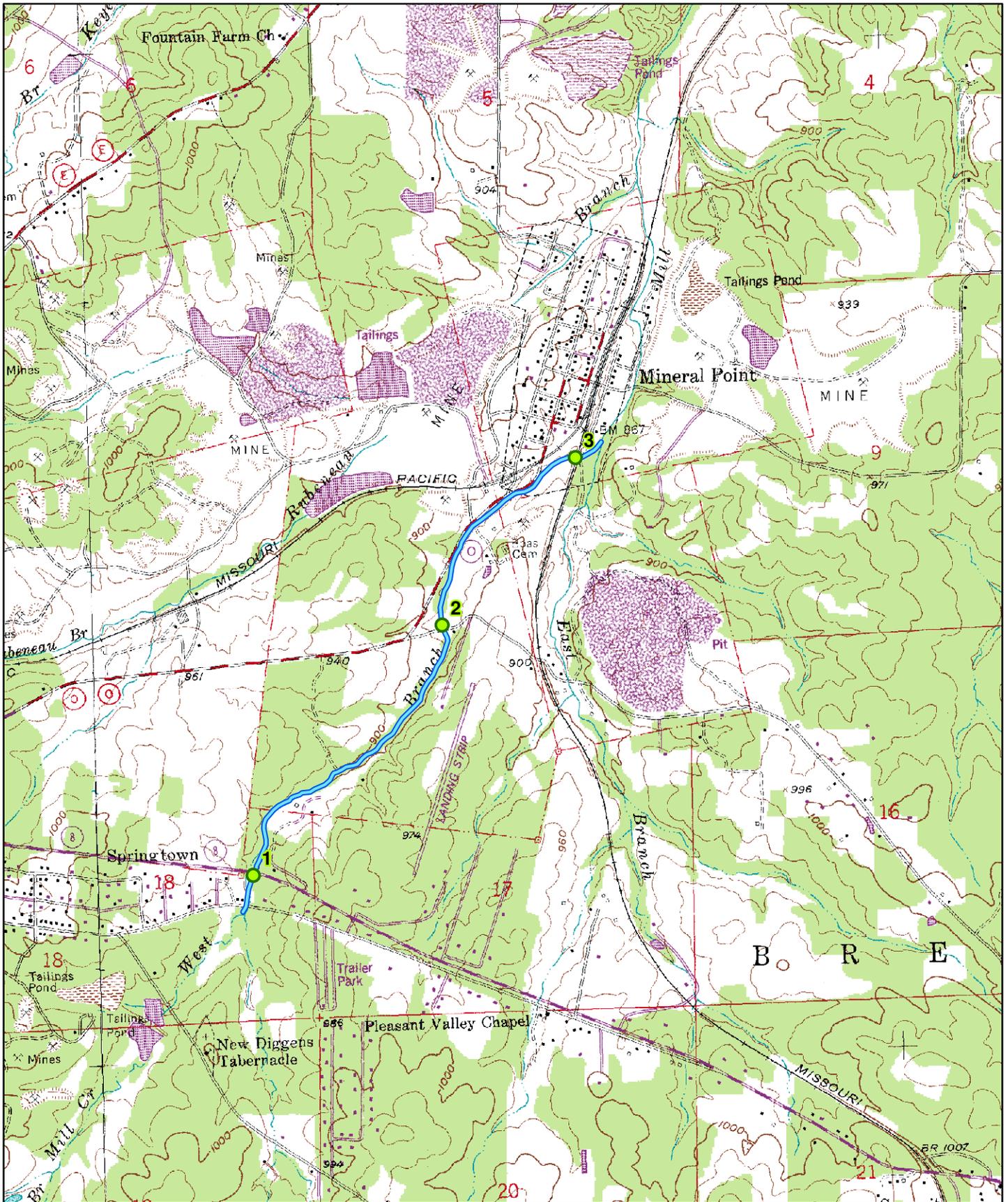
Facility Name(s) and Permit Number(s): Potosi WWTF #2 MO 0099732

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

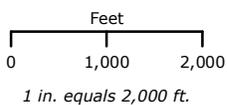
Name of Surveyor: Lindsey Schmid / Micah Hamer	Telephone Number: 417-890-8802
Organization/Employer: Olsson Associates	

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:** 08-12-08



**MISSOURI RECREATIONAL
USE ATTAINABILITY ANALYSIS**



Stream: Mill Cr.
WBID: 2124

Map Sheet: 1/1
County: Washington

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: 08-12-08 1:40 p.m.	Location Description (e.g., road crossing): Off Hwy 8
Stream Name: Mill Cr.	
Current Weather Conditions: Clear	Facility Name(s): Potosi WWTF #2
Weather Conditions for Past 10 days: 0.49" @ Farmington	Permit Number(s): MO 0099732
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): 698487	Northing (UTM Y): 4199878	Horizontal Accuracy: (EPE / FOM / PDOP) 61 ft. Meters
Site 11	Easting (UTM X): 698506	Northing (UTM Y): 4200040	Horizontal Accuracy: (EPE / FOM / PDOP) 68 ft. Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
2124-1-A	Upstream looking down	2124-1-B	Downstream looking up	2124-1-C	Bridge down from segment (5m)
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
2124-1-D	Road/Path				
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.)				

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(see below):
Comments: New lumber mill and large machinery				

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: Evidence of construction vehicles in and around site. Recently built bridge 5m downstream of segment.			

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

% Cobble	40% Gravel	20% Sand	% Silt	% Mud/Clay	40% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

Slick brown/green algae on bedrock

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 checked="" type="checkbox"/> Solids	<input 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 checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

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

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.)

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: 08-12-08

Organization: Olsson Associates Position: Field Service

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Mill Cr.</u> Waterbody ID: <u>2124</u> Site #: <u>1</u> Estimated Channel Incision: <u>0.5</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>698487</u> UTM Y: <u>4199878</u> +/- <u>61 ft.</u> (meters) 11 UTM X: <u>698506</u> UTM Y: <u>4200040</u> +/- <u>68 ft.</u> (meters) Average Stream Width: <u>4</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Lindsey Schmid / Micah Hamer</u>	Dissolved Oxygen Date: <u>8/12/2008</u> Time: <u>1:40 p.m.</u> Dissolved Oxygen: <u>7.86</u> (mg/L) Dissolved Oxygen: <u>92.3</u> (% sat) Specific Cond: <u>487</u> (µS/cm) Water Temperature: <u>22.3</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	0.42	0.13	0.36	0.05	0.52	0.09	0.36	0.05	0.29	0.05	0.52	0.30	0.42	0.05	0.37	0.05	0.51	0.05	0.37	0.05	0.37	0.07
	2	0.84	0.16	0.72	0.05	1.04	0.13	0.72	0.09	0.58	0.07	1.04	0.35	0.84	0.07	0.74	0.08	1.02	0.07	0.74	0.13	0.74	0.10
	3	1.26	0.19	1.08	0.08	1.56	0.40	1.08	0.09	0.87	0.05	1.56	0.33	1.26	0.10	1.11	0.10	1.53	0.05	1.11	0.17	1.11	0.17
	4	1.68	0.25	1.44	0.09	2.08	0.44	1.44	0.09	1.16	0.08	2.08	0.30	1.68	0.17	1.48	0.18	2.04	0.00	1.48	0.20	1.48	0.16
	5	2.10	0.28	1.80	0.12	2.60	0.39	1.80	0.07	1.45	0.08	2.60	0.29	2.10	0.19	1.85	0.29	2.55	0.07	1.85	0.08	1.85	0.13
	6	2.52	0.30	2.16	0.12	3.12	0.34	2.16	0.05	1.74	0.05	3.12	0.23	2.52	0.17	2.22	0.31	3.06	0.10	2.22	0.08	2.22	0.09
	7	2.94	0.25	2.52	0.09	3.64	0.33	2.52	0.05	2.03	0.05	3.64	0.23	2.94	0.16	2.59	0.36	3.57	0.11	2.59	0.07	2.59	0.11
	8	3.36	0.20	2.88	0.07	4.16	0.32	2.88	0.05	2.32	0.05	4.16	0.18	3.36	0.12	2.96	0.38	4.08	0.14	2.96	0.05	2.96	0.12
	9	3.78	0.18	3.24	0.07	4.68	0.31	3.24	0.05	2.61	0.05	4.68	0.18	3.78	0.09	3.33	0.34	4.59	0.10	3.33	0.05	3.33	0.08
Right Bank		4.20	0.00	3.60	0.00	5.20	0.00	3.60	0.00	2.90	0.00	5.20	0.00	4.20	0.00	3.70	0.00	5.10	0.00	3.70	0.00	3.70	0.00
Feature Type <small>(riffle, run, or pool)</small>		Run		Run		Run		Riffle		Riffle		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.

MAXIMUM 0.44

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

MEDIAN 0.10

Mark dry depth measurements as 0; record actual measurements to 0.1 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: _____ Date: 8/12/2008

WBID # 2124

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: 08-12-08 2:30 p.m.	Location Description (e.g., road crossing): Bridge on dirt road off Hwy O
Stream Name: Mill Cr.	
Current Weather Conditions: Clear	Facility Name(s): Potosi WWTF #2
Weather Conditions for Past 10 days: 0.49" @ Farmington	Permit Number(s): MO 0099732
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): 699337	Northing (UTM Y): 4200963	Horizontal Accuracy: (EPE / FOM / PDOP)	54 ft. Meters
Site 11	Easting (UTM X): 699349	Northing (UTM Y): 4201146	Horizontal Accuracy: (EPE / FOM / PDOP)	105 ft. Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
2124-2-A	Upstream looking down	2124-2-B	Bridge	2124-2-C	Downstream looking up
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

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

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

Site # 2

Field Data Sheets for Recreational Use Stream Surveys

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

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

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input checked="" 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	10% Gravel	10% Sand	10% Silt	% Mud/Clay	70% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

Some algae on rocks. Floating green algae in select calm puddles. Dense surrounding vegetation, often growing over and across stream.

Water Characteristics*: (Mark all that apply.)

Odor:	<input checked="" type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input 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 checked="" 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 checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

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

Site # 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.)

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: 08-12-08

Organization: Olsson Associates Position: Field Service

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Mill Cr.</u> Waterbody ID: <u>2124</u> Site #: <u>2</u> Estimated Channel Incision: <u>0.1</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>699337</u> UTM Y: <u>4200963</u> +/- <u>54 ft.</u> (meters) 11 UTM X: <u>699349</u> UTM Y: <u>4201146</u> +/- <u>105 ft.</u> (meters) Average Stream Width: <u>4</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Lindsey Schmid / Micah Hamer</u>	Dissolved Oxygen Date: <u>8/12/2008</u> Time: <u>2:30 p.m.</u> Dissolved Oxygen: <u>8.83</u> (mg/L) Dissolved Oxygen: <u>103.3</u> (% sat) Specific Cond: <u>4.92</u> (µS/cm) Water Temperature: <u>22.2</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	0
	1	0.28	0.05	0.22	0.07	0.25	0.05	0.24	0.05	0.32	0.05	0.48	0.09	0.42	0.09	0.34	0.18	0.44	0.08	0.63	0.38	0.25	0.08
	2	0.56	0.05	0.44	0.07	0.50	0.05	0.48	0.05	0.64	0.05	0.96	0.10	0.84	0.12	0.68	0.19	0.88	0.15	1.26	0.45	0.50	0.08
	3	0.84	0.05	0.66	0.08	0.75	0.06	0.72	0.05	0.96	0.05	1.44	0.20	1.26	0.17	1.02	0.27	1.32	0.14	1.89	0.52	0.75	0.11
	4	1.12	0.09	0.88	0.10	1.00	0.05	0.96	0.05	1.28	0.05	1.92	0.19	1.68	0.21	1.36	0.31	1.76	0.18	2.52	0.47	1.00	0.05
	5	1.40	0.16	1.10	0.10	1.25	0.08	1.20	0.05	1.60	0.05	2.40	0.23	2.10	0.22	1.70	0.22	2.20	0.06	3.15	0.43	1.25	0.05
	6	1.68	0.20	1.32	0.12	1.50	0.07	1.44	0.05	1.92	0.05	2.88	0.19	2.52	0.20	2.04	0.21	2.64	0.20	3.78	0.48	1.50	0.05
	7	1.96	0.19	1.54	0.13	1.75	0.09	1.68	0.05	2.24	0.05	3.36	0.08	2.94	0.20	2.38	0.17	3.08	0.10	4.41	0.47	1.75	0.09
	8	2.24	0.18	1.76	0.07	2.00	0.09	1.92	0.05	2.56	0.05	3.84	0.08	3.36	0.17	2.72	0.19	3.52	0.09	5.04	0.47	2.00	0.07
9	2.52	0.14	1.98	0.08	2.25	0.07	2.16	0.05	2.88	0.05	4.32	0.05	3.78	0.13	3.06	0.13	3.96	0.13	5.67	0.38	2.25	0.08	
Right Bank		2.80	0.00	2.20	0.00	2.50	0.00	2.40	0.00	3.20	0.00	4.80	0.00	4.20	0.00	3.40	0.00	4.40	0.00	6.30	0.00	2.50	0.00
Feature Type <small>(riffle, run, or pool)</small>		Run		Riffle		Riffle		Riffle		Riffle		Run		Run		Run		Run		Pool		Riffle	

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 0.52

MEDIAN 0.09

Surveyor's Signature: _____ Date: 8/12/2008

WBID # 2124

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: 08-12-08 3:00 p.m.	Location Description (e.g., road crossing): Water St. in Mineral Point
Stream Name: Mill Cr.	
Current Weather Conditions: Clear	Facility Name(s): Potosi WWTF #2
Weather Conditions for Past 10 days: 0.49" @ Farmington	Permit Number(s): MO 0099732
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): 699943	Northing (UTM Y): 4201734	Horizontal Accuracy: (EPE / FOM / PDOP) 62 ft. Meters
Site 11	Easting (UTM X): 700056	Northing (UTM Y): 4201841	Horizontal Accuracy: (EPE / FOM / PDOP) 38 ft. Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
2124-3-A	Upstream looking down	2124-3-B	Bridge	2124-3-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.)				

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.)

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: 08-12-08

Organization: Olsson Associates Position: Field Service

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Mill Cr.</u> Waterbody ID: <u>2124</u> Site #: <u>3</u> Estimated Channel Incision: <u>0.2</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>699943</u> UTM Y: <u>4201734</u> +/- <u>62 ft.</u> (meters) 11 UTM X: <u>700056</u> UTM Y: <u>4201841</u> +/- <u>38 ft.</u> (meters) Average Stream Width: <u>5</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>8/12/2008</u> Time: <u>3:20 p.m.</u>
	Dissolved Oxygen: <u>9.85</u> (mg/L)
	Dissolved Oxygen: <u>123.9</u> (% sat)
	Specific Cond: <u>842</u> (µS/cm)
	Water Temperature: <u>23.1</u> (°C)

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	0.34	0.47	0.41	0.05	0.69	0.05	0.46	0.08	0.35	0.05	0.38	0.09	0.77	0.12	0.35	0.07	0.48	0.15	0.31	0.05	0.58	0.19
	2	0.68	0.31	0.82	0.05	1.38	0.08	0.92	0.09	0.70	0.05	0.76	0.09	1.54	0.09	0.70	0.06	0.96	0.15	0.62	0.10	1.16	0.23
	3	1.02	0.31	1.23	0.05	2.07	0.05	1.38	0.10	1.05	0.05	1.14	0.12	2.31	0.06	1.05	0.05	1.44	0.12	0.93	0.13	1.74	0.29
	4	1.36	0.29	1.64	0.06	2.76	0.07	1.84	0.12	1.40	0.05	1.52	0.10	3.08	0.05	1.40	0.05	1.92	0.09	1.24	0.12	2.32	0.33
	5	1.70	0.24	2.05	0.07	3.45	0.05	2.30	0.16	1.75	0.08	1.90	0.14	3.85	0.05	1.75	0.05	2.40	0.18	1.55	0.12	2.90	0.37
	6	2.04	0.22	2.46	0.05	4.14	0.05	2.76	0.16	2.10	0.05	2.28	0.11	4.62	0.05	2.10	0.08	2.88	0.10	1.86	0.11	3.48	0.31
	7	2.38	0.22	2.87	0.05	4.83	0.06	3.22	0.15	2.45	0.05	2.66	0.09	5.39	0.05	2.45	0.09	3.36	0.05	2.17	0.11	4.06	0.24
	8	2.72	0.15	3.28	0.05	5.52	0.05	3.68	0.16	2.80	0.05	3.04	0.05	6.16	0.05	2.80	0.09	3.84	0.05	2.48	0.09	4.64	0.17
9	3.06	0.11	3.69	0.05	6.21	0.05	4.14	0.15	3.15	0.05	3.42	0.05	6.93	0.08	3.15	0.05	4.32	0.05	2.79	0.08	5.22	0.19	
Right Bank		3.40	0.00	4.10	0.00	6.90	0.00	4.60	0.00	3.50	0.00	3.80	0.00	7.70	0.00	3.50	0.00	4.80	0.00	3.10	0.00	5.80	0.00
Feature Type <small>(riffle, run, or pool)</small>		Run		Riffle		Riffle		Run		Riffle		Riffle		Riffle		Riffle		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 0.47

MEDIAN 0.07

Surveyor's Signature: _____ Date: 8/12/2008





