Missouri
Department of
Natural Resources

Use Attainability Analysis

for

WBID 1135 Possum Hollow

Submitted by
Olsson Associates

To
Missouri Department of Natural Resources
Water Protection Program

On
May 30, 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): Possum Hollow
Missouri Water Body Identification (WBID) Number: 1135
8-digit HUC: 10290109
County(ies), Listed Upstream to Downstream: Camden
Upstream Legal Description (from Table H): 12, 38N, 17W
Downstream Legal Description (from Table H): Mouth
Number of sites evaluated: 3
List all site numbers, consecutively upstream to downstream: 1, 2, 3
Include a Site Location Map(s). The map must include all requirements detailed in the *Missouri Recreational Use Attainability Analyses: Water Body Survey and Assessment Protocol* (Section IV.D.8.a).

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

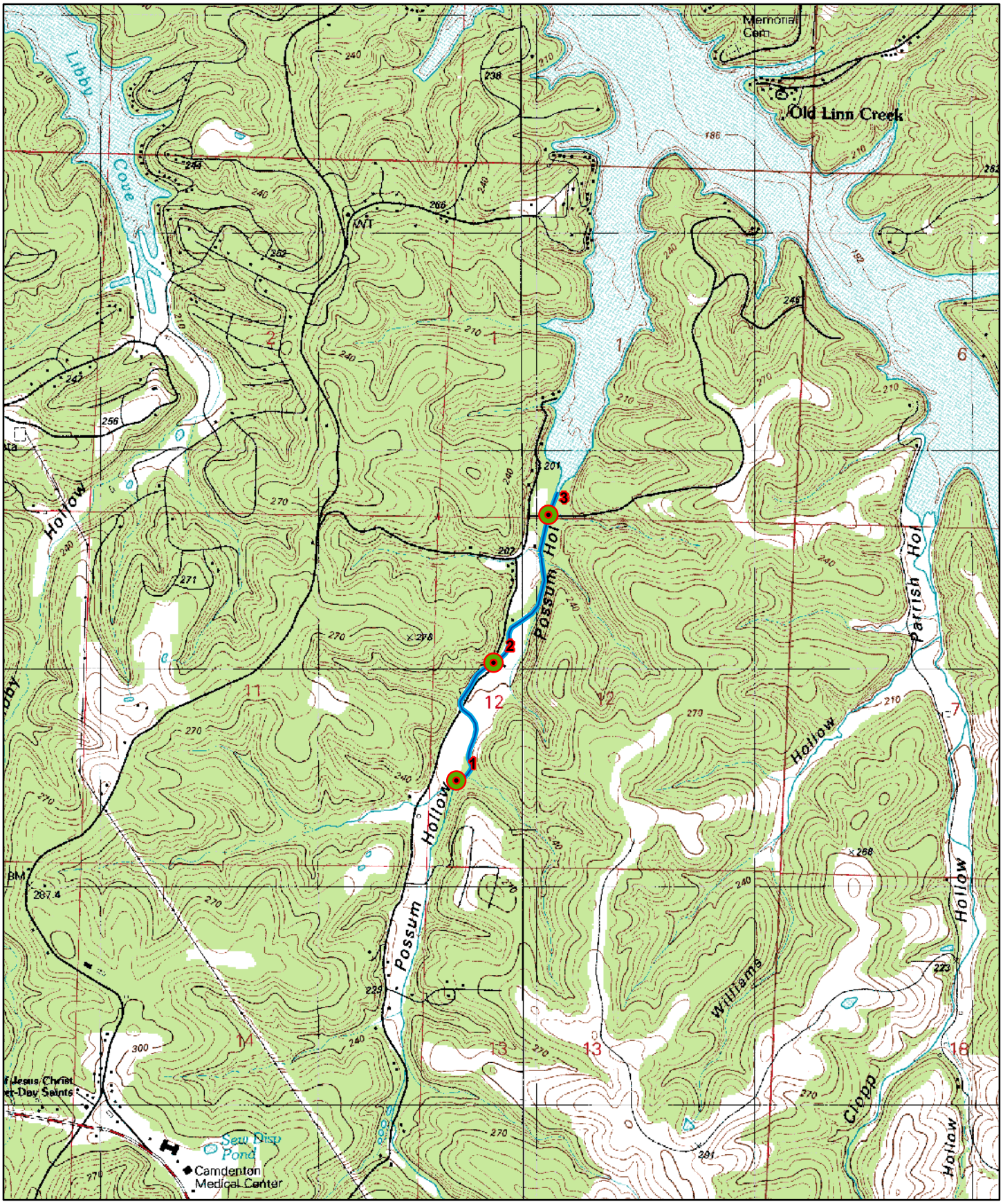
Facility Name(s) and Permit Number(s): Watkins Subdivision WWTF MO-0108588

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

Name of Surveyor: Rodney Holland	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 Analysies: Water Body Survey and Assessment Protocol*) and that this form is complete.

Signed:_____ **Date:** _____**4/15/08**_____



MISSOURI RECREATIONAL USE ATTAINABILITY ANALYSIS

NORTH

Feet
0 1,000 2,000
1 in. equals 2,000 ft.

Stream: Possum Hollow
WBID: 1135

Map Sheet: 1/1
County: Camden

OLSSON ASSOCIATES

WBID # 1135

Site # 1

Field Data Sheets for Recreational Use Stream Surveys

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

(must be completed for each site)

Date & Time: 4-15-08 2:35 p.m.	Location Description (e.g., road crossing):
Stream Name: Possum Hollow	Lake Road 5-92
Current Weather Conditions: Sunny	Facility Name(s): Watkins Subdivision WWTF
Weather Conditions for Past 10 days:	Permit Number(s): MO-0108588
Official Drought Conditions at time of this survey (search DNR home page for "drought"): No drought X; Phase I ☐; Phase II ☐; Phase III ☐; Phase IV ☐; Unknown ☐	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)				
Site 01	Easting (UTM X): 521565	Northing (UTM Y): 4210511	Horizontal Accuracy: (EPE / FOM / PDOP)	81 ft. ~~Meters~~
Site 11	Easting (UTM X): 521590	Northing (UTM Y): 4210632	Horizontal Accuracy: (EPE / FOM / PDOP)	50 ft. ~~Meters~~

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
1135-1-A	Upstream looking down				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
1135-1-B	Picnic				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
1135-1-C	Downstream looking up				

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

☐ Swimming	☐ Skin diving	☐ SCUBA diving	☐ Tubing	☐ Water skiing
☐ Wind surfing	☐ Kayaking	☐ Boating	☐ Wading	☐ Rafting
☐ Hunting	☐ Trapping	☐ Fishing	X None of the above	☐ 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.)

Stream Name & WBID #_____Possum Hollow_____#1135_____ Date of Survey _____4-15-08__

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.)

☐ City/county parks	☐ Playgrounds	☐ MDC conservation lands	☐ Urban areas	☐ Rural Residential
☐ Campgrounds	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ Boating accesses	☐ Fence	☐ No trespass sign	X Steep slopes	X Other:
Comments: Private land				

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

☐ Roads	X Foot paths/prints	☐ Dock/platform	☐ Camping Sites	☐ Rope swings
☐ RV / ATV Tracks	☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle	☐ Livestock Watering
☐ None of the above	Comments / Other: Picnic Site			

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

% Cobble	80% Gravel	20% Sand	% Silt	% Mud/Clay	% Bedrock

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

None

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	X None	☐ Other:
Color:	X Clear	☐ Green	☐ Gray	☐ Milky	☐ Other:
Bottom Deposit:	☐ Sludge	☐ Solids	☐ Fine sediments	X None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	X None	☐ 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.

Stream Name & WBID #_____Possum Hollow_____#1135_____ Date of Survey _____4-15-08__

Site # ____1_____

Field Data Sheets for Recreational Use Stream Surveys

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

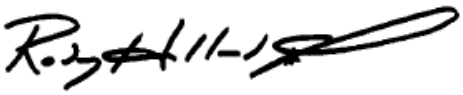
Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses.)

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

Comments: (Please record any additional comments here.)

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

Printed Names of Personnel Collecting Data: _____Rodney Holland, Christopher Parks_____

Surveyor's Signature:  Date of Survey: _____4-15-08_____

Organization: _____Olsson Associates_____ Position: Field Team Leader & Field Team Member

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: Possum Hollow Waterbody ID: 1135 Site #: 1

Estimated Channel Incision: 0.3 (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: 521565 UTM Y: 4210511 +/- 81 ft. ~~(meters)~~

11 UTM X: 521590 UTM Y: 4210622 +/- 50 ft. ~~(meters)~~

Average Stream Width: 4 (meters)
(To determne Length of Reach)

Length of Survey Segment: 150 (meters)
(20x average stream width)

Field Staff: Rodney Holland and Christopher Parks

Dissolved Oxygen

Date: 4/15/2008 Time: 2:40 p.m.

Dissolved Oxygen: 10.8 (mg/L)

Dissolved Oxygen: 105.7 (% sat)

Specific Cond: 315 (µS/cm)

Water Temperature: 16.1 (°C)

Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	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	0.33	0.06	0.52	0.09	0.24	0.09	0.40	0.06	0.42	0.12	0.43	0.05	0.27	0.09	0.37	0.09	0.36	0.08	0.70	0.05	0.52	0.05
2	0.66	0.11	1.04	0.05	0.48	0.06	0.80	0.05	0.84	0.08	0.86	0.12	0.54	0.08	0.74	0.11	0.72	0.11	1.40	0.05	1.04	0.05
3	0.99	0.13	1.56	0.05	0.72	0.06	1.20	0.07	1.26	0.07	1.29	0.09	0.81	0.11	1.11	0.15	1.08	0.14	2.10	0.05	1.56	0.09
4	1.32	0.14	2.08	0.00	0.96	0.10	1.60	0.13	1.68	0.12	1.72	0.12	1.08	0.11	1.48	0.16	1.44	0.15	2.80	0.06	2.08	0.05
5	1.65	0.28	2.60	0.06	1.20	0.10	2.00	0.20	2.10	0.05	2.15	0.11	1.35	0.09	1.85	0.09	1.80	0.11	3.50	0.05	2.60	0.05
6	1.98	0.29	3.12	0.06	1.44	0.06	2.40	0.24	2.52	0.06	2.58	0.10	1.62	0.10	2.22	0.05	2.16	0.05	4.20	0.06	3.12	0.12
7	2.31	0.39	3.64	0.11	1.68	0.11	2.80	0.22	2.94	0.12	3.01	0.08	1.89	0.11	2.59	0.05	2.52	0.05	4.90	0.05	3.64	0.13
8	2.64	0.29	4.16	0.13	1.92	0.09	3.20	0.18	3.36	0.12	3.44	0.07	2.16	0.09	2.96	0.05	2.88	0.05	5.60	0.05	4.16	0.19
9	2.97	0.19	4.68	0.09	2.16	0.06	3.60	0.11	3.78	0.11	3.87	0.13	2.43	<0.05	3.33	0.05	3.24	0.05	6.30	0.05	4.68	0.22
Right Bank	3.30	0.00	5.20	0.00	7.40	0.00	4.00	0.00	4.20	0.00	4.30	0.00	2.70	0.00	3.70	0.00	3.60	0.00	7.00	0.00	5.20	0.00
Feature Type (riffle, run, or pool)	run		Riffle		Riffle		Run		Riffle		Riffle		Riffle		Run		Run		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.
Depth measurements taken at 10 equally spaced locations along transect (determine bv 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 0.39

MEDIAN 0.09

Surveyor's Signature: R. Holland Date: 4/15/2008

WBID # 1135

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: 4-15-08 3:05 p.m.	Location Description (e.g., road crossing):
Stream Name: Possum Hollow	Lake Road 5-92
Current Weather Conditions: Sunny	Facility Name(s): Watkins Subdivision WWTF
Weather Conditions for Past 10 days:	Permit Number(s): MO-0108588
Official Drought Conditions at time of this survey (search DNR home page for "drought"): No drought X; Phase I ☐; Phase II ☐; Phase III ☐; Phase IV ☐; Unknown ☐	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)				
Site 01	Easting (UTM X): 521805	Northing (UTM Y): 4211256	Horizontal Accuracy: (EPE / FOM / PDOP)	53 ft. ~~Meters~~
Site 11	Easting (UTM X): 521864	Northing (UTM Y): 4211351	Horizontal Accuracy: (EPE / FOM / PDOP)	45 ft. ~~Meters~~

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
1135-2-A	Upstream looking down				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
1135-2-B	Bridge				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
1135-2-C	Downstream looking up				

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

☐ Swimming	☐ Skin diving	☐ SCUBA diving	☐ Tubing	☐ Water skiing
☐ Wind surfing	☐ Kayaking	☐ Boating	☐ Wading	☐ Rafting
☐ Hunting	☐ Trapping	☐ Fishing	X None of the above	☐ 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.)

Stream Name & WBID #_____Possum Hollow_____#1135_____ Date of Survey _____4-15-08____

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.)

☐ City/county parks	☐ Playgrounds	☐ MDC conservation lands	☐ Urban areas	☐ Rural Residential
☐ Campgrounds	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ Boating accesses	☐ Fence	☐ No trespass sign	☐ Steep slopes	X Other:
Comments: Private property				

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

☐ Roads	☐ Foot paths/prints	☐ Dock/platform	☐ Camping Sites	☐ Rope swings
☐ RV / ATV Tracks	☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle	☐ Livestock Watering
X None of the above	Comments / Other:			

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

% Cobble	80% Gravel	20% Sand	% Silt	% Mud/Clay	% Bedrock

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

None

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	X None	☐ Other:
Color:	X Clear	☐ Green	☐ Gray	☐ Milky	☐ Other:
Bottom Deposit:	☐ Sludge	☐ Solids	☐ Fine sediments	X None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	X None	☐ 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.

Stream Name & WBID #_____Possum Hollow_____#1135_____ Date of Survey _____4-15-08__

Site # ____2_____

Field Data Sheets for Recreational Use Stream Surveys

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

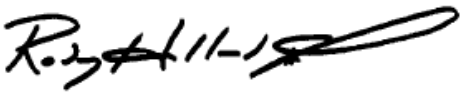
Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses.)

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: _____Rodney Holland, Christopher Parks_____

Surveyor's Signature:  Date of Survey: _____4-15-08_____

Organization: _____Olsson Associates_____ Position: Field Team Leader & Field Team Member

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: Possum Hollow Waterbody ID: 1135 Site #: 2

Estimated Channel Incision: 0.4 (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: 521805 UTM Y: 4211256 +/- 53 ft. ~~(meters)~~

11 UTM X: 521869 UTM Y: 4211351 +/- 45 ft. ~~(meters)~~

Average Stream Width: 4.5 (meters)
(To determne Length of Reach)

Length of Survey Segment: 150 (meters)
(20x average stream width)

Field Staff: Rodney Holland and Christopher Parks

Dissolved Oxygen

Date: 4/15/2008 Time: 3:08 p.m.

Dissolved Oxygen: 10.31 (mg/L)

Dissolved Oxygen: 101.1 (% sat)

Specific Cond: 309 (µS/cm)

Water Temperature: 16.1 (°C)

Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.41	0.08	0.64	0.05	0.53	0.05	0.47	0.05	0.55	0.06	0.43	0.05	0.38	<0.05	0.32	0.08	0.50	0.08	0.58	0.11	0.43	0.05
2	0.82	0.15	1.28	0.18	1.06	0.08	0.94	0.08	1.10	0.05	0.86	0.09	0.76	0.05	0.64	0.13	1.00	0.11	1.16	0.13	0.86	0.06
3	1.23	0.29	1.92	0.12	1.59	0.08	1.14	0.12	1.65	0.10	1.29	0.09	1.14	0.05	0.96	0.22	1.50	0.12	1.74	0.19	1.29	0.09
4	1.64	0.39	2.56	0.09	2.12	0.09	1.88	0.11	2.22	0.08	1.72	0.11	1.52	0.06	1.28	0.22	2.00	0.17	2.32	0.22	1.72	0.13
5	2.05	0.42	3.20	0.16	2.65	0.14	2.35	0.12	2.75	0.12	2.15	0.05	1.90	0.11	1.60	0.29	2.50	0.18	2.90	0.25	2.15	0.20
6	2.46	0.41	3.84	0.21	3.18	0.15	2.82	0.09	3.30	0.10	2.58	0.05	2.28	0.05	1.92	0.34	3.00	0.21	3.48	0.28	2.58	0.21
7	2.87	0.33	4.48	0.18	3.71	0.14	3.29	0.13	3.85	0.10	3.01	0.10	2.66	0.05	2.24	0.37	3.50	0.14	4.06	0.31	3.01	0.26
8	3.28	0.32	5.12	0.12	4.24	0.11	3.76	0.12	4.40	0.09	3.44	0.19	3.04	0.05	2.56	0.29	4.00	0.16	4.64	0.30	3.44	0.12
9	3.69	0.12	5.76	0.11	4.77	0.10	4.23	0.05	4.95	0.09	3.87	0.20	3.42	0.05	2.88	0.19	4.50	0.13	5.22	0.39	3.87	0.05
Right Bank	4.10	0.00	6.40	0.00	5.30	0.00	4.70	0.00	5.50	0.00	4.30	0.00	3.80	0.00	3.20	0.00	5.00	0.00	5.80	0.00	4.30	0.00
Feature Type (riffle, run, or pool)	Run		Run		Run		Run		Riffle		Riffle		Riffle		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 bv 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 0.42

MEDIAN 0.12

Surveyor's Signature: R. Holland Date: 4/15/2008

WBID # 1135

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: 4-15-08 3:35 p.m.	Location Description (e.g., road crossing):
Stream Name: Possum Hollow	Lake Road 5-97
Current Weather Conditions: Sunny	Facility Name(s): Watkins Subdivision WWTF
Weather Conditions for Past 10 days:	Permit Number(s): MO-0108588
Official Drought Conditions at time of this survey (search DNR home page for "drought"): No drought X; Phase I ☐; Phase II ☐; Phase III ☐; Phase IV ☐; Unknown ☐	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)				
Site 01	Easting (UTM X): 522004	Northing (UTM Y): 4211737	Horizontal Accuracy: (EPE / FOM / PDOP)	42 ft. ~~Meters~~
Site 11	Easting (UTM X): 522037	Northing (UTM Y): 4211906	Horizontal Accuracy: (EPE / FOM / PDOP)	55 ft. ~~Meters~~

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
1135-3-A	Upstream looking down				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
1135-3-B	House				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
1135-3-C	Downstream looking up				

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

☐ Swimming	☐ Skin diving	☐ SCUBA diving	☐ Tubing	☐ Water skiing
☐ Wind surfing	☐ Kayaking	☐ Boating	☐ Wading	☐ Rafting
☐ Hunting	☐ Trapping	☐ Fishing	X None of the above	☐ 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.)

Stream Name & WBID #_____Possum Hollow_____#1135_____ Date of Survey _____4-15-08__

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.)

☐ City/county parks	☐ Playgrounds	☐ MDC conservation lands	☐ Urban areas	X Rural Residential
☐ Campgrounds	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ Boating accesses	☐ Fence	☐ No trespass sign	☐ Steep slopes	X Other:
Comments: Private property				

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

☐ Roads	X Foot paths/prints	☐ Dock/platform	☐ Camping Sites	☐ Rope swings
☐ RV / ATV Tracks	☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle	☐ Livestock Watering
☐ None of the above	Comments / Other:			

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

% Cobble	80% Gravel	20% Sand	% Silt	% Mud/Clay	% Bedrock

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

None

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	X None	☐ Other:
Color:	X Clear	☐ Green	☐ Gray	☐ Milky	☐ Other:
Bottom Deposit:	☐ Sludge	☐ Solids	☐ Fine sediments	X None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	X None	☐ 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.

Stream Name & WBID #_____Possum Hollow_____#1135_____ Date of Survey _____4-15-08__

Site # ____3_____

Field Data Sheets for Recreational Use Stream Surveys

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

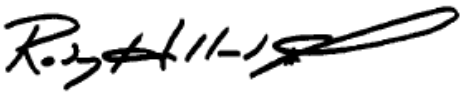
Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses.)

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

Comments: (Please record any additional comments here.)

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

Printed Names of Personnel Collecting Data: _____Rodney Holland, Christopher Parks_____

Surveyor's Signature:  Date of Survey: _____4-15-08_____

Organization: _____Olsson Associates_____ Position: Field Team Leader & Field Team Member

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: Possum Hollow Waterbody ID: 1135 Site #: 3

Estimated Channel Incision: 0.3 (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: 522004 UTM Y: 4211737 +/- 42 ft. ~~(meters)~~

11 UTM X: 522037 UTM Y: 4211906 +/- 55 ft. ~~(meters)~~

Average Stream Width: 5 (meters)
(To determne Length of Reach)

Length of Survey Segment: 150 (meters)
(20x average stream width)

Field Staff: Rodney Holland and Christopher Parks

Dissolved Oxygen

Date: 4/15/2008 Time: 3:40 p.m.

Dissolved Oxygen: 10.58 (mg/L)

Dissolved Oxygen: 103.8 (% sat)

Specific Cond: 317 (µS/cm)

Water Temperature: 16.6 (°C)

Transect Cross-Section

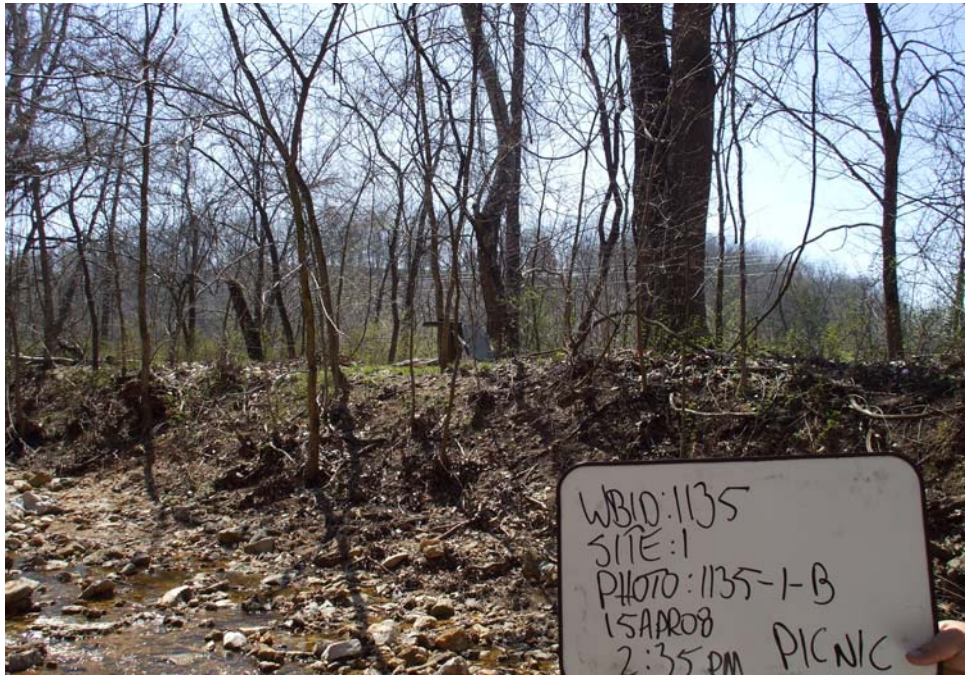
Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (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	0.10	0.71	0.06	0.56	0.15	0.43	0.08	0.38	0.13	0.46	0.14	0.41	0.16	0.37	0.08	0.65	0.12	0.72	0.43	0.53	0.21
2	1.04	0.21	1.42	0.13	1.12	0.20	0.86	0.14	0.76	0.22	0.92	0.13	0.82	0.17	0.74	0.19	1.30	0.31	1.44	0.54	1.06	0.22
3	1.56	0.24	2.13	0.12	1.68	0.22	1.29	0.21	1.14	0.19	1.38	0.16	1.23	0.16	1.11	0.21	1.95	0.46	2.16	0.66	1.59	0.31
4	2.08	0.25	2.84	0.15	2.24	0.37	1.72	0.15	1.52	0.22	1.84	0.23	1.64	0.24	1.48	0.29	2.60	0.62	2.88	0.73	2.12	0.34
5	2.60	0.27	3.55	0.23	2.80	0.30	2.15	0.19	1.90	0.23	2.30	0.27	2.05	0.27	1.85	0.36	3.25	0.66	3.66	0.68	2.65	0.30
6	3.12	0.22	4.26	0.24	3.36	0.27	2.58	0.24	2.28	0.21	2.76	0.21	2.46	0.31	2.22	0.24	3.90	0.61	4.32	0.62	3.18	0.28
7	3.64	0.16	4.96	0.21	3.92	0.25	3.01	0.21	2.66	0.18	3.22	0.16	2.87	0.25	2.59	0.18	4.55	0.58	5.04	0.51	3.71	0.29
8	4.16	0.19	5.68	0.15	4.48	0.11	3.44	0.18	3.04	0.16	3.68	0.18	3.28	0.18	2.96	0.21	5.20	0.34	5.76	0.42	4.24	0.23
9	4.68	0.12	6.39	0.10	5.04	0.09	3.87	0.11	3.42	0.10	4.14	0.14	3.69	0.12	3.33	0.14	5.85	0.16	6.48	0.21	4.77	0.16
Right Bank	5.20	0.00	7.10	0.00	5.60	0.00	4.30	0.00	3.80	0.00	4.60	0.00	4.10	0.00	3.70	0.00	6.50	0.00	7.20	0.00	5.30	0.00
Feature Type (riffle, run, or pool)	Run		Run		Run		Run		Riffle		Riffle		Run		Riffle		Pool		Pool		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 bv 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 0.73

MEDIAN 0.21

Surveyor's Signature: R. Holland Date: 4/15/2008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ULD

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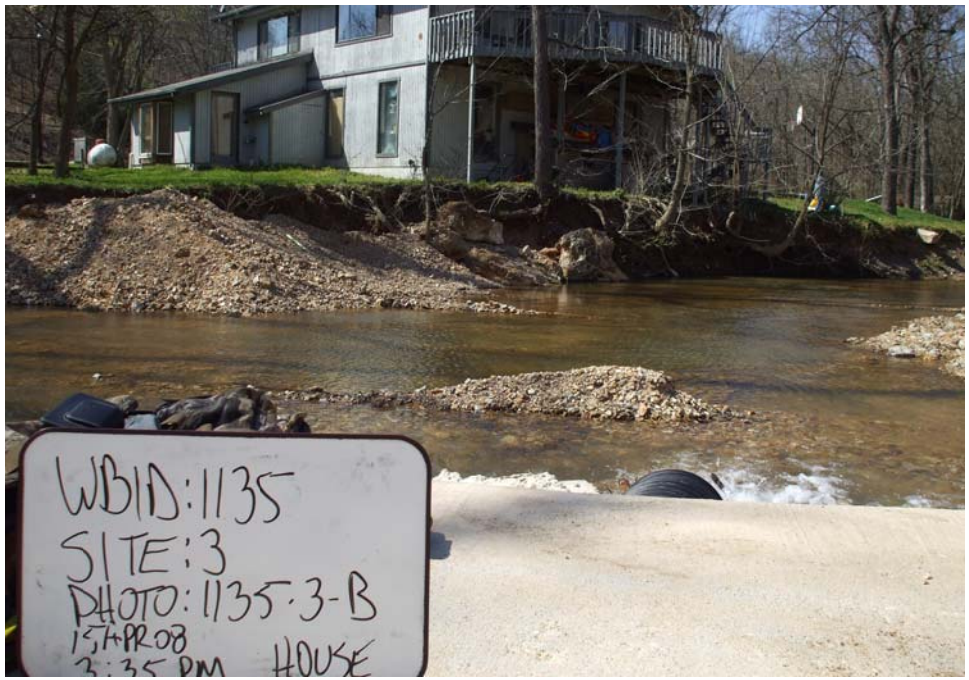
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15APR08
HOUSE

WBID:1135
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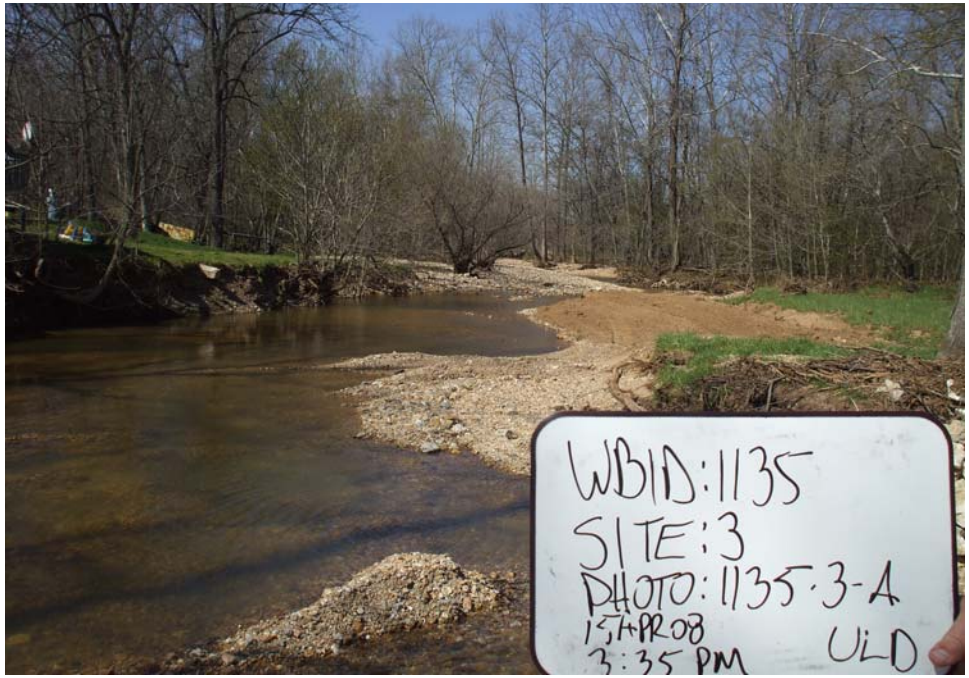
15APR08
3:05 PM
BRIDGE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ULD

WBID: 1135
SITE: 3
PHOTO: 1135-3-C
15APR08
4:10 PM
DLU