Missouri
Department of
Natural Resources

Use Attainability Analysis

for

WBID 0092 Ely 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): Ely Cr.
Missouri Water Body Identification (WBID) Number: 92
8-digit HUC: 07110007
County(ies), Listed Upstream to Downstream: Ralls
Upstream Legal Description (from Table H): 1, 55N, 7W
Downstream Legal Description (from Table H): Mouth
Number of sites evaluated: 3
List all site numbers, consecutively upstream to downstream: Site 01: 0.3 miles upstream of Hatch Rd crossing Site 02: Hatch Rd crossing Site 03: Rte A crossing
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): Maple Creek Resort Parad MO 0123854

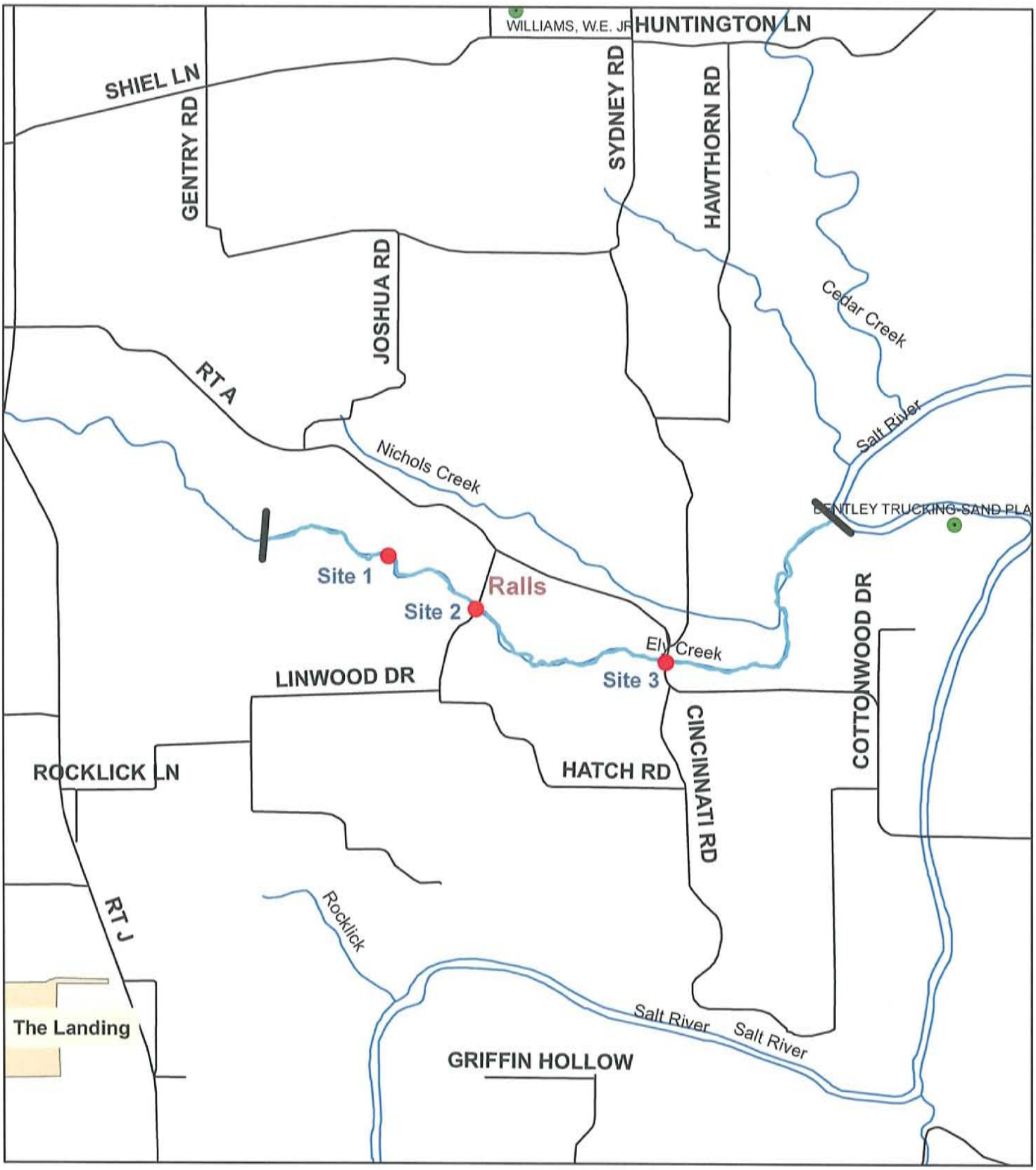
III. UAA Surveyor (please **PRINT** legibly)

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 requirments listed in the *Missouri Recreational Use Attainability Analysies: Water Body Survey and Assessment Protocol*) and that this form is complete.

Signed: Renee Martin **Date:** 9/18/08

9/22/08



Ely Creek
WBID 0092
Ralls County

Meters

0 500 1,000 2,000 3,000

N

W E

S

WBID # 0097

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: 8/19/08 12:30	Location Description (e.g., road crossing): 0.3 miles upstream of Hatchet Crossing
Stream Name: Ely Creek	
Current Weather Conditions: Sunny + clear	Facility Name(s): Maple Creek Resort Parcel
Weather Conditions for Past 10 days: 0" rain	Permit Number(s): MO #123854
Official Drought Conditions at time of this survey (search DNR home page for "drought"): No drought ☒; Phase I ☐; Phase II ☐; Phase III ☐; Phase IV ☐; Unknown ☐	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)				
Site 01	Easting (UTM X): 0618537	Northing (UTM Y): 4383686	Horizontal Accuracy: (EPE / FOM / PDOP) 40	Meters ~~M~~ FT
Site 11	Easting (UTM X): 0618686	Northing (UTM Y): 4383572	Horizontal Accuracy: (EPE / FOM / PDOP) 16	Meters ~~M~~ FT

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
0038	Upstream	0039	dnstream	0040	Livestock watering
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.)

☐ Swimming	☐ Skin diving	☐ SCUBA diving	☐ Tubing	☐ Water skiing
☐ Wind surfing	☐ Kayaking	☐ Boating	☐ Wading	☐ Rafting
☐ Hunting	☐ Trapping	☐ Fishing	☒ 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.)

N/A

Stream Name & WBID # Ely Creek #0092 Date of Survey 8/19/08

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.)

☐ 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	☐ Other:
Comments: private property - pasture				

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
☒ None of the above	Comments / Other: N/A			

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

20 % Cobble	70 % Gravel	10 % Sand	– % Silt	_ % Mud/Clay	_ % Bedrock

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

Benthic Algae, smartweed, filamentous algae } all abundant

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☒ None	☐ Other:
Color:	☒ Clear	☐ Green	☐ Gray	☐ Milky	☐ Other:
Bottom Deposit:	☐ Sludge	☐ Solids	☐ Fine sediments	☒ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	☒ 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 # Ely Creek #0092 Date of Survey 8/19/08

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: 8/19/08

Organization: AE Solutions Position: Field Technician

9/22/08

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: Ely Creek Waterbody ID: 0092 Site #: 0092_01

Estimated Channel Incision: 0.10 (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:	618537	UTM Y:	4383686	+/- 40	(feet)
11	UTM X:	618686	UTM Y:	4383572	+/- 16	(feet)

Average Stream Width: 4.2 (meters) (To determne Length of Reach)

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

Field Staff: JRH, TAH

Dissolved Oxygen

Date: 8/19/2008 Time: 12:30

Dissolved Oxygen: 5.95 (mg/L)

Dissolved Oxygen: 68.8 (% sat)

Specific Cond: 444 (µS/cm)

Water Temperature: 23.2 (°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	0.24	0.09	0.38	0.06	0.42	0.17	0.33	0.12	0.47	0.15	0.27	0.04	0.49	0.02	0.76	0.05	0.43	0.07	0.52	0.02	0.29	0.11
2	0.48	0.10	0.76	0.09	0.84	0.20	0.66	0.12	0.94	0.40	0.54	0.04	0.98	0.05	1.52	0.04	0.86	0.07	1.04	0.14	0.58	0.17
3	0.72	0.14	1.14	0.15	1.26	0.15	0.99	0.15	1.41	0.41	0.81	0.02	1.47	0.07	2.28	0.10	1.29	0.05	1.56	0.20	0.87	0.22
4	0.96	0.14	1.52	0.17	1.68	0.17	1.32	0.12	1.88	0.46	1.08	0.06	1.96	0.04	3.04	0.08	1.72	0.04	2.08	0.14	1.16	0.24
5	1.20	0.10	1.90	0.17	2.10	0.14	1.65	0.15	2.35	0.58	1.35	0.10	2.45	0.03	3.80	0.00	2.15	0.09	2.60	0.09	1.45	0.23
6	1.44	0.11	2.28	0.22	2.52	0.22	1.98	0.17	2.82	0.45	1.62	0.11	2.94	0.05	4.56	0.00	2.58	0.12	3.12	0.06	1.74	0.19
7	1.68	0.11	2.66	0.20	2.94	0.17	2.31	0.17	3.29	0.31	1.89	0.10	3.43	0.07	5.32	0.01	3.01	0.13	3.64	0.03	2.03	0.16
8	1.92	0.10	3.04	0.17	3.36	0.14	2.64	0.14	3.76	0.30	2.16	0.12	3.92	0.09	6.08	0.05	3.44	0.09	4.16	0.06	2.32	0.09
9	2.16	0.05	3.42	0.13	3.78	0.11	2.97	0.13	4.23	0.10	2.43	0.15	4.41	0.05	6.84	0.01	3.87	0.02	4.68	0.00	2.61	0.03
Right Bank	2.40	0.00	3.75	0.00	4.20	0.00	3.30	0.00	4.70	0.00	2.70	0.00	4.90	0.00	7.60	0.00	4.30	0.00	5.20	0.00	2.90	0.00
Feature Type (riffle, run, or pool)	Riffle		Run		Run		Run		Run		Run		Run		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 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.

Surveyor's Signature: _____ Date: 8/19/2008

WBID # 0092

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: 8-19-08 12:55	Location Description (e.g., road crossing): Hatchet Crossing
Stream Name: Ely Creek	
Current Weather Conditions: Sunny & Clear	Facility Name(s): Maple Creek Resort Parad
Weather Conditions for Past 10 days: 0" rain	Permit Number(s): MO #123854
Official Drought Conditions at time of this survey (search DNR home page for "drought"): No drought ☑; Phase I ☐; Phase II ☐; Phase III ☐; Phase IV ☐; Unknown ☐	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): 0618919	Northing (UTM Y): 4383360	Horizontal Accuracy: (EPE / FOM / PDOP) ~~5.8~~ 29 40 Meters ~~FT~~
Site 11	Easting (UTM X): 0619081	Northing (UTM Y): 4383229	Horizontal Accuracy: (EPE / FOM / PDOP) ~~5.2~~ 17 30 Meters ~~FT~~

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
0041	Upstream fence	0042	Downstream		
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.)

☐ Swimming	☐ Skin diving	☐ SCUBA diving	☐ Tubing	☐ Water skiing
☐ Wind surfing	☐ Kayaking	☐ Boating	☐ Wading	☐ Rafting
☐ Hunting	☐ Trapping	☐ Fishing	☒ 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.)

N/A

Stream Name & WBID # Ely Creek #0092 Date of Survey 8/19/08

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.)

☐ City/county parks	☐ Playgrounds	☐ MDC conservation lands	☐ Urban areas	☐ Rural Residential
☐ Campgrounds	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ Boating accesses	☒ Fence ①	☐ No trespass sign	☐ Steep slopes	☐ Other:

Comments:
private property ① on upstream side of bridge

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
☐ None of the above	Comments / Other: N/A			

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

10 % Cobble	90 % Gravel	– % Sand	– % Silt	– % Mud/Clay	– % Bedrock

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

benthic Algae - abundant

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☒ None	☐ Other:
Color:	☒ Clear	☐ Green	☐ Gray	☐ Milky	☐ Other:
Bottom Deposit:	☐ Sludge	☐ Solids	☐ Fine sediments	☒ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	☒ 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 # Ely Creek #0092 Date of Survey 8/19/08

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.)

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: 8/19/08

Organization: AE Solutions Position: Field Technician

9/22/05

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: Ely Creek Waterbody ID: 0092 Site #: 0092_02

Estimated Channel Incision: 0.10 (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:	618919	UTM Y:	4383360	+/- 29	(feet)
11	UTM X:	619081	UTM Y:	4383229	+/- 17	(feet)

Average Stream Width: 4.6 (meters) (To determne Length of Reach)

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

Field Staff: JRH, TAH

Dissolved Oxygen

Date: 8/19/2008 Time: 12:55

Dissolved Oxygen: 4.95 (mg/L)

Dissolved Oxygen: 60.4 (% sat)

Specific Cond: 444 (µS/cm)

Water Temperature: 25.5 (°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	0.48	0.15	0.52	0.09	0.16	0.02	0.56	0.02	0.80	0.05	0.43	0.09	0.42	0.04	0.51	0.01	0.35	0.02	0.53	0.11	0.32	0.39
2	0.96	0.18	1.04	0.11	0.32	0.01	1.12	0.01	1.60	0.05	0.86	0.09	0.84	0.05	1.02	0.05	0.70	0.02	1.06	0.11	0.64	0.42
3	1.44	0.16	1.56	0.19	0.48	0.05	1.68	0.08	2.40	0.05	1.29	0.11	1.26	0.06	1.53	0.09	1.05	0.05	1.59	0.14	0.96	0.60
4	1.92	0.12	2.08	0.24	0.64	0.08	2.24	0.13	3.20	0.07	1.72	0.13	1.68	0.07	2.04	0.08	1.40	0.06	2.12	0.13	1.28	0.64
5	2.40	0.16	2.60	0.26	0.80	0.05	2.80	0.13	4.00	0.02	2.15	0.10	2.10	0.07	2.55	0.08	1.75	0.06	2.65	0.10	1.60	0.56
6	2.88	0.10	3.12	0.14	0.96	0.07	3.36	0.11	4.80	0.04	2.58	0.05	2.52	0.06	3.06	0.09	2.10	0.06	3.18	0.10	1.92	0.45
7	3.36	0.09	3.64	0.20	1.12	0.09	3.92	0.10	5.60	0.02	3.01	0.02	2.94	0.04	3.57	0.05	2.45	0.05	3.71	0.02	2.24	0.29
8	3.84	0.02	4.16	0.11	1.28	0.13	4.48	0.12	6.40	0.03	3.44	0.01	3.36	0.02	4.08	0.04	2.80	0.03	4.24	0.01	2.56	0.14
9	4.32	0.01	4.68	0.09	1.44	0.14	5.04	0.10	7.20	0.32	3.87	0.01	3.78	0.01	4.59	0.01	3.15	0.04	4.77	0.01	2.88	0.07
Right Bank	4.80	0.00	5.20	0.00	1.60	0.00	5.60	0.00	8.00	0.00	4.30	0.00	4.20	0.00	5.10	0.00	3.45	0.00	5.30	0.00	3.20	0.00
Feature Type (riffle, run, or pool)	Run		Run		Run		Run		Run		Run		Run		Run		Run		Run		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 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.

Surveyor's Signature: _____ Date: 8/19/2008

WBID # 0092

Site # 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: 8/19/08 11:30	Location Description (e.g., road crossing): Rt A Crossing
Stream Name: ELY Creek	
Current Weather Conditions: Sunny + clear	Facility Name(s): Maple Creek Resort Parad
Weather Conditions for Past 10 days: 0" rain	Permit Number(s): MN 0123854
Official Drought Conditions at time of this survey (search DNR home page for "drought"): No drought ☑; Phase I ☐; Phase II ☐; Phase III ☐; Phase IV ☐; Unknown ☐	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)				
Site 01	Easting (UTM X): 0620333	Northing (UTM Y): 4382952	Horizontal Accuracy: (EPE / FOM / PDOP) 18	~~Meters~~ NA FT
Site 11	Easting (UTM X): 0620520	Northing (UTM Y): 4382920	Horizontal Accuracy: (EPE / FOM / PDOP) 26	~~Meters~~ NA FT

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
00436 2008	upstream	00537 2008	dnstream		
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.)

☐ Swimming	☐ Skin diving	☐ SCUBA diving	☐ Tubing	☐ Water skiing
☐ Wind surfing	☐ Kayaking	☐ Boating	☐ Wading	☐ Rafting
☐ Hunting	☐ Trapping	☐ Fishing	☒ 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.)

N/A

Stream Name & WBID # Ely Creek #0092 Date of Survey 8/19/08

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.)

☐ 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	☒ 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
☐ None of the above	Comments / Other: N/A			

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

5 % Cobble	80 % Gravel	20 % Sand	– % Silt	– % Mud/Clay	– % Bedrock

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

horsetail rush 3 abundant
Benthic algae

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☒ None	☐ Other:
Color:	☒ Clear	☐ Green	☐ Gray	☐ Milky	☐ Other:
Bottom Deposit:	☐ Sludge	☐ Solids	☒ Fine sediments (1)	☐ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	☒ None	☐ Other:

(1) in pools only

*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 # Ely Creek #0092 Date of Survey 8/19/08

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.)

left bank undercut

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 Hamilton Date of Survey: 8/19/08

Organization: AE Solutions Position: Field Technician

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: Ely Creek Waterbody ID: 0092 Site #: 0092_03

Estimated Channel Incision: 0.10 (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:	620333	UTM Y:	4382952	+/- 18	(feet)
11	UTM X:	620520	UTM Y:	4382920	+/- 26	(feet)

Average Stream Width: 5.4 (meters) (To determne Length of Reach)

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

Field Staff: JRH, TAH

Dissolved Oxygen

Date: 8/19/2008 Time: 11:30

Dissolved Oxygen: 4.70 (mg/L)

Dissolved Oxygen: 51.5 (% sat)

Specific Cond: 447 (µS/cm)

Water Temperature: 19.8 (°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	0.32	0.10	0.62	0.07	0.41	0.08	0.57	0.01	0.75	0.15	0.41	0.05	0.23	0.05	0.66	0.32	0.57	0.20	0.71	0.29	0.74	0.34
2	0.64	0.22	1.24	0.08	0.82	0.14	1.14	0.04	1.50	0.26	0.82	0.05	0.46	0.07	1.32	0.35	1.14	0.21	1.42	0.30	1.48	0.33
3	0.96	0.41	1.86	0.09	1.23	0.20	1.71	0.01	2.25	0.96	1.23	0.02	0.69	0.08	1.98	0.43	1.71	0.28	2.13	0.39	2.22	0.34
4	1.28	0.53	2.48	0.17	1.64	0.24	2.28	0.06	3.00	0.92	1.64	0.02	0.92	0.09	2.64	0.45	2.28	0.29	2.84	0.39	2.96	0.35
5	1.60	0.65	3.10	0.28	2.05	0.27	2.85	0.06	3.75	0.64	2.05	0.06	1.15	0.09	3.30	0.49	2.85	0.32	3.55	0.37	3.70	0.32
6	1.92	0.65	3.72	0.30	2.46	0.16	3.42	0.08	4.50	0.44	2.46	0.09	1.38	0.03	3.96	0.47	3.42	0.32	4.26	0.29	4.44	0.31
7	2.24	0.62	4.34	0.31	2.87	0.10	3.99	0.07	5.25	0.39	2.87	0.06	1.61	0.02	4.62	0.43	3.99	0.28	4.97	0.27	5.18	0.34
8	2.56	0.61	4.96	0.21	3.28	0.16	4.56	0.02	6.00	0.24	3.28	0.01	1.84	0.01	5.28	0.26	4.56	0.22	5.68	0.24	5.92	0.35
9	2.88	0.39	5.58	0.21	3.69	0.12	5.13	0.01	6.75	0.10	3.69	0.10	2.07	0.01	5.94	0.21	5.13	0.24	6.39	0.28	6.66	0.36
Right Bank	3.20	0.31	6.20	0.00	4.10	0.00	5.70	0.00	7.50	0.00	4.10	0.00	2.30	0.00	6.60	0.00	5.70	0.00	7.10	0.00	7.40	0.00
Feature Type (riffle, run, or pool)	Run		Run		Run		Riffle		Pool		Riffle		Riffle		Run		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 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.

Surveyor's Signature: _____ Date: 8/19/2008

SITE #01

DOWNSTREAM

SITE #02

UPSTREAM, FENCE

SITE #01

UPSTREAM

SITE #01

Livestock watering

SITE #03

UPSTREAM

SITE #02

DOWNSTREAM

SITE #03

DOWNSTREAM