



Missouri
Department of
Natural Resources

Use Attainability Analysis

for

WBID 0013 Little Noix Creek

Submitted by

MEC Water Resources

To

Missouri Department of Natural Resources

Water Protection Program

On

October 17, 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):	Little Noix Cr.
Missouri Water Body Identification (WBID) Number:	003
8-digit HUC:	07110004
County(ies), Listed Upstream to Downstream:	Pike
Upstream Legal Description (from Table H):	28, 54N, 2W
Downstream Legal Description (from Table H):	Mouth
Number of sites evaluated:	3
List all site numbers, <u>consecutively upstream to downstream</u> :	
Site 01:	Rte 44 crossing
Site 02:	~400m downstream of Site 01, Transect 11
Site 03:	50 m upstream of Hwy 54 crossing
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)

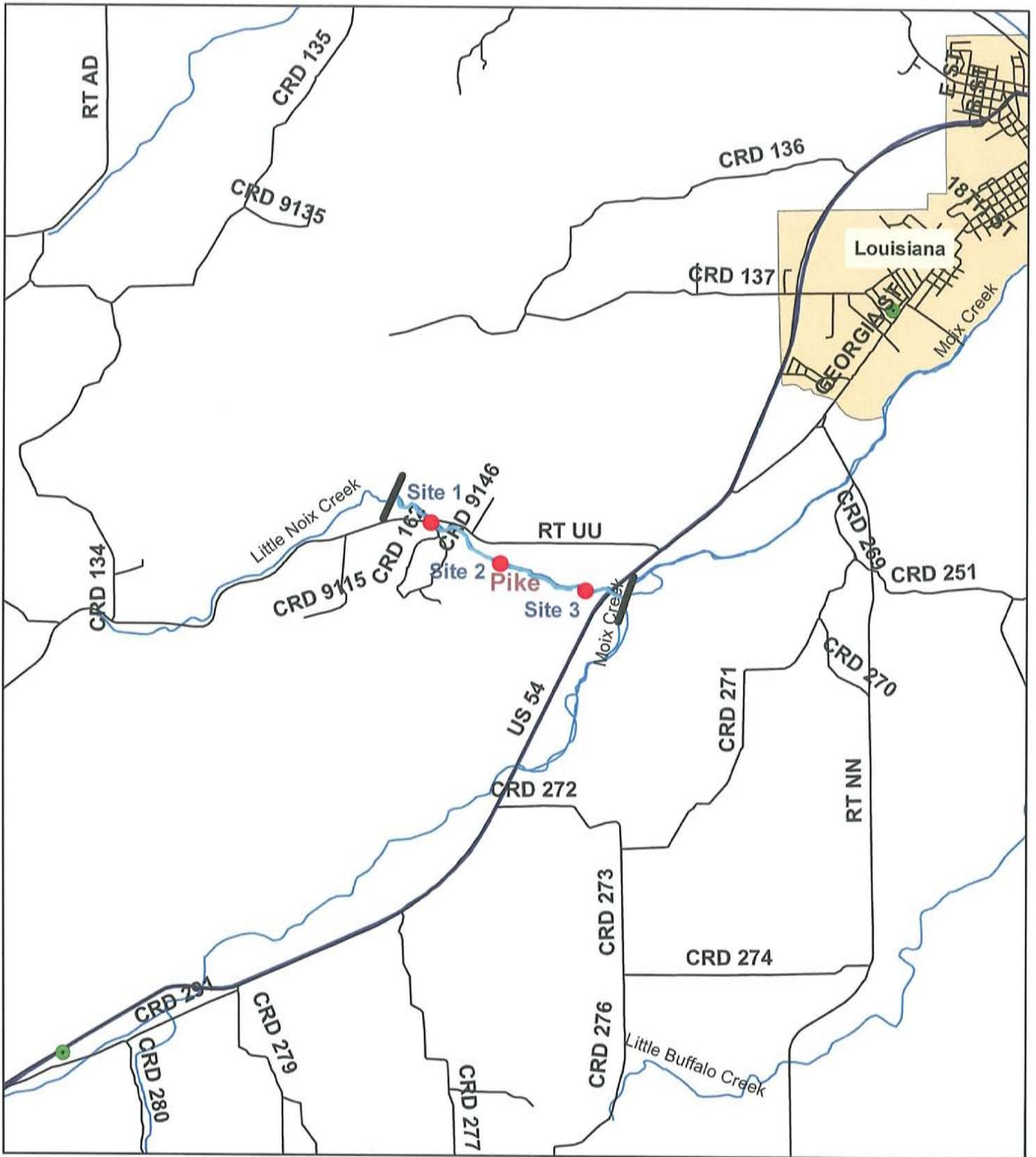
Facility Name(s) and Permit Number(s):
Saint Louis University
MO 0120731

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

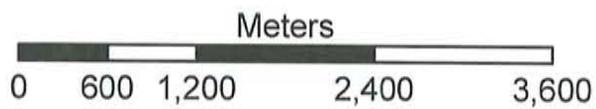
Name of Surveyor:	Renee Martin	Telephone Number:	573-443-4100
Organization/Employer:	MEC Water Resources / AE Solutions		

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: Renee Martin Date: 9/18/08



**L. Noix Creek
WBID 0013
Pike County**



WBID # 0013

Site # 01

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: <u>8/26/08</u> <u>1222</u>	Location Description (e.g., road crossing):
Stream Name: <u>Little Noix</u>	<u>Rte 44 crossing</u>
Current Weather Conditions: <u>mostly sunny</u>	Facility Name(s): <u>Saint Louis University</u>
Weather Conditions for Past 10 days: <u>0.08" rain</u>	Permit Number(s): <u>MO 0120731</u>
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): <u>0661798</u>	Northing (UTM Y): <u>4364916</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>17</u> ²⁰ Meters <u>FT</u>
Site 11	Easting (UTM X): <u>0661974</u>	Northing (UTM Y): <u>4364851</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>14</u> ²⁰ Meters <u>FT</u>

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>185</u>	<u>downstream</u>	<u>186</u>	<u>upstream</u>	<u>187</u>	<u>pipelines across stream at Tract 2</u>
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>188</u>	<u>2-track road to house</u>	<u>189</u>	<u>off road / ATV trails - 6 total at house</u>	<u>190</u>	<u>ATV trail</u>
<u>Tracts 7-10</u>					
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 Data Sheet D- Recreational Use Interview when conducting interviews.)				
<u>N/A</u>				

Stream Name & WBID # Little Noix 0013

Date of Survey 8/26/08

Site # 01

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 checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:

Comments:
pipelines across stream at Transect 2.
House + buildings at Transect 07-10 - private property

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 checked="" 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:			

6 ATV tracks through creek at house → Transects 7-10
Road across the stream at the house.

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

<u>20</u> % Cobble	<u>10</u> % Gravel	<u>-</u> % Sand	<u>-</u> % Silt	<u>-</u> % Mud/Clay	<u>70</u> % Bedrock
--------------------	--------------------	-----------------	-----------------	---------------------	---------------------

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

Benthic; filamentous algae - abundant

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 affect another use.

Stream Name & WBID # Little Noix 0013

Date of Survey 8/26/08

Site # 01

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)
		N/A			

Comments: (Please record any additional comments here.)

N/A

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

Printed Names of Personnel Collecting Data: Tiffanie Hamilton, Jennifer Hrabik

Surveyor's Signature: Tiffanie A. Hamilton Date of Survey: 8/26/08

Organization: AE Solutions Position: Field Technician

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Little Noix Creek</u> Waterbody ID: <u>0013</u> Site #: <u>0013 01</u> Estimated Channel Incision: <u>0.20</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>661798</u> UTM Y: <u>4364916</u> +/- <u>17</u> (feet) 11 UTM X: <u>661974</u> UTM Y: <u>4364851</u> +/- <u>14</u> (feet) Average Stream Width: <u>3.8</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>JRH, TAH</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>8/26/2008</u> Time: <u>12:22</u> Dissolved Oxygen: <u>6.18</u> (mg/L) Dissolved Oxygen: <u>75.5</u> (% sat) Specific Cond: <u>420</u> (µS/cm) Water Temperature: <u>25.7</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	
	1	0.59	0.05	0.45	0.10	0.39	0.01	0.39	0.01	0.37	0.04	0.30	0.07	0.21	0.01	0.36	0.04	0.27	0.05	0.35	0.03	0.56	0.08
	2	1.18	0.01	0.90	0.10	0.78	0.03	0.78	0.03	0.74	0.02	0.60	0.06	0.42	0.04	0.72	0.04	0.54	0.04	0.70	0.05	1.12	0.13
	3	1.77	0.00	1.35	0.10	1.17	0.04	1.17	0.03	1.11	0.01	0.90	0.04	0.63	0.05	1.08	0.02	0.81	0.04	1.05	0.04	1.68	0.15
	4	2.36	0.04	1.80	0.05	1.56	0.02	1.56	0.03	1.48	0.02	1.20	0.04	0.84	0.10	1.44	0.03	1.08	0.02	1.40	0.04	2.24	0.15
	5	2.95	0.03	2.25	0.04	1.95	0.01	1.95	0.04	1.85	0.01	1.50	0.09	1.05	0.09	1.80	0.03	1.35	0.02	1.75	0.02	2.80	0.16
	6	3.54	0.03	2.70	0.07	2.34	0.01	2.34	0.03	2.22	0.02	1.80	0.03	1.26	0.00	2.16	0.03	1.62	0.02	2.10	0.03	3.36	0.14
	7	4.13	0.03	3.15	0.07	2.73	0.01	2.73	0.02	2.59	0.02	2.10	0.02	1.47	0.00	2.52	0.04	1.89	0.02	2.45	0.03	3.92	0.14
	8	4.72	0.04	3.60	0.09	3.12	0.01	3.12	0.02	2.96	0.01	2.40	0.03	1.68	0.01	2.88	0.01	2.16	0.01	2.80	0.02	4.48	0.17
	9	5.31	0.02	4.05	0.07	3.51	0.01	3.51	0.01	3.33	0.01	2.70	0.01	1.89	0.05	3.24	0.01	2.43	0.02	3.15	0.02	5.04	0.15
Right Bank		5.85	0.00	4.50	0.00	3.90	0.00	3.85	0.00	3.65	0.00	2.95	0.00	2.10	0.00	3.60	0.00	2.70	0.00	3.50	0.00	5.60	0.00
Feature Type <small>(riffle, run, or pool)</small>		Riffle	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.
 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.

Surveyor's Signature: _____ Date: 8/26/2008

WBID # 0013

Site # 02

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: <u>8/26/08 1252</u>	Location Description (e.g., road crossing):
Stream Name: <u>Little Noix</u>	<u>~400 m downstream of site 01, Tract 11.</u>
Current Weather Conditions: <u>mostly sunny</u>	Facility Name(s): <u>Saint Louis University</u>
Weather Conditions for Past 10 days: <u>0.08" rain</u>	Permit Number(s): <u>MO 0120731</u>
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): <u>0662339</u>	Northing (UTM Y): <u>4364590</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>15</u> Meters ^{2A} FT
Site 11	Easting (UTM X): <u>0662530</u>	Northing (UTM Y): <u>4364509</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>25</u> Meters ^{2A} FT

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>191</u>	<u>upstream</u>	<u>192</u>	<u>downstream</u>	<u>193</u>	<u>bulldozed gravel away from road crossing</u>

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 Data Sheet D- Recreational Use Interview when conducting interviews.)				
<u>N/A</u>				

Stream Name & WBID # Little Noix 2013

Date of Survey 8/26/08

Site # 02

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 checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:

Comments: private property
House at Transect 4.

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:			

low water crossing at Transect 1 - private drive

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

<u>30</u> % Cobble	<u>10</u> % Gravel	<u>-</u> % Sand	<u>-</u> % Silt	<u>-</u> % Mud/Clay	<u>60</u> % Bedrock
--------------------	--------------------	-----------------	-----------------	---------------------	---------------------

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

Benthic algae } abundant
Filamentous algae }

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 affect another use.

Stream Name & WBID # Little Nois 0013

Date of Survey 8/26/08

Site # 02

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)
		N/A			

Comments: (Please record any additional comments here.)

Transect 1: evidence of major bulldozing to clear cobble/gravel from low water crossing and creek bed. Gravel washed down during flood event.

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

Printed Names of Personnel Collecting Data: Tiffanie Hamilton, Jennifer Hrabik

Surveyor's Signature: Tiffanie A. Hamilton Date of Survey: 8/26/08

Organization: AE Solutions Position: Field Technician

Handwritten initials and date: JH 8/26/08

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Little Noix Creek</u> Waterbody ID: <u>0013</u> Site #: <u>0013_02</u> Estimated Channel Incision: <u>0.10</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>662339</u> UTM Y: <u>4364590</u> +/- <u>15</u> (feet) 11 UTM X: <u>662530</u> UTM Y: <u>4364509</u> +/- <u>25</u> (feet) Average Stream Width: <u>6.1</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>JRH, TAH</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>8/26/2008</u> Time: <u>12:52</u> Dissolved Oxygen: <u>11.02</u> (mg/L) Dissolved Oxygen: <u>133.5</u> (% sat) Specific Cond: <u>438</u> (µS/cm) Water Temperature: <u>25.0</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	
	1	0.51	0.40	0.17	0.05	0.44	0.03	0.67	0.02	0.43	0.05	0.78	0.01	0.69	0.02	0.70	0.03	0.70	0.01	0.75	0.06	0.94	0.01
	2	1.02	0.35	0.34	0.05	0.88	0.03	1.34	0.02	0.86	0.05	1.56	0.02	1.38	0.01	1.40	0.03	1.40	0.00	1.50	0.10	1.88	0.01
	3	1.53	0.47	0.51	0.06	1.32	0.03	2.01	0.02	1.29	0.05	2.34	0.03	2.07	0.01	2.10	0.04	2.10	0.01	2.25	0.10	2.82	0.01
	4	2.04	0.28	0.68	0.07	1.76	0.03	2.68	0.02	1.72	0.05	3.12	0.02	2.76	0.01	2.80	0.05	2.80	0.04	3.00	0.17	3.76	0.03
	5	2.55	0.33	0.85	0.04	2.20	0.02	3.35	0.01	2.15	0.05	3.90	0.03	3.45	0.01	3.50	0.05	3.50	0.06	3.75	0.24	4.70	0.04
	6	3.06	0.23	1.02	0.02	2.64	0.04	4.02	0.01	2.58	0.07	4.68	0.03	4.14	0.03	4.20	0.05	4.20	0.06	4.50	0.20	5.64	0.04
	7	3.57	0.26	1.19	0.04	3.08	0.03	4.69	0.02	3.01	0.10	5.46	0.02	4.83	0.02	4.90	0.04	4.90	0.05	5.25	0.08	6.58	0.06
	8	4.08	0.30	1.36	0.01	3.52	0.05	5.36	0.01	3.44	0.09	6.24	0.02	5.52	0.01	5.60	0.03	5.60	0.03	6.00	0.10	7.52	0.06
	9	4.59	0.02	1.53	0.01	3.96	0.02	6.03	0.01	3.87	0.03	7.02	0.01	6.21	0.02	6.30	0.03	6.30	0.02	6.75	0.06	8.46	0.07
Right Bank		5.05	0.00	1.70	0.00	4.40	0.00	6.65	0.00	4.30	0.00	7.75	0.00	6.85	0.00	7.00	0.00	6.95	0.00	7.50	0.00	9.40	0.00
Feature Type <small>(riffle, run, or pool)</small>		Pool		Riffle		Run		Riffle		Run		Run		Riffle		Run		Run		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 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.

Surveyor's Signature: _____ Date: 8/26/2008

WBID # 0013Site # 03**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: <u>8/26/08</u> <u>1332</u>	Location Description (e.g., road crossing): <u>50m upstream</u>
Stream Name: <u>Little Noix Cr.</u>	<u>Hwy 54 crossing</u>
Current Weather Conditions: <u>sunny/clear</u>	Facility Name(s): <u>Saint Louis University</u>
Weather Conditions for Past 10 days: <u>0.08" rain</u>	Permit Number(s): <u>MO 0120731</u>
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): <u>0663465</u>	Northing (UTM Y): <u>4364307</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>15</u> Meters ²⁴ <u>F7</u>
Site 11	Easting (UTM X): <u>0663622</u>	Northing (UTM Y): <u>4364208</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>16</u> Meters ²⁴ <u>F7</u>

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>194</u>	<u>Footprints at bridge transect 4</u>	<u>195, 196</u>	<u>upstream</u>	<u>197</u>	<u>downstream</u>
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>198</u>	<u>Cable across creek transect 4+5</u>				
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 Data Sheet D- Recreational Use Interview when conducting interviews.) <u>N/A</u>				

Stream Name & WBID # Little Noix Cr. 0013

Date of Survey 8/24/08

Site # 03

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 checked="" 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: cable across creek at Transects 3+5
Small roadside park at Transect 4 - bridge. private property

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

<input checked="" type="checkbox"/> Roads	<input checked="" 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:			

Footprints at Transect 4.

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

<u>40</u> % Cobble	<u>40</u> % Gravel	<u>10</u> % Sand	<u>—</u> % Silt	<u>—</u> % Mud/Clay	<u>10</u> % Bedrock
--------------------	--------------------	------------------	-----------------	---------------------	---------------------

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

Benthic algae - abundant

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 affect another use.

Stream Name & WBID # Little Noix Cr. 0013

Date of Survey 8/26/08

Site # 03

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)
		N/A			

Comments: (Please record any additional comments here.)

N/A

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

Printed Names of Personnel Collecting Data: Tiffanie Hamilton, Jennifer Hrabik

Surveyor's Signature: Tiffanie A. Hamilton Date of Survey: 8/26/08

Organization: AE Solutions Position: Field Technician

SD
9/26/08

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Little Noix Creek</u> Waterbody ID: <u>0013</u> Site #: <u>0013_03</u> Estimated Channel Incision: <u>0.10</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>663465</u> UTM Y: <u>4364307</u> +/- <u>15</u> (feet) 11 UTM X: <u>663622</u> UTM Y: <u>4364208</u> +/- <u>16</u> (feet) Average Stream Width: <u>4.0</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>JRH, TAH</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>8/26/2008</u> Time: <u>13:32</u> Dissolved Oxygen: <u>7.82</u> (mg/L) Dissolved Oxygen: <u>91.8</u> (% sat) Specific Cond: <u>485</u> (µS/cm) Water Temperature: <u>22.8</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	0.19	0.05	0.25	0.06	0.28	0.06	0.67	0.07	0.63	0.24	0.58	0.02	0.14	0.01	0.32	0.03	0.22	0.03	0.57	0.03	0.56	0.02
	2	0.38	0.12	0.50	0.08	0.56	0.05	1.34	0.01	1.26	0.32	1.16	0.04	0.28	0.03	0.64	0.04	0.44	0.05	1.14	0.06	1.12	0.14
	3	0.57	0.18	0.75	0.08	0.84	0.09	2.01	0.00	1.89	0.45	1.74	0.05	0.42	0.01	0.96	0.05	0.66	0.07	1.71	0.21	1.68	0.18
	4	0.76	0.18	1.00	0.04	1.12	0.07	2.68	0.00	2.52	0.42	2.32	0.06	0.56	0.04	1.28	0.04	0.88	0.08	2.28	0.28	2.24	0.15
	5	0.95	0.17	1.25	0.05	1.40	0.05	3.35	0.00	3.15	0.50	2.90	0.08	0.70	0.08	1.60	0.03	1.10	0.07	2.85	0.30	2.80	0.20
	6	1.14	0.19	1.50	0.09	1.68	0.06	4.02	0.00	3.78	0.54	3.48	0.07	0.84	0.12	1.92	0.15	1.32	0.13	3.42	0.27	3.36	0.25
	7	1.33	0.15	1.75	0.01	1.96	0.11	4.69	0.02	4.41	0.44	4.06	0.05	0.98	0.10	2.24	0.13	1.54	0.17	3.99	0.35	3.92	0.31
	8	1.52	0.10	2.00	0.03	2.24	0.08	5.36	0.04	5.04	0.33	4.64	0.06	1.12	0.10	2.56	0.03	1.76	0.15	4.56	0.37	4.48	0.39
	9	1.71	0.08	2.25	0.01	2.52	0.02	6.03	0.02	5.67	0.25	5.22	0.01	1.26	0.10	2.88	0.12	1.98	0.05	5.13	0.34	5.04	0.29
Right Bank		1.85	0.00	2.45	0.00	2.75	0.00	6.70	0.00	6.30	0.00	5.75	0.00	1.40	0.00	3.15	0.00	2.15	0.00	5.70	0.00	5.60	0.00
Feature Type <small>(riffle, run, or pool)</small>		Run	Run	Run	Riffle	Pool	Riffle	Riffle	Run	Riffle	Pool	Pool	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.

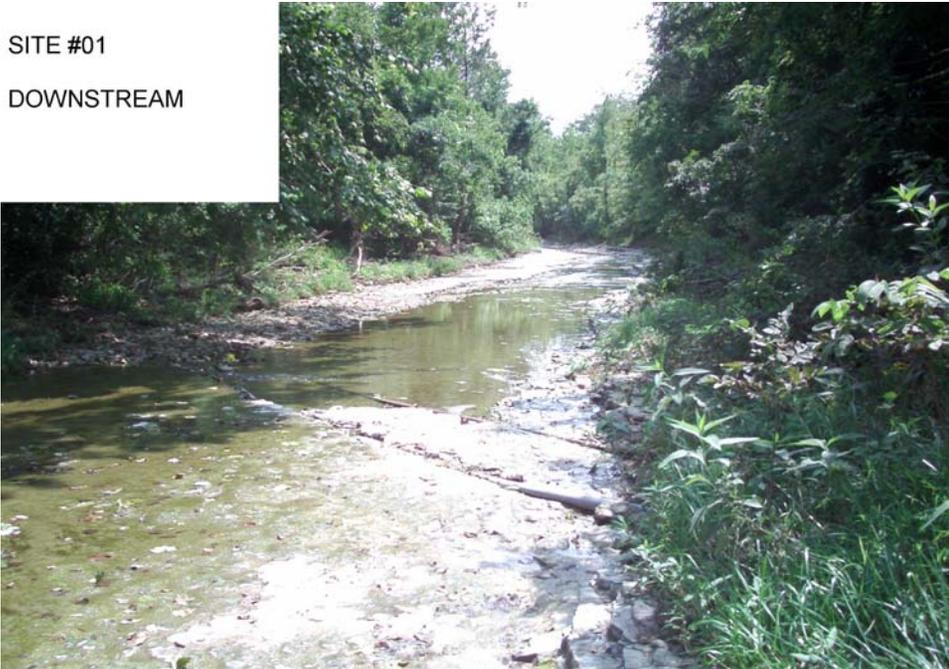
Surveyor's Signature: _____ Date: 8/26/2008

SITE #01
UPSTREAM



BID #0013
TE #01
track road to house

SITE #01
DOWNSTREAM



SITE #01
Pipelines across
stream at Transect 2



BID #0013
TE #01
TV trail



SITE #02
DOWNSTREAM



SITE #01
Off road/ATV trails
6 total at house -
Transects 7-10



SITE #02
UPSTREAM

SITE #03

Footprints at bridge
Transect 4



SITE #03

UPSTREAM



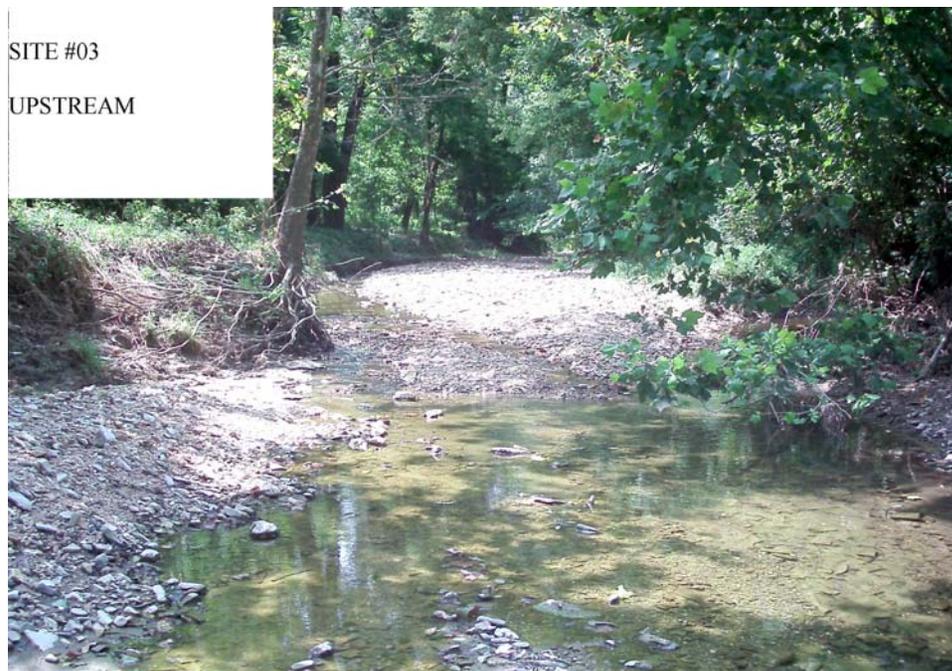
SITE #02

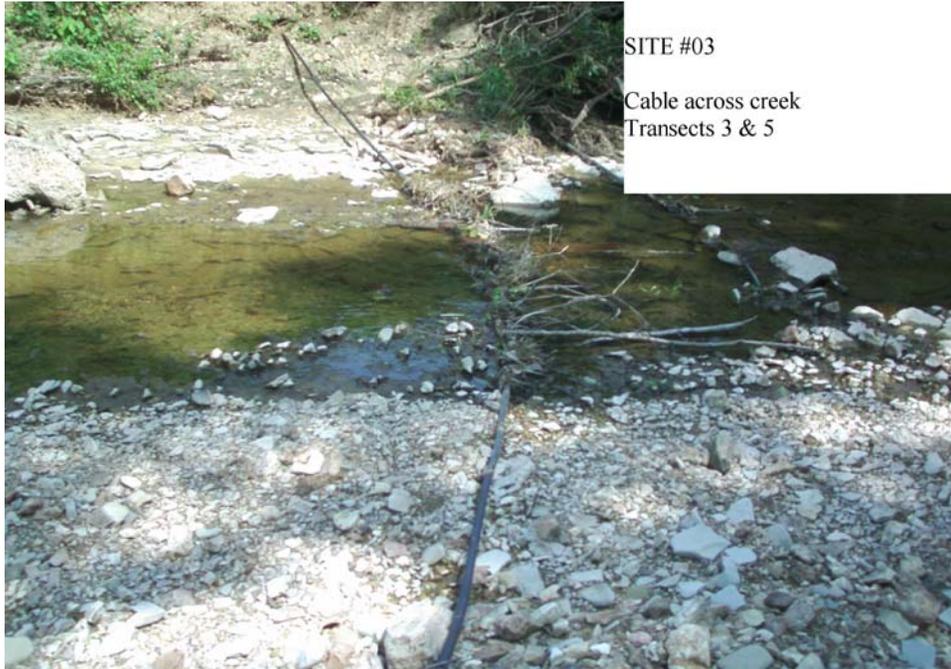
Bulldozed gravel away
from road crossing



SITE #03

UPSTREAM





SITE #03
Cable across creek
Transects 3 & 5

SITE #03
DOWNSTREAM

