



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2020

Meter Passed End
of Day CCV
Yes / No

WIN Station Name: Popash Creek @ Pritchett Pkwy **Date:** 12/28/2020
WIN/Field ID: G3SD0079 **WBID:** 3240Q **ENR:** **Latitude:** 26.7158
County: LEE **Org ID:** 21FLFTM **Longitude:** -81.8086
Receiving Body of Water: Caloosahatchee **RQ:** 2020-12-14-49

Sampling Team Members		WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
☒	Nicole Reistad	x		x		x
☒	Chris Hormuth		x		x	
☐						
☐						

Sampling Equipment	
☒ Sample Container	☐ Carboy
☐ Dipper	☐ Van Dorn
☒ Syringe	☐ Pole
Depth measured with: Secchi	
Secchi Equipment ID: 3312B	
Collection Method	
☐ Wading	☐ Canoe/Kayak
☒ From Shore	☐ Electric Motor
☐ Other _____	☐ Gasoline Motor

Water Level: ☒ Normal ☐ Low ☐ High ☐ Dry ☐ Pooled ☐ Flooded						Meter ID# SNEK					
Photos: YES		Flow: FLOW		Tide:		Tide Times: High: Low:					
Biological Samples Collected: ☒ None ☐ HA ☐ SCI ☐ RPS ☐ Algae ID ☐ LVS ☐ LVI Other:											
SBIO ID Numbers:											
Notes:											

Duplicate Sample

Time Zone: EST	Time: N/A	Field ID: N/A	(WIN ID_DUP)
WIN DMT Activity ID: _____			

Blank

Time Zone: _____	Time: N/A	Field ID: N/A	(Blank Type_DDDMMYYYY)
DI Source: N/A		Location: N/A	
DI Type: N/A		Equipment ID: N/A	

LIMS EVENT ID: _____ WIN Import ID: _____
Enter Field Parameters, Verify Station ID In LIMS DMT: _____ QC Station ID, Field Parameters In LIMS DMT: _____
(Initials/Date) (Initials/Date)
Scan/Save Field Sheets _____ Migrate Data to WIN: _____ Verify Data In WIN: _____
(Initials/Date) (Initials/Date) (Initials/Date)



RQ-2020-12-14-49

Customer: WQAP

Project ID: SMP

Collected By: Nicole Reistad, Chris Hormuth

Field Report Prepared By: Nicole Reistad

Sampling Agency: FDEP

Place Label Here

WIN ID/Field ID:



G3SD0079

Location: Popash Creek @ Pritchett Pkwy

Comments:

Matrix: Fresh

(Check one)

☒ GRAB☐ COMPOSITE

Date	Time	DO (mg/L)	DO (%SAT)	Temp. (C°)	pH	Sample Depth (m)	Secchi Disk (m)	Total Depth (m)	Sp COND (µmhos/cm)	Salinity (PPTH)
12/28/2020	1045 EST	7.87	80.6	16.5	7.28	0.3	0.5 ☒ VOB (S)	0.5	227	0.11

Central Lab please use top row for login purposes

	EST									

Parameter Suite	Parameter Methods	Preservation	pH Check	# Bottles sent to Lab	Bottle Group
Preserved Nutrients (P-500ML)	☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP Lot # SA9354050 Exp: 12/20/20	☒ Ice ☒ H2SO4*	☒ <2	1	A
Metals (P-500ML)	☐ W-ICPMS ☐ W-ICP ☐ W-HARD Lot # Exp:	☐ Ice ☐ HNO3*	☐ <2		
Filtered Nutrients (P125ML)	☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter Filter Lot # 17024971 Syringe Lot # 0118593	☒ Ice		1	A
Chlorophyll (BP-1L)	☒ CHLSUITE-W	☒ Ice		1	A
Physical/Aggregate (Fresh) (P-1L)	☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-CL-IC / W-COLOR / W-SO4-IC / W-TDS	☒ Ice		1	A
Physical/Aggregate (Marine) (P-1L)	☐ Alkalinity / W-BR-IC / W-F / W-TSS / TURBIDITY	☐ Ice			
Macroinvertebrates (PJ-2L)	☐ MI-FW-QLDC	☐ Formalin			
Periphyton (PT-50ML)	☐ ALGAE-ID	☐ Ice			
Microbiology (Contract Lab Bottle)	☐ E Coli ☐ F Coli ☐ Enterococci ☐ Contract Lab	☐ Ice			
Molecular (QPCR-P-500ML)	☐ PCR-HF183 ☐ PCR-BacR ☐ PCR-DG3 ☐ PCR-GULL2 ☐ PCR-GFD	☐ Ice			
Tracers (BG-500ML)	☐ W-E8321-DI ☐ W-E8321-MS	☐ Ice			
Pesticides (BG-500ML) (BG-1L)	☐ W-E8321-DI ☐ WE8321-MS ☐ W-PSNP-TQ ☐ W-CT-CL-R ☐ W-PCL-SQ-R ☐ W-CARB-AA (5 ml of MCAA** Buffer Solution)	☐ Ice			
		☐ Ice			

Name:
Nicole Reistad
Chris Hormuth

Signature:

Date:

12/28/2020

*2.0 ml of Preservative used unless noted otherwise.

**MCAA: Monochloroacetic acid buffer solution

DEP-SOP-001/01: Form FD 9000-5
STATE OF FLORIDA, DEPARTMENT OF ENVIRONMENTAL PROTECTION
STREAM/RIVER HABITAT ASSESSMENT FIELD SHEET

SUBMITTING AGENCY CODE: _____		STORET STATION NUMBER: <u>G3S70079</u>	DATE (MM/DD/YY): <u>12/28/20</u>	RECEIVING BODY OF WATER: <u>Caloosahatchee</u>
SUBMITTING AGENCY NAME: _____		REMARKS: _____		FIELD ID/NAME: _____
COUNTY: <u>Lee</u>	LOCATION: <u>Popash Creek</u>			

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components	Four or more major productive habitats present (snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock)	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh leaves or snags)	Two major productive habitats present. Less than desirable habitat, frequently disturbed or removed	One or less major productive habitat. Lack of habitat is obvious, substrates unstable or smothered
Substrate Diversity <u>14</u>	20 19 18 17 16	15 <u>14</u> 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability <u>5</u>	Greater than 30% major productive habitat present at site 20 19 18 17 16	16% to 30% major productive habitat, by aerial extent 15 14 13 12 11	6% to 15% major productive habitat 10 9 8 7 6	Less than 5% major productive habitat <u>5</u> 4 3 2 1
Water Velocity <u>16</u>	Max. observed at typical transect: > 0.25 m/sec. But < 1 m/sec ≥0.33 0.31 0.29 0.27 >0.25 20 19 18 17 <u>16</u>	Max. observed at typical transect: >0.1 to 0.25 m/sec 0.25 0.21 0.17 0.13 >0.1 <u>15</u> 14 13 12 11	Max. observed at typical transect: 0.05 to 0.1 m/sec 0.1 0.09 0.07 0.06 0.05 10 9 8 7 6	Max. observed at typical transect: <0.05 m/sec; or spate occurring: > 1 m/sec <0.05 0.04 0.03 0.01 <0.01 5 4 3 2 1
Habitat Smothering <u>15</u> Primary Score <u>50</u>	Adequate number of stable pools (1-2 per 12 times width) and <25% of habitats affected by sand, silt, or algae. 20 19 18 17 16	Adequate number of stable pools (1-2 per 12 times width) and >25% of habitats affected by sand, silt, or algae. <u>15</u> 14 13 12 11	Does not have required number of stable pools (1-2 per 12 x width) and/or has shallow pools (<2 x prevailing depth). 10 9 8 7 6	Stable pools are absent. Most habitats affected by sand, silt, or algae accumulation. 5 4 3 2 1
Secondary Habitat Components	Expected sinuosity given the stream width. No evidence of dredging or artificial straightening. No spoil banks.	Good sinuosity within old channelized area. Evidence of dredging in the past (>25 yrs) but mostly recovered.	Straightened with trapezoidal cross section, but has a small degree of sinuosity developed within channelized area.	Straightened or engineered by dredging, has trapezoidal or box cut cross section, lacks required pools. May have spoil banks.
Artificial Channelization <u>20</u>	<u>20</u> 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Bank Stability Right Bank <u>9</u> Left Bank <u>10</u>	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankfull to top of bank. Bankfull is within or above the root zone with few raw, eroded areas. <u>L</u> <u>10</u> <u>9</u> <u>R</u>	Only meets 2 of the 3 requirements for optimal bank stability. 8 7 6	Only meets 1 of the 3 requirements for optimal bank stability. 5 4	Bankfull < 60% of bank height. Slope of bank > 60°. Bankfull is below the root zone with raw, eroded areas. 3 2 1
Riparian Buffer Zone Width Right Bank <u>2</u> Left Bank <u>7</u>	Width of vegetation greater than 18 m 10 9	Width of vegetation >12 to 18m <u>L</u> 8 <u>7</u> 6	Width of vegetation 6 to 12 m. human activities close to system 5 4	Less than 6 m of buffer zone due to intensive human activities <u>R</u> 3 <u>2</u> 1
Riparian Zone Vegetation Quality Right Bank <u>4</u> Left Bank <u>7</u> Secondary Score <u>6</u>	Over 80% of riparian surfaces consist of normal, expected plant community for given sunlight & habitat conditions (e.g., native plants; tree, shrub, and forbs represented, if appropriate). Minimal disturbance. 10 <u>9</u> <u>L</u>	>50% to 80% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Some disruption in community observed. 8 7 6	25% to 50% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Disruption obvious. <u>R</u> 5 <u>4</u>	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). 3 2 1

TOTAL SCORE

Date: <u>12/28/2020</u>	Analyst: <u>Nicole Reistad, Chris Hornmuth</u>	Signature: <u>[Signature]</u>
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DEP Form FD 9000-4 Stream/River Habitat Assessment Sketch Sheet

G3SD0079

Location: Popash Creek

Date: 12/26/2020

Sampler: Nicole Reistad, Chris Hornum

100 m: Latitude _____

Longitude _____

0 m: Latitude 26.7265366

Longitude -81.8092448

Substrates: Code key, draw proportionate habitat abundance. %

☒ Snags 0.65

☒ Roots/undercut banks 2.725

☒ Leaf Packs (or mats) 0.2

☒ Aquatic Macrophytes 0.825

☒ Rocks 0.4

☐ _____

☒ Pools total # observed = 5
range expected = 3-4

Average width NR 3.4 m

Average depth 0.5 m

Velocity measured at 0.15 meter mark.

WQ & chemistry taken at 0 meter mark.

Habitat Smothering:
Note areas (on map) where sand or silt is smothering substrates, limiting habitability.

Bank Stability:
Note areas (on map) with unstable, eroding banks.

Riparian Buffer Width:
Note areas (on map) where natural vegetation is altered or eliminated.

Plants observed / other notes:

0m-3s } 3.75
15m-55. } As average
100m-2.5s }

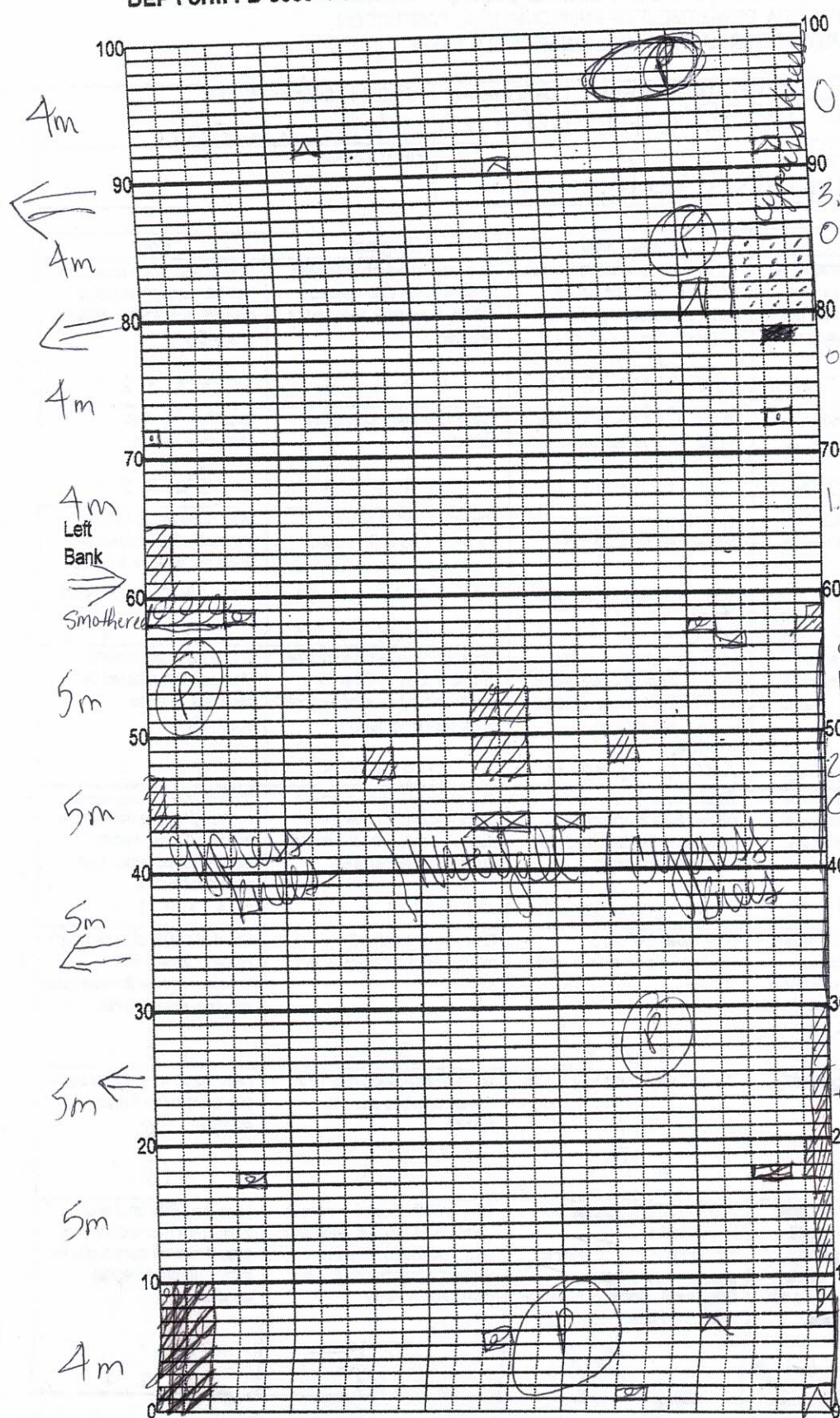
S - 2.6m²

R - 10.9m²

X - 0.8m²

AM - 3.3m²

Λ - 1.6m²



Length of grid represents 100 m of stream (not linear meters).
(Horizontal scale is double vertical scale, draw proportionately).

DEP Form FD 9000-3 Physical/Chemical Characterization Field Sheet

SAMPLE ID _____ ORG ID 21FLFTM LATITUDE 26.7158
COUNTY LEE STORET # G3SD0079 LONGITUDE -81.8086
DATE 12/28/20 TIME 1045 SAMPLING AGENCY FDEP SOROC
NAME POPAHA CREEK
FIELD ID/NAME G3SD0079 RECEIVING BODY OF WATER CALOOSA HATCHEE

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category):

Forest/Natural	Silviculture	Field/Pasture	Agricultural	Residential	Commercial	Industry	Other (Specify)
<u>20</u>		<u>30</u>	<u>30 ch</u>	<u>50</u>			

Local Watershed Erosion (select one): ☐ None ☒ Slight ☐ Moderate ☐ Heavy
Local Watershed NPS Pollution: ☐ No evidence ☒ Slight ☐ Moderate ☐ Heavy

Width of Riparian Vegetation (m) on Each Buffer Side
Left Bank: 15 Right Bank: 5

Hydrologic Modification Score (per FT 3101) _____

High Water Mark: 1.0 + 0.5 = 1.5 CH
(m) (above present water level) (present depth) (above bed)

Artificially Impounded: ☐ Yes ☒ No

Artificially Channelized: ☒ No ☐ Some recovery ☐ Mostly recovered, more sinuous ☐ Recent, severe

Canopy Cover %: ☐ Open ☒ Heavily Shaded ☐ Lightly Shaded (11-45%) ☐ Moderate Shaded (46-80%)

Typical Width (m) Depth (m)/Velocity (m/sec) Transect

<u>4</u> m wide	<u>0.33</u> m/s	<u>0.2</u> m/s	<u>0.4</u> m/s
<u>0.5</u> m deep	<u>0.5</u> m deep	<u>0.5</u> m deep	

Landscape Development Intensity Index (LDI) _____

SEDIMENT / SUBSTRATE

Sediment Oils: ☒ Absent ☐ Slight ☐ Moderate ☐ Profuse

Sediment Odors: ☒ Normal ☐ Sewage ☐ Petroleum ☐ Chemical ☐ Anaerobic ☐ Other (Specify): _____

Smothering of Substrates:
Sand Smothering: None ☐ Slight ☒ Moderate ☐ Severe ☐
Silt Smothering: None ☐ Slight ☒ Moderate ☐ Severe ☐
Algae Smothering: None ☒ Slight ☒ Moderate ☐ Severe ☐

SUBSTRATE TYPE
Assessment Tool: ☐ SCI ☒ RPS ☒ LVS
☐ LCI ☐ BioRecon

	% Coverage	INVERT # Times Sampled	PERI # Times Sampled
Woody Debris (Snags)	<u>0.65</u>	<u>0</u>	<u>0</u>
Undercut Banks / Roots	<u>2.725</u>	<u>0</u>	<u>0</u>
Leaf Packs or Mat	<u>0.2</u>	<u>0</u>	<u>0</u>
Aquatic Vegetation	<u>0.825</u>	<u>0</u>	<u>0</u>
Rock or Shell Rubble	<u>0.4</u>	<u>0</u>	<u>0</u>
Sand			
Mud / Muck / Silt			
Other			
Other			

WATER QUALITY

	Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)
Top	<u>0.25</u>	<u>16.5</u>	<u>7.28</u>	<u>7.87</u>	<u>80.6</u>	<u>227</u>	<u>0.11</u>	<u>0.5</u>
Mid								☒ VOB
Bottom								<u>0.5</u>

Meter ID: SNEK

Water Odors: Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐

Water Surface Oils: Normal ☒ Sheen ☐ Globbs ☐ Slick ☐ Other ☐

Water Sample Taken? ☒ Yes ☐ No
Sample Preserved? ☒ Yes ☐ No
Lot Number: SA9354050 **Exp**: 12/20/20

Algae Sample Taken? ☐ Yes ☒ No
Sample Preserved? ☐ Yes ☐ No
Lot Number: _____ **Exp**: _____

Color: Tannic ☐ Green (Algae) ☐ Clear ☒ Other (Specify) _____

Clarity: Clear ☒ Slightly Turbid ☐ Turbid ☐ Opaque ☐

System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) _____

ABUNDANCE

	Not Obs.	Rare	Common	Abundant
Periphyton:	☐	☒	☐	☐
Fish:	☐	☐	☒	☐
Aquatic Plants:	☐	☐	☒	☐
Iron/Sulfur Bacteria:	☒	☐	☐	☐

AMBIENT FIELD CONDITIONS / NOTES:
☒ The antecedent hydrologic conditions have been met to my best knowledge.

SAMPLING TEAM

CHRIS HORMUTH

NICOLE REISTAD

SIGNATURE:

[Signature]

DATE:

3/30/2021

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Popash Creek County: Lee Date: 12/28/20 Investigators: Chris Harnoth, Nicole Reistad

STORET Station Number: G35D0079

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover	Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover
0	1	N			60	1	N		
	2					2			
	3					3			
	4		✓			4			
	5		✓	90		5			96
	6		✓			6			
	7					7			
	8					8			
	9	✓				9	✓		
10	1	N	✓		70	1	N		
	2					2			
	3					3			
	4					4			
	5			96		5			96
	6					6			
	7					7			
	8	✓				8	✓		
	9	✓				9	✓		
20	1	N	✓		80	1	N		
	2					2			
	3					3			
	4					4			
	5			96		5			72
	6					6			
	7					7			
	8	✓				8	✓		
	9	✓				9	✓		
30	1	N	✓		90	1	N		
	2					2			
	3					3			
	4		✓			4		✓	
	5		✓	90		5		✓	96
	6		✓			6		✓	
	7					7			
	8	✓				8	✓		
	9	✓				9	✓		
40	1	N			100	1	N		
	2					2			
	3					3			
	4					4		✓	
	5			96		5		✓	96
	6					6			
	7					7			
	8	✓				8	✓		
	9	✓				9	✓		
50	1	N				1	N		
	2					2			
	3					3			
	4					4		✓	
	5			62		5		✓	96
	6					6			
	7					7			
	8	✓				8	✓		
	9	✓				9	✓		

Secchi depth 0.5
Estimated? N

points ranked 4-6 0
total points assessed 99
% points ranked 4-6 0

Check accompanying data collected at same site/date.
Algal mat sample ☐
Linear Veg Survey ☒
Habitat Assessment ☒
SCI/Biorecon ☐
Water sample ☒
RQ- 2020-12-14-49

Algal Thickness Rank	
N	rough, no algae, slimy, algae up to 1mm
3	>1mm - 6mm
4	>6mm - 20mm
5	>20mm - 10 cm
6	>10 cm

Record "N" and check "Estimated" for points deeper than the Secchi depth; algae are presumed absent. Check "Estimated" if thickness estimated for deep points which can be seen but not reached.
Record "X" for points shallower than Secchi depth for which substrate cannot be seen or reached with the hand. No estimated rank.
Record canopy cover as the number of small densiometer quadrants (out of 96) that HAVE canopy cover. Measure facing upstream at point 4, 5, or 6.
Collect algal mat sample following DEP SOP FS 7240 if the percentage of total sampled points with a thickness rank of 4, 5, or 6 is >20%.

Waterbody: Popash Creek	Date: 12/28/20	County: Lee	Storet Number: 635D0079
Analyst: Chris Hornum	Signature:		

Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1m² of taxa present). Note in the boxes below if no dominant are selected, and note total macrophyte abundance rank for each section. Only the most common taxa are listed, so use blank spaces for additional taxa names.

Revision Date: January 2017