



Missouri
Department of
Natural Resources

Use Attainability Analysis

for

WBID 1844 Brush Creek

Submitted by

MEC Water Resources

To

Missouri Department of Natural Resources

Water Protection Program

On

December 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):	Brush Cr.		
Missouri Water Body Identification (WBID) Number:	1844		
8-digit HUC:	20080109	County:	Franklin
Upstream Legal Description (from Table H):	11, 43N, 2E		
Downstream Legal Description (from Table H):	mouth		
Number of sites evaluated	3		
List all sites numbers, listed consecutively upstream to downstream:			
site 1:	Hwy N	site 3:	Hwy F
site 2:	Denton Rd		

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

Discharger Facility Name(s):	Avery mobile Home Park
Discharger Permit Number(s):	mo 0089168

III. UAA Surveyor (please print legibly)

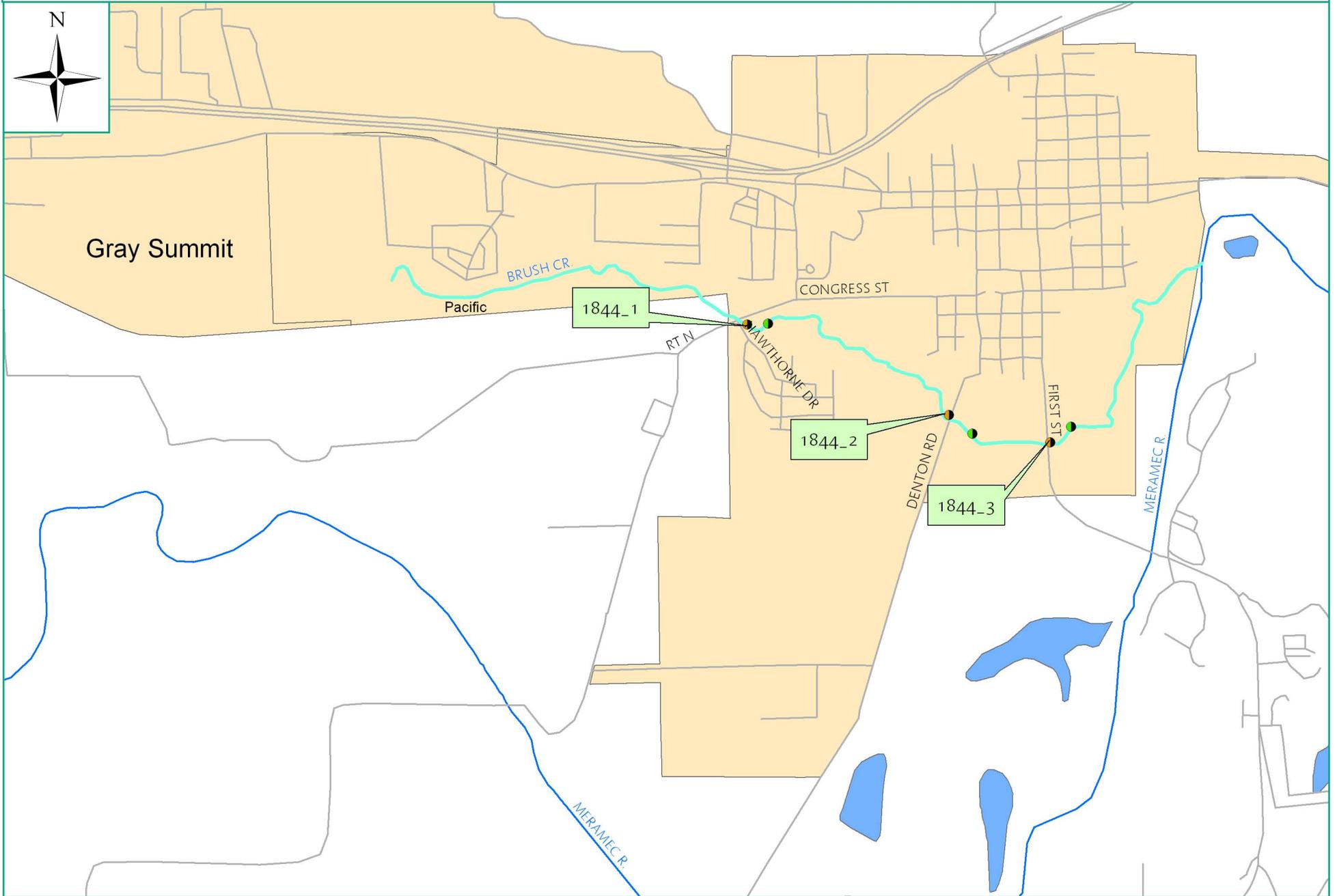
Name of Surveyor	Renee Martin	Telephone Number:	573-875-7844
Organization/Employer:	AE Solutions		
Position:	Env. Specialist		

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

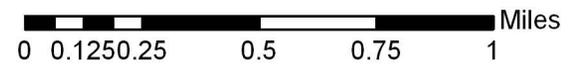
Signed: Renee Martin Date: 10/10/07

ruc 10 - 23 - 07

Brush Creek (WBID 1844)



- Upstream Boundary
- Downstream Boundary



WBID # 7844

Site # 1

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization

(must be completed for each site)

Date & Time: <u>10/10/07 1430</u>	Site Location Description (e.g., road crossing): <u>Hwy N</u>
Personnel (Data Collectors): <u>RW/JF</u>	
Current Weather Conditions: <u>clear</u>	Facility Name: <u>Avery Mobile Home Park</u>
Weather Conditions for Past 10 days: <u>clear</u>	Permit Number: <u>M00089168</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 Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)				
Site 01	Easting (UTM X): <u>4261238</u>	Northing (UTM Y): <u>0695519</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>23</u>	<u>ft</u> ^{SKH} Meters
Site 11	Easting (UTM X): <u>4261241</u>	Northing (UTM Y): <u>0695624</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>21</u>	<u>ft</u> ^{SKH} Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>100-013</u>	<u>Upstream site 1</u>	<u>100-014</u>	<u>DN Stream</u>	<u>100-015</u>	<u>T-4 site 1 Home nearby</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.)

WBID # 1844

Site # 1

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (continued)

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

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

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

<input 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
Comments / Other: <i>None</i>				

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

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

<i>Benthic Algae - vast amounts. aquatic vegetation on gravel bars.</i>

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 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 effect another use.

WBID # 1244

Site # 1

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (continued)

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.)

RDB - Stormwater Drain Transect 8

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

Surveyor's Signature: *Donna Mart* Date of Survey: 10/10/07

Organization: *AB Solutions* Position: *Env. Specialist*

QUC 10-23-07

Recreational Use Attainability Analysis Field Survey Sheet

Waterbody ID: <u>1844</u> Site #: <u>1844-01</u> (WBID_Site#) Estimated Channel Incision: <u>1.5</u> (m) (height between low bank width and water) GPS Location (taken at transect 1): UTM X: <u>4261238</u> UTM Y: <u>695519</u> Horizontal Accuracy Estimate (GPS Data Quality): <u>+/- 23</u> (feet) GPS Location (taken at transect 11): UTM X: <u>4261241</u> UTM Y: <u>695624</u> Horizontal Accuracy Estimate (GPS Data Quality): <u>+/- 21</u> (feet) Average Stream Width: <u>7.5</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>R. Martin ; J. Foth</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>10/10/07</u> Time: <u>1430</u> Dissolved Oxygen: <u>4.08</u> (mg/L) Dissolved Oxygen: <u>43.6</u> (% sat) Specific Cond: <u>326.4</u> (µS/cm) Water Temp.: <u>18.4</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		0.64	0.22	1.02	0.05	1.04	0.38	0.92	0.27	0.26	0.11	0.37	0.03	0.37	<0.01	0.40	0.10	0.42	dry	0.90	0.60	0.25	dry
2		1.28	0.72	2.04	0.02	2.08	0.61	1.84	0.45	0.52	dry	0.74	0.10	0.74	dry	0.80	0.20	0.84	<0.01	1.80	0.92	0.50	
3		1.92	0.75	3.06	0.14	3.12	0.51	2.76	0.55	0.78	0.04	1.11	0.15	1.11	dry	1.20	0.24	1.26	0.01	2.70	>1.0	0.75	
4		2.56	0.82	4.08	0.21	4.10	0.43	3.68	0.48	1.04	0.10	1.48	0.18	1.48	dry	1.60	0.31	1.68	dry	3.60	>1.00	1.00	
5		3.20	0.84	5.00	0.09	5.20	0.36	4.60	0.50	1.30	0.20	1.85	0.20	1.85	dry	2.00	0.29	2.10	dry	4.50	>1.00	1.25	
6		3.84	0.71	6.12	0.19	6.24	0.51	5.52	0.51	1.56	0.31	2.22	0.20	2.22	dry	2.40	0.32	2.52	0.01	5.40	0.70	1.50	
7		4.48	0.70	7.14	0.26	7.28	0.56	6.44	0.55	1.82	0.30	2.59	0.20	2.59	dry	2.80	0.30	2.94	0.04	6.30	0.66	1.75	
8		5.12	0.61	8.16	0.41	8.32	0.55	7.36	0.51	2.08	0.27	2.96	0.14	2.96	dry	3.20	0.19	3.36	0.01	7.20	0.55	2.00	
9		5.76	0.40	9.18	0.50	9.36	0.46	8.28	0.40	2.34	0.10	3.33	0.08	3.33	dry	3.60	0.05	3.78	0.01	8.10	0.35	2.25	↓
Right Bank		6.40	0	10.20	0.15	10.40	0	9.20	0.30	2.60	0	3.70	0	3.70	0	4.00	0	4.20	0	9.00	0	2.50	0
Feature Type (riffle, run, or pool)		Pool		Pool		Pool		Pool		Pool		Pool		Riffle		Pool		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 location corresponds to Transect 01 and Transect 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 0.01 meter unless depth is too deep to measure (then record as > 1).
 All measurements to be taken to the nearest 0.01 meter.

Signed: *R. Martin* Date: 10/10/07

DUC 10-23-07

WBID # 1844

Site # 2

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization

(must be completed for each site)

Date & Time: <u>10/10/07/1515</u>	Site Location Description (e.g., road crossing): <u>Denton Rd.</u>
Personnel (Data Collectors): <u>DM/JF</u>	
Current Weather Conditions: <u>Clear</u>	Facility Name: <u>Avery Mobile Home Park</u>
Weather Conditions for Past 10 days: <u>Clear</u>	Permit Number: <u>MO 0089168</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 Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): <u>4260782</u>	Northing (UTM Y): <u>0696535</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>21</u> ⁷¹⁴ Meters <u>f+</u>
Site 11	Easting (UTM X): <u>4260687</u>	Northing (UTM Y): <u>0696652</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>27</u> ⁷¹⁴ Meters <u>f+</u>

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>100-16</u>	<u>UP Stream</u> ^{site 2}	<u>100-17</u>	<u>DN STREAM</u> ^{site 2}		

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.)				

WBID # 1844
 Site # 2

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (continued)

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 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
Comments / Other: <i>None</i>				

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

% Cobble	<i>25</i> % Gravel	<i>50</i> % Sand	% Silt	<i>25</i> % Mud/Clay	% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

<i>Benthic algae on a majority of substrate/bottom</i>
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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 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 effect another use.

WBID # 1844
Site # 2

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (continued)

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.

Surveyor's Signature: *James H. Hart* Date of Survey: 10/10/07
Organization: AE Solutions Position: Env. Specialist

Rac 10-23-07

Recreational Use Attainability Analysis Field Survey Sheet

Waterbody ID: <u>1844</u> Site #: <u>1844-2</u> (WBID_Site#) Estimated Channel Incision: <u>2.0</u> (m) (height between low bank width and water) GPS Location (taken at transect 1): UTM X: <u>4260782</u> UTM Y: <u>696535</u> Horizontal Accuracy Estimate (GPS Data Quality): <u>+/- 21</u> (feet) GPS Location (taken at transect 11): UTM X: <u>4260687</u> UTM Y: <u>696652</u> Horizontal Accuracy Estimate (GPS Data Quality): <u>+/- 27</u> (feet) Average Stream Width: <u>7.50</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>R. Martin & J. Foth</u>	<h3 style="text-align: center; margin: 0;">Dissolved Oxygen</h3> Date: <u>10/10/07</u> Time: <u>1515</u> Dissolved Oxygen: <u>3.53</u> (mg/L) Dissolved Oxygen: <u>37.8</u> (% sat) Specific Cond: <u>470.9</u> (µS/cm) Water Temp.: <u>18.6</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	0.52	0.1	0.39	0.07	0.30	DRY	0.35	0.01	0.73	0.06	0.87	0.26	0.75	0.20	0.77	0.19	0.89	0.36	0.72	0.25	0.10	<0.01
2	1.04	0.25	0.78	0.11	0.60		0.70	0.01	1.46	0.15	1.74	0.45	1.50	0.40	1.54	0.37	1.78	0.30	1.44	0.25	0.20	0.01
3	1.56	0.36	1.17	0.13	0.90		1.05	<0.01	2.19	0.20	2.61	0.39	2.25	0.48	2.31	0.45	2.67	0.25	2.16	0.20	0.30	0.01
4	2.08	0.44	1.56	0.08	1.20		1.40	0.01	2.92	0.25	3.48	0.30	3.00	0.44	3.08	0.55	3.56	0.35	2.88	0.10	0.40	0.01
5	2.60	0.49	1.95	0.22	1.50		1.75	<0.01	3.15	0.35	4.35	0.25	3.75	0.29	3.85	0.62	4.45	0.41	3.60	0.04	0.50	0.02
6	3.12	0.50	2.34	0.14	1.80		2.10	0.03	4.38	0.44	5.22	0.22	4.50	0.17	4.62	0.54	5.31	0.35	4.32	0.01	0.60	0.03
7	3.64	0.36	2.73	0.12	2.10		2.45	0.01	5.11	0.41	6.09	0.19	5.25	0.10	5.39	0.48	6.23	0.24	5.04	0.04	0.70	0.03
8	4.16	0.35	3.12	0.15	2.40		2.80	<0.01	5.84	0.25	6.96	0.15	6.00	0.05	6.16	0.15	7.12	0.14	5.76	0.05	0.80	0.02
9	4.68	0.20	3.51	0.09	2.70	✓	3.15	0.01	6.57	0.12	7.83	0.10	6.75	0.07	6.93	0.11	8.01	0.15	6.48	0.04	0.90	0.01
Right Bank	5.20	0	3.90	0	3.00	0	3.50	0	7.30	0	8.75	0	7.55	0	7.72	0	8.90	0	7.20	0	1.05	0
Feature Type (riffle, run, or pool)	Pool		Pool		DRY		Riffle		Pool/Run		Run		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 location corresponds to Transect 01 and Transect 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 0.01 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

① Rocky

Signed: R. Martin Date: 10/10/07

WBID # 1844
 Site # 3

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization
 (must be completed for each site)

Date & Time: <u>10/10/07 1600</u>	Site Location Description (e.g., road crossing): <u>Hwy F</u>
Personnel (Data Collectors): <u>Rm/JF</u>	
Current Weather Conditions: <u>clear</u>	Facility Name: <u>Avery Mobile Home Park</u>
Weather Conditions for Past 10 days: <u>clear</u>	Permit Number: <u>MO 0089168</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 Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): <u>4260643</u>	Northing (UTM Y): <u>0697044</u>	Horizontal Accuracy: <u>27</u> Meters ^{ft} _{JPH}
Site 11	Easting (UTM X): <u>4260723</u>	Northing (UTM Y): <u>0697149</u>	Horizontal Accuracy: <u>45</u> Meters ^{ft} _{JPH}

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>100-18</u>	<u>Site 3 UP STREAM</u>	<u>100-19</u>	<u>Site 3 DN Stream</u>		
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 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.)				

WBID # 1844

Site # 3

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (continued)

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 checked="" type="checkbox"/> Other:
Comments: <i>Urban road ways</i>				

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

<input 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
Comments / Other: <i>None</i>				

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

<i>5</i> % Cobble	<i>20</i> % Gravel	<i>25</i> % Sand	% Silt	<i>50</i> % Mud/Clay	% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

<i>Benthic Algae - all rock bottom</i> <i>aquatic veg - gravel bars</i>
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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 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 effect another use.

WBID # 18244

Site # 3

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (continued)

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.

Surveyor's Signature: *Steve Mart* Date of Survey: *10/10/07*
Organization: *AE Solutions* Position: *EW Specialist*

Recreational Use Attainability Analysis Field Survey Sheet

Waterbody ID: 1844 Site #: 1844-3
 (WBID_Site#)
 Estimated Channel Incision: 20 (m) (height between low bank width and water)
 GPS Location (taken at transect 1):
 UTM X: 4260643 UTM Y: 697044
 Horizontal Accuracy Estimate (GPS Data Quality): +/- 29 (feet)

GPS Location (taken at transect 11):
 UTM X: 4260723 UTM Y: 697149
 Horizontal Accuracy Estimate (GPS Data Quality): +/- 45 (feet)

Average Stream Width: 4.0 (meters) Length of Survey Segment: 150 (meters)
 (To determine Length of Reach) (20x average stream width)

Field Staff: R. Martin & J. Foth

Dissolved Oxygen	
Date: <u>10/10/07</u>	Time: <u>1600</u>
Dissolved Oxygen: <u>6.08</u> (mg/L)	
Dissolved Oxygen: <u>65.6</u> (% sat)	
Specific Cond: <u>380.7</u> (µS/cm)	
Water Temp.: <u>17.4</u> (°C)	

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	0.44	0.10	0.64	0.10	0.83	0.10	0.93	0.12	0.95	DRY	0.15	0.01	0.35	DRY	0.55	DRY	0.28	0.08	0.28	DRY	0.47	0.06
2	0.88	0.09	1.28	0.10	0.46	0.16	0.62	0.13	0.70		0.30	0.03	0.70		1.10		0.56	0.10	0.56		0.94	0.09
3	1.32	0.25	1.92	0.12	0.69	0.22	0.93	0.15	1.05		0.45	0.03	1.05		1.65		0.84	0.11	0.84		1.41	0.15
4	1.76	0.26	2.56	0.10	0.92	0.20	1.24	0.05	1.40		0.60	0.02	1.40		2.20		1.12	0.15	1.12		1.88	0.19
5	2.20	0.29	3.20	0.09	1.15	0.15	1.55	0.21	1.75		0.75	DRY	1.75		2.75		1.40	0.15	1.40		2.35	0.20
6	2.64	0.28	3.84	0.08	1.38	0.10	1.80	0.29	2.10		0.90	0.02	2.10		3.30		1.68	0.12	1.68		2.82	0.24
7	3.08	0.26	4.48	0.09	1.61	0.09	2.17	0.25	2.45		1.05	0.01	2.45		3.85		1.96	0.10	1.96		3.29	0.16
8	3.52	0.24	5.12	0.07	1.84	0.05	2.48	0.23	2.80		1.20	DRY	2.80		4.40		2.24	0.10	2.24		3.76	0.11
9	3.96	0.14	5.76	0.18	2.07	0.04	2.79	0.06	3.15	↓	1.35	DRY	3.15	↓	4.95	↓	2.52	0.06	2.52	↓	4.23	0.10
Right Bank	4.40	0	6.40	0	2.30	0	3.10	0	3.50	0	1.50	0	3.50	0	5.50	0	2.80	0	2.80	0	4.70	0
Feature Type (riffle, run, or pool)	Pool		Run		Run		Run		DRY		Run		DRY		DRY		Run		DRY		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 location corresponds to Transect 01 and Transect 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 0.01 meter unless depth is too deep to measure (then record as > 1).
 All measurements to be taken to the nearest 0.01 meter.

AUC 10-23-07

Signed: R. Martin Date: 10/10/07

