HALF MOON BAYOU
WBID 3017

Recreational Use Attainability Analysis

May 2007

PREPARED FOR:
RFP No: B3Z07134
Water Quality Monitoring & Assessment Section
Water Protection Program
Division of Environmental Quality
MISSOURI DEPARTMENT OF NATURAL RESOURCES
301 West High Street
Jefferson City, MO 65102

PREPARED BY:
MEC WATER RESOURCES, INC.
1123 Wilkes Blvd., Ste. 400
Columbia, MO 65201

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): Half Moon Bayou	
Missouri Water Body Identification (WBID) Number: 3017	
8-digit HUC: 08020204	County: Pemiscot
Upstream Legal Description (from Table H): 18, 17N, 13E	
Downstream Legal Description(from Table H): 23, 17N, 12E	
Number of sites evaluated 3	
List all sites numbers, listed consequently upstream to downstream: 1, 2, 3	

II. Subesegmentation (fill this section out only in cases where subsegmentation is being proposed)

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Upstream Coordinates: UTM X Y		Downstream Coordinates: UTM X Y	
HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the locational data.)			
Global Positioning System (GPS)		Interpolation	
Static Mode		Topographic Map or DRG	
Dynamic Mode (Kinematic)		Aerial Photograph or DOQQ	
Precise Positioning Service		Satellite Imagery	
Signal Averaging		Interpolation Other	
Real Time Differential Processing			
HORIZONTAL ACCURACY ESTIMATE			
GPS Data Quality		Interpolation Data Quality	
FOM	±_____Meters	Source Map Scale: 1:24,000 1:100,000 Other _____	
EPE	±_____Feet or ±_____Meters		
PDOP		±_____Feet or ±_____Meters	

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

Discharger Facility Name(s): Caruthersville WWTP
Discharger Permit Number(s): MO 0095028

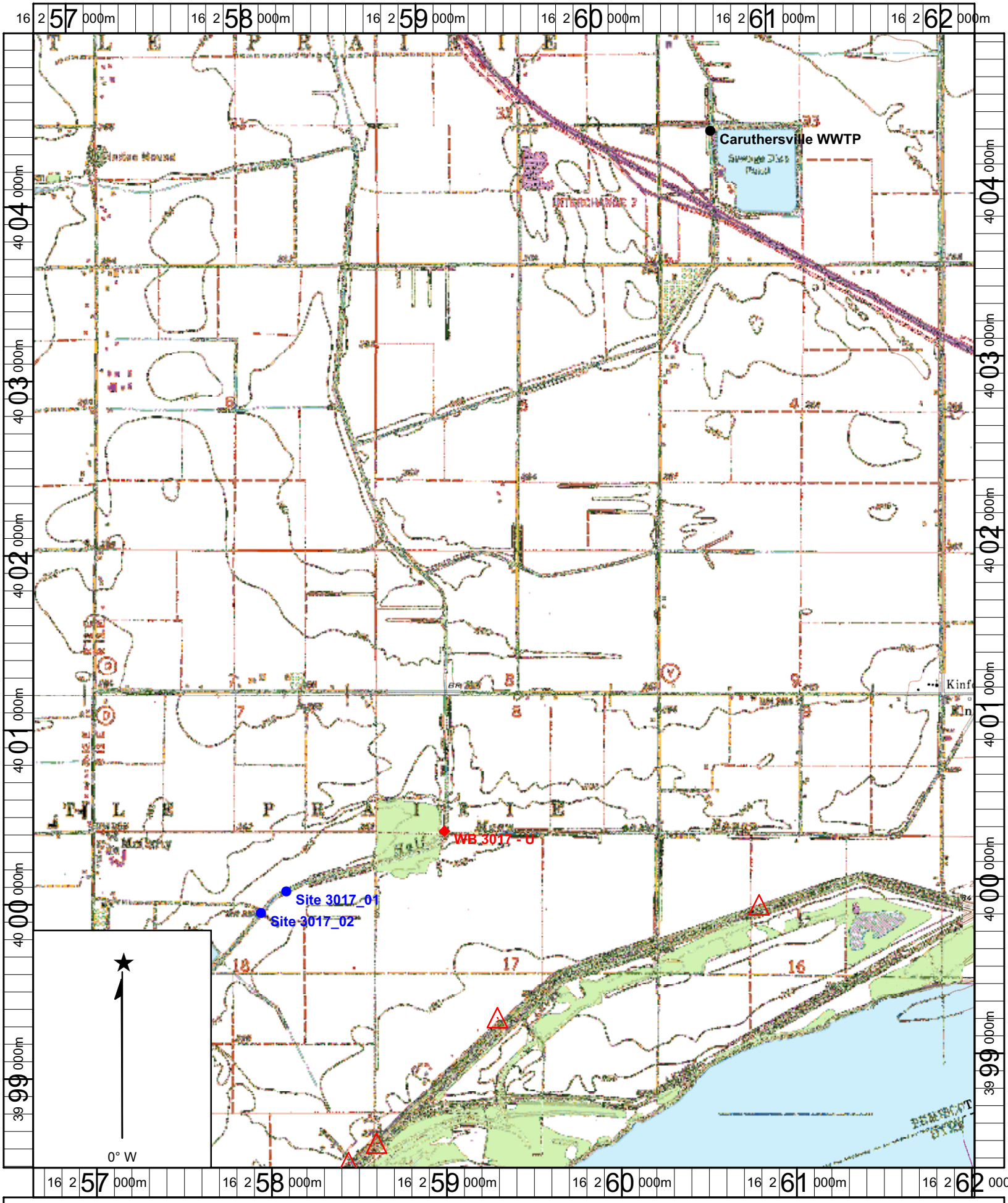
IV. UAA Surveyor (please print legibly)

Name of Surveyor Robert Bacon	Telephone Number: (573) 634-7078
Organization/Employer: ERC	
Position: Field Manager	

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

Signed: Robert A. Bacon **Date:** 5-25-07

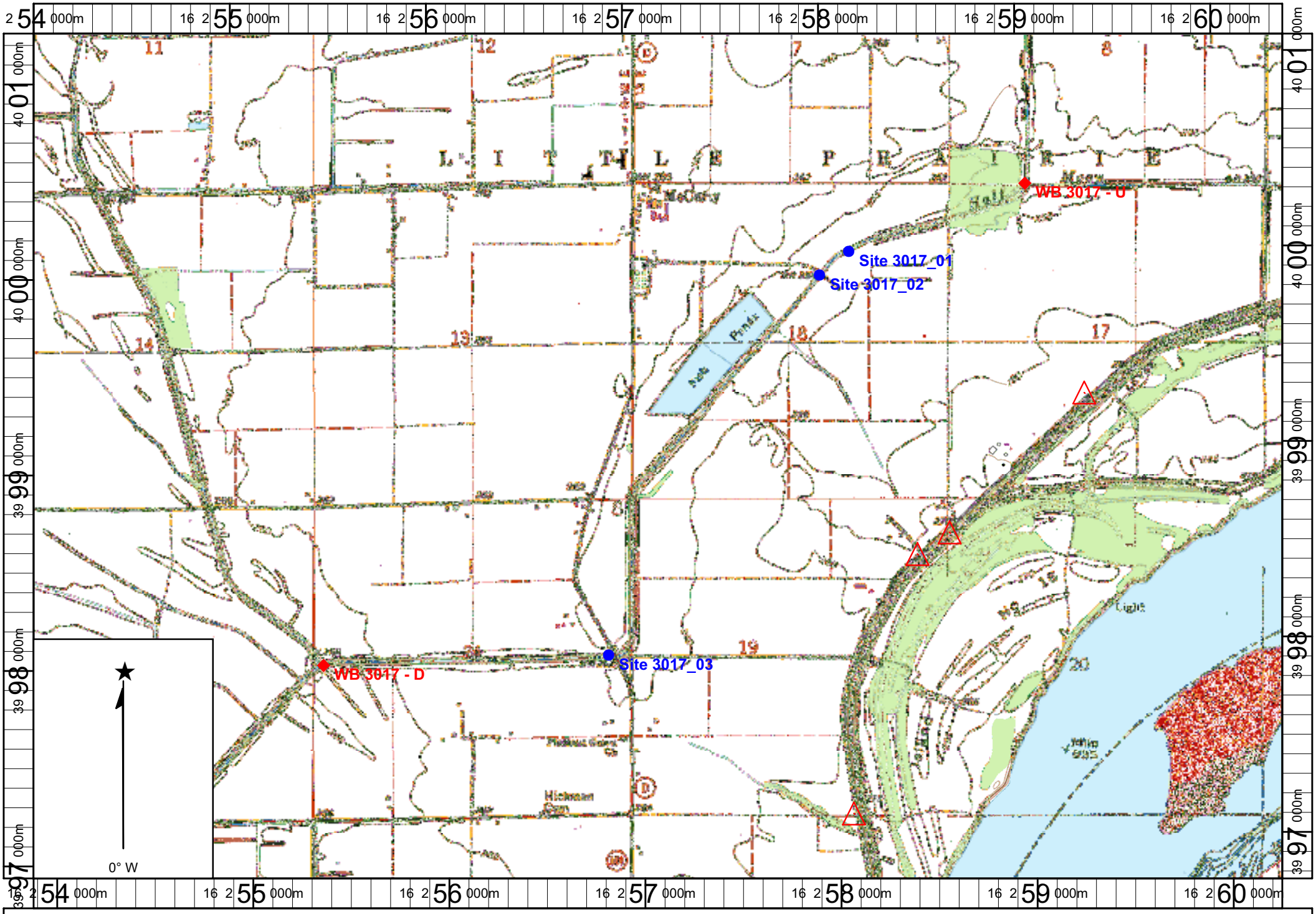
RUC 5-30-07



Name: CARUTHERSVILLE
Date: 5/28/2007
Scale: 1 inch equals 2222 feet

Location: 16 0259415 E 4001670 N

Copyright (C) 2000, Maptech, Inc.



Name: COTTONWOOD POINT
Date: 5/28/2007
Scale: 1 inch equals 2000 feet

Location: 16 0257123 E 3999011 N

Copyright (C) 2000, Maptech, Inc.

WBID# 3017
Site# 01

Field Data Sheets for Recreational Use Stream Surveys

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

Date & Time: 5-25-07 7:52	Site Location Description (e.g., road crossing): Field Road off Hwy D
Personnel (Data Collectors): Bob & Travis	
Current Weather Conditions: Clear	Facility Name: Carutherswille WWTP
	Permit Number: MO 0095028
Weather Conditions for Past 10 days:	
Drought Conditions?: No drought ☐; Phase I ☒; Phase II ☐; Phase III ☐; Phase IV ☐; Unknown ☐	

Site Locations:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)

Site GPS Coordinates: UTM X: 1650258133 Y: 4000029

HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the location data.)

Global Positioning System (GPS)		Interpolation	
Static Mode		Topographic Map or DRG	
Dynamic Mode (Kinematic)		Aerial Photograph or DOQQ	
Precise Positioning Service		Satellite Imagery	
Signal Averaging		Interpolation Other	
Real Time Differential Processing			

HORIZONTAL ACCURACY ESTIMATE

GPS Data Quality		Interpolation Data Quality
FOM	± _____ Meters	Source Map Scale: 1:24,000 1:100,000 Other _____
EPE	± 25 Feet or ± _____ Meters	± _____ Feet or ± _____ Meters
PDOP		

Photos:

Photo ID# (WBID_Site#_##)	Photo Purpose and Direction (upstream, downstream, other)	Photo ID# (WBID_Site#_##)	Photo Purpose and Direction (upstream, downstream, other)
D035	Beaver Dam	D037	upstream view 01-11
036	Down Stream view 01-01		

Uses Observed*: (Uses actually observed at 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.)

None

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	☐ Campgrounds
☐ Boating accesses	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ No trespass sign	☐ Fence	☐ Steep slopes	☒ None of the above	☐ Other:

Comments: Farm Fields

WBID# 3017
Site# 01

Field Data Sheets for Recreational Use Stream Surveys

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

Indications of Human Use*: (attach photos)

☐ Roads	☐ Rope swings	☐ Foot paths/prints	☐ Dock/platform	☐ Livestock Watering	☐ RV / ATV Tracks
☐ Camping Sites		☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle	☐ Other:
Comments: Farm Drainage					

Stream Morphology:

Upstream View's Physical Descriptions: Is there any water present at this view? ☒ Yes ☐ No

If so, is there an obvious current? ☒ Yes ☐ No

Select one of the following channel features:

Channel Feature	Transect (#)	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE						
RUN						
POOL						

Downstream View's Physical Descriptions: Is there any water present at this view? ☒ Yes ☐ No

If so, is there an obvious current? ☒ Yes ☐ No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

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

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

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

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:
WATER SURFACE DEPOSITION:	☐ Oil	☒ Scum	☐ Foam	☐ None	☐ Other:

Comments: Please attach any additional comments to this form.

*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.

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

Surveyor's Signature: Robert R. Bach Date of Survey: 5/25/07

Organization: ERC Position: Field Manager

RRC 5-30-07

Pic D033-035 Beaver Dams
D036 DN 01-01
P037 UP 01-11

MEC Recreational Use Attainability Analysis Field Survey Sheet

Waterbody ID: 3017 Site #: 01 (WBID_Site#)

Pics 0033
34
35 Beaver Dam
36 Downstream
Way pt. # 28

Estimated Channel Incision: 20 (m) (height between low bank width and water)

GPS Location (taken at transect 1):

UTM X: 1652253133 UTM Y: 4000029

Horizontal Accuracy Estimate (GPS Data Quality): +/- 25 (feet)

Average Stream Width: 9.5 (meters) Length of Survey Segment: 190 (meters) (20x average stream width)

Field Staff: Bob and Travis

Dissolved Oxygen

Dissolved Oxygen: 2.43 (mg/L)

Dissolved Oxygen: 28.1 (% sat)

Specific Cond: 580 (µS/cm)

Water Temperature: 21.9 (°C)

7:52

Transect Cross-Section

Measurement	01 Distance (m)	01 Depth (m)	02 Distance (m)	02 Depth (m)	03 Distance (m)	03 Depth (m)	04 Distance (m)	04 Depth (m)	05 Distance (m)	05 Depth (m)	06 Distance (m)	06 Depth (m)	07 Distance (m)	07 Depth (m)	08 Distance (m)	08 Depth (m)	09 Distance (m)	09 Depth (m)	10 Distance (m)	10 Depth (m)	11 Distance (m)	11 Depth (m)
1	0	.02	0	.02	0	.02	0	.01	0	.01	0	.01	0	.01	0	.01	0	.01	0	.01	0	.01
2	.92	.56	.94	.53	.94	.54	.99	.52	1.0	.49	1.07	.43	1.15	.48	1.18	.34	1.19	.41	1.28	.30	1.29	.34
3	1.84	.61	1.87	.60	1.88	.54	1.98	.61	2.0	.60	2.15	.48	2.3	.64	2.36	.49	2.38	.54	2.56	.36	2.58	.43
4	2.76	.70	2.81	.69	2.82	.70	2.96	.68	3.0	.71	3.22	.60	3.45	.71	3.55	.53	3.57	.60	3.84	.50	3.87	.52
5	3.68	.68	3.75	.70	3.76	.72	3.95	.77	4.0	.78	4.29	.68	4.60	.69	4.73	.62	4.76	.72	5.12	.54	5.16	.63
6	4.6	.70	4.68	.73	4.70	.77	4.94	.78	5.0	.80	5.36	.70	5.75	.77	5.91	.74	5.95	.81	6.40	.66	6.45	.72
7	5.52	.77	5.63	.79	5.64	.81	5.93	.80	6.0	.83	6.44	.71	6.90	.72	7.09	.78	7.14	.74	7.68	.76	7.74	.74
8	6.44	.81	6.56	.80	6.58	.81	6.92	.83	7.0	.80	7.51	.78	8.05	.76	8.27	.76	8.33	.72	8.96	.84	9.03	.62
9	7.36	.76	7.50	.74	7.52	.72	7.90	.70	8.0	.69	8.58	.64	9.20	.60	9.46	.62	9.52	.64	10.24	.86	10.32	.54
10	8.28	.55	8.43	.57	8.46	.57	8.89	.29	9.0	.09	9.66	.19	10.35	.20	10.64	.31	10.71	.22	11.52	.59	11.61	.28
11	9.2	.03	9.37	.01	9.40	.02	9.88	.01	10.0	.01	10.73	.01	11.5	.01	11.82	.01	11.90	.01	12.8	.01	12.9	.01
12	.07	0	.33	0	.43	0	.29	0	.14	0	.10	0	.09	0	.12	0	.15	0	.09	0	.06	0
Feature Type (riffle, run, or pool)	slide pool		slide pool		slide pool		slide pool		slide pool		slide pool		slide pool		slide pool		slide pool		slide pool		slide pool	

Notes: Transects will be measured beginning on left descending bank and finishing on right descending bank.
GPS location corresponds to Transect 01. Transects ordered in upstream to downstream order.
Transects in order of up to downstream.
Mark dry depth measurements as 0; measurements less than 0.1m as <0.1; and greater than 1m as >1
Measurement 1 depth = 0.1m (unless depth is insufficient); Measurement 11 depth = 0.1m (unless depth is insufficient); Measurement 12 distance = entire wetted width distance and depth = 0m.

Signed: [signature] Date: 5-25-2007

RLC 5-30-07

WBID# 3017
Site# 02

Field Data Sheets for Recreational Use Stream Surveys

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

Date & Time: 5-25-07 9:04	Site Location Description (e.g., road crossing): Hwy D
Personnel (Data Collectors): Bob & Travis	
Current Weather Conditions: Clear	Facility Name: Caruthersville WWTP Permit Number: MO 0095028
Weather Conditions for Past 10 days:	
Drought Conditions?: No drought ☐; Phase I ☒; Phase II ☐; Phase III ☐; Phase IV ☐; Unknown ☐	

Site Locations:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site GPS Coordinates: UTM X: 1650257982		Y: 3999912	
HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the location data.)			
Global Positioning System (GPS)		Interpolation	
Static Mode		Topographic Map or DRG	
Dynamic Mode (Kinematic)		Aerial Photograph or DOQQ	
Precise Positioning Service		Satellite Imagery	
Signal Averaging		Interpolation Other	
Real Time Differential Processing			
HORIZONTAL ACCURACY ESTIMATE			
GPS Data Quality		Interpolation Data Quality	
FOM	± _____ Meters	Source Map Scale: 1:24,000 1:100,000 Other _____	
EPE	± 18 Feet or ± _____ Meters	± _____ Feet or ± _____ Meters	
PDOP			

Photos:

Photo ID# (WBID_Site# ##)	Photo Purpose and Direction (upstream, downstream, other)	Photo ID# (WBID_Site# ##)	Photo Purpose and Direction (upstream, downstream, other)
00 38	Deep water close up		
39	Deep water regular		
40	downstream view 02-01		

Uses Observed*: (Uses actually observed at 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.)

None

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	☐ Campgrounds
☐ Boating accesses	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ No trespass sign	☐ Fence	☐ Steep slopes	☒ None of the above	☐ Other:

Comments: Farm Fields

WBID# 3017
Site# 02

Field Data Sheets for Recreational Use Stream Surveys

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

Indications of Human Use*: (attach photos)

☐ Roads	☐ Rope swings	☐ Foot paths/prints	☐ Dock/platform	☐ Livestock Watering	☐ RV / ATV Tracks
☐ Camping Sites		☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle	☐ Other:

Comments: Field Drainage

Stream Morphology:

Upstream View's Physical Descriptions: Is there any water present at this view? ☒ Yes ☐ No

If so, is there an obvious current? ☒ Yes ☐ No

Select one of the following channel features:

Channel Feature	Transect (#)	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE						
RUN						
POOL						

Downstream View's Physical Descriptions: Is there any water present at this view? ☒ Yes ☐ No

If so, is there an obvious current? ☒ Yes ☐ No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

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

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

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

~80-90% submergent macrophyte coverage w/ assessment site

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:
WATER SURFACE DEPOSITION:	☐ Oil	☒ Scum	☐ Foam	☐ None	☐ Other:

Comments: Please attach any additional comments to this form.

*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.

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

Surveyor's Signature: Robert A Rucc Date of Survey: 5-25-07

Organization: ERC Position: Field Manager

Ruc 5-30-07

DN D040 02-01
D038 deep water close-up
D039 deep water regular

MEC Recreational Use Attainability Analysis Field Survey Sheet

Waterbody ID: 3017 Site #: 02 (WBID_Site#)

Estimated Channel Incision: .15 (m) (height between low bank width and water)

GPS Location (taken at transect 1):

UTM X: 16 S 0257982 UTM Y: 3999912

Horizontal Accuracy Estimate (GPS Data Quality): +/- 18 (feet)

Average Stream Width: 10 (meters) Length of Survey Segment: 200 (meters) (20x average stream width)

Field Staff: Bob w/ Travis

Dissolved Oxygen

Dissolved Oxygen: 3.95 (mg/L)

Dissolved Oxygen: 45.8 (% sat)

Specific Cond: 578 (µS/cm)

Water Temperature: 22.5 (°C)

9:04

Transect Cross-Section

Measurement	01 Distance (m)	01 Depth (m)	02 Distance (m)	02 Depth (m)	03 Distance (m)	03 Depth (m)	04 Distance (m)	04 Depth (m)	05 Distance (m)	05 Depth (m)	06 Distance (m)	06 Depth (m)	07 Distance (m)	07 Depth (m)	08 Distance (m)	08 Depth (m)	09 Distance (m)	09 Depth (m)	10 Distance (m)	10 Depth (m)	11 Distance (m)	11 Depth (m)
1	0	.03																				
2	1.02	.30																				
3	2.04	.54																				
4	3.06	.76			too deep further down to assess w/o boat																	
5	4.08	1.05			area has lots of beaver dam																	
6	5.10	1.06																				
7	6.12	1.22																				
8	7.14	1.25																				
9	8.16	1.02																				
10	9.18	.54																				
11	10.2	.02																				
12	.06	0																				
Feature Type (riffle, run, or pool)	slow pool																					

Notes: Transects will be measured beginning on left descending bank and finishing on right descending bank.
GPS location corresponds to Transect 01. Transects ordered in upstream to downstream order.
Transects in order of up to downstream.
Mark dry depth measurements as 0; measurements less than 0.1m as <0.1; and greater than 1m as >1
Measurement 1 depth = 0.1m (unless depth is insufficient); Measurement 11 depth = 0.1m (unless depth is insufficient); Measurement 12 distance = entire welted width distance and depth = 0m.

Signed: [signature] Date: 5-25-2007

RNC 5-30-07

WBID# 5017
Site# 03

Field Data Sheets for Recreational Use Stream Surveys

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

Date & Time: 5-25-07 10:45	Site Location Description (e.g., road crossing): downstream of Hwy D road crossing
Personnel (Data Collectors): Bob and Travis	
Current Weather Conditions: Sunny, clear + 84°F	Facility Name: Carutherstville WWTF Permit Number: MO 0095028
Weather Conditions for Past 10 days:	
Drought Conditions?: No drought ☐; Phase I ☒; Phase II ☐; Phase III ☐; Phase IV ☐; Unknown ☐	

Site Locations:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site GPS Coordinates: UTM X: 1650256848		Y: 3997996	
HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the location data.)			
Global Positioning System (GPS)		Interpolation	
Static Mode		Topographic Map or DRG	
Dynamic Mode (Kinematic)		Aerial Photograph or DOQQ	
Precise Positioning Service		Satellite Imagery	
Signal Averaging		Interpolation Other	
Real Time Differential Processing			

HORIZONTAL ACCURACY ESTIMATE		
GPS Data Quality		Interpolation Data Quality
FOM	± _____ Meters	Source Map Scale: 1:24,000 1:100,000 Other _____
EPE	± 17 Feet or ± _____ Meters	± _____ Feet or ± _____ Meters
PDOP		

Photos:

Photo ID# (WBID_Site# ##)	Photo Purpose and Direction (upstream, downstream, other)	Photo ID# (WBID_Site# ##)	Photo Purpose and Direction (upstream, downstream, other)
0041	Down 03-01		
0042	UP 03-11		

Uses Observed*: (Uses actually observed at 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.) None

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	☐ Campgrounds
☐ Boating accesses	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ No trespass sign	☐ Fence	☐ Steep slopes	☒ None of the above	☐ Other:

Comments: Farm Fields

WBID# 3017
Site# 03

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(must be completed for each site)

Indications of Human Use*: (attach photos)

☐ Roads	☐ Rope swings	☐ Foot paths/prints	☐ Dock/platform	☐ Livestock Watering	☐ RV / ATV Tracks
☐ Camping Sites		☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle	☐ Other:
Comments: Field Drainage					

Stream Morphology:

Upstream View's Physical Descriptions: Is there any water present at this view? ☒ Yes ☐ No

If so, is there an obvious current? ☒ Yes ☐ No

Select one of the following channel features:

Channel Feature	Transect (#)	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE						
RUN						
POOL						

Downstream View's Physical Descriptions: Is there any water present at this view? ☒ Yes ☐ No

If so, is there an obvious current? ☒ Yes ☐ No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

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

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

10-20" Sediment

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

<5% emergent.

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:
WATER SURFACE DEPOSITION:	☐ Oil	☒ Scum	☐ Foam	☐ None	☐ Other:

Comments: Please attach any additional comments to this form.

*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.

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

Surveyor's Signature: Robert A. Brown Date of Survey: 5-25-07

Organization: ERC Position: Field Manager

RAC 5-30-07

note 10-20" sediment on channel bottom

DN D041 03-01
UP D042 03-11

MEC Recreational Use Attainability Analysis Field Survey Sheet

Waterbody ID: 3017 Site #: 03
(WBID_Site#)

Estimated Channel Incision: 0 (m) (height between low bank width and water)

Waypoint # 030

GPS Location (taken at transect 1):
UTM X: 1653256848 UTM Y: 3997996
Horizontal Accuracy Estimate (GPS Data Quality): +/- 17 (feet)

Average Stream Width: 11.0 (meters) Length of Survey Segment: 220 (meters)
(20x average stream width)

Field Staff: Bob + Travis

Dissolved Oxygen

Dissolved Oxygen: 5.28 (mg/L)

Dissolved Oxygen: 61.9 (% sat)

Specific Cond: 570 (µS/cm)

Water Temperature: 23.8 (°C)

10:45

Transect Cross-Section

Measurement	01 Distance (m)	01 Depth (m)	02 Distance (m)	02 Depth (m)	03 Distance (m)	03 Depth (m)	04 Distance (m)	04 Depth (m)	05 Distance (m)	05 Depth (m)	06 Distance (m)	06 Depth (m)	07 Distance (m)	07 Depth (m)	08 Distance (m)	08 Depth (m)	09 Distance (m)	09 Depth (m)	10 Distance (m)	10 Depth (m)	11 Distance (m)	11 Depth (m)
1	0	.03	0	.03	0	.01	0	.01	0	.04	0	.01	0	.01	0	.01	0	.01	0	.01	0	.01
2	1.1	.43	1.12	.45	1.12	.48	1.08	.42	1.11	.43	.84	.19	1.07	.17	1.09	.16	1.06	.18	1.02	.18	.99	.12
3	2.2	.58	2.24	.52	2.24	.50	2.16	.51	2.22	.54	1.68	.24	2.14	.24	2.18	.24	2.12	.26	2.04	.20	1.98	.18
4	3.3	.64	3.36	.62	3.36	.54	3.24	.55	3.33	.53	2.53	.38	3.21	.36	3.27	.34	3.18	.30	3.06	.24	2.97	.21
5	4.4	.62	4.48	.59	4.48	.56	4.32	.57	4.44	.54	3.37	.53	4.28	.41	4.36	.35	4.24	.28	4.08	.26	3.96	.24
6	5.5	.61	5.60	.60	5.60	.52	5.40	.52	5.55	.53	4.21	.51	5.35	.42	5.45	.47	5.20	.35	5.10	.32	4.95	.27
7	6.6	.52	6.72	.53	6.72	.52	6.48	.50	6.66	.49	5.05	.47	6.42	.44	6.54	.57	6.36	.49	6.12	.43	5.94	.40
8	7.7	.48	7.84	.50	7.84	.51	7.56	.48	7.77	.43	5.89	.40	7.49	.47	7.63	.60	7.42	.59	7.14	.58	6.93	.56
9	8.8	.42	8.96	.40	8.96	.40	8.64	.40	8.88	.45	6.74	.39	8.56	.36	8.72	.49	8.48	.50	8.16	.47	7.92	.60
10	9.9	.34	10.08	.32	10.08	.34	9.72	.41	9.99	.43	7.58	.37	9.63	.29	9.81	.31	9.54	.29	9.18	.27	8.91	.31
11	11.0	.03	11.2	.02	11.2	.04	10.8	.03	11.1	.04	8.42	.02	10.7	0.2	10.9	.03	10.6	.04	10.2	.02	9.9	.05
12	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—
Feature Type (riffle, run, or pool)	slide pool		slide pool		slide pool		slide pool		slide pool		slide pool		slide pool		slide pool		slide pool		slide pool		slide pool	

Notes: Transects will be measured beginning on left descending bank and finishing on right descending bank.
GPS location corresponds to Transect 01. Transects ordered in upstream to downstream order.
Transects in order of up to downstream.
Mark dry depth measurements as 0; measurements less than 0.1m as <0.1; and greater than 1m as >1
Measurement 1 depth = 0.1m (unless depth is insufficient); Measurement 11 depth = 0.1m (unless depth is insufficient); Measurement 12 distance = entire wetted width distance and depth = 0m.

Signed: [signature] Date: 5-25-2007

QAC 5-30-07

WBID# 3017

Site# 1 Photo ID# D35, Beaver dam

Site# 1 Photo ID# D36, Downstream

Site# 1 Photo ID# D37, Upstream

Site# 2 Photo ID# D38, Deep water close up

WBID# 3017

Site# 2 Photo ID# D39, Deep water regular

Site# 2 Photo ID# D40, Downstream

Site# 3 Photo ID# D41, Downstream

Site# 3 Photo ID# D42, Upstream