FDEP FORM FD 9000-3: PHYSICAL/CHEMICAL CHARACTERIZATION FIELD SHEET

SAMPLE ID 74081 ORG ID 21FLWGSP LATITUDE N 30.141057
COUNTY Bay STORET # 32030002 LONGITUDE W -85.407241
DATE 1.22.15 TIME 1630 EST SAMPLING AGENCY FDEP
SITE NAME SANDY CREEK @ 22
FIELD ID/NAME SANDY22REF RECEIVING BODY OF WATER East Bay (of St. Andrew Bay)

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)
	X						

Landscape Development Intensity Index (LDI): 1.41

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 : 718 Right Bank : 718

Hydrologic Modification Score (per FT 3101) : 2

High Water Mark: 1.5 (m) + .3 (above present water level) = 1.8 (above bed) (present depth)

Artificially Impounded ☐ Yes ☒ No

Typical Width (m) Depth (m)/Velocity (m/sec) Transect: 6 m wide

.33 m/s	.33 m/s	.33 m/s @ 80m mark
.3 m deep	m deep	m deep

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

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

SEDIMENT / SUBSTRATE

Sediment Oils ☒ Absent ☐ Slight ☐ Moderate ☐ Profuse

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

Smothering of Substrates

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

SUBSTRATE TYPE

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

	% Coverage	INVERT # Times Sampled	PERI # Times Sampled
Woody Debris (Snags)	2.5	4	
Undercut Banks / Roots	~1	4	
Leaf Packs or Mat	~1.5	4	
Aquatic Vegetation	~1.5	4	
Rock or Shell Rubble..			
Sand.....	94	4	
Mud / Muck / Silt			
Other			
Other			

ABUNDANCE

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

WATER QUALITY

	Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)
Top :	0.15	15.31	4.80	8.95	89.3	42		
Mid:								☒ VOB
Bottom								TOTAL DEPTH

Meter ID: YSI #7 — TOTAL DEPTH: 0.3

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

Water Surface Oils Normal ☒ Sheen ☐ Globs ☐ Slick ☐ Other ☐

Water Sample Taken? ☒ Yes ☐ No
Sample Preserved? ☒ Yes ☐ No
Lot Number: 58101 Exp: 3/31/15

Color Tannic ☒ Green (Algae) ☐ Clear ☒ Other (Specify) ☐ slight tannic much less than June 2014 visit

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

Clarity Clear ☒ Slightly Turbid ☐ Turbid ☐ Opaque ☐

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

AMBIENT FIELD CONDITIONS / NOTES:
overcast, cool
some smothering.
SCI 2012 - 69

☒ The antecedent hydrologic conditions have been met to my best knowledge.

SAMPLING TEAM Jackson, O'Neal, Niesen, Olney

SIGNATURE : Ashley Oneal DATE : 1.22.15

Revision Date: September 19, 2012

DEP Fo[illegible]FD 9000-5 Stream/River Habitat Assess[illegible]nt Field Sheet

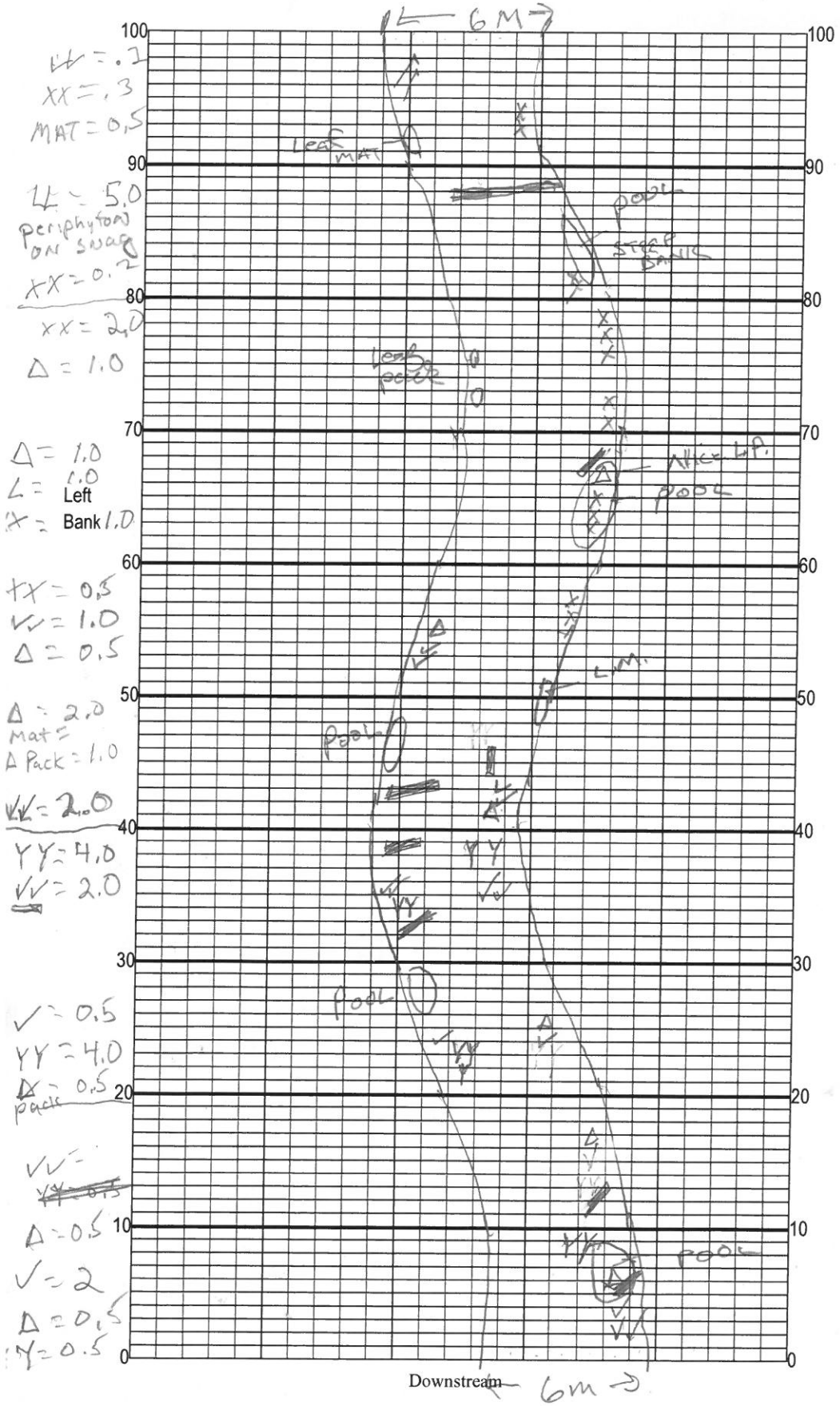
SAMPLING AGENCY: FDEP		STORET STATION NUMBER: 32030002	DATE (MM/DD/YY): 1.22.15	RECEIVING BODY OF WATER: East Bay of SAB
REMARKS: -	COUNTY: BAY	LOCATION: SANDY CREEK		FIELD ID/NAME: SANDY22REF

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components **Substrate Diversity** 17	Four or more major productive habitats present [snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock] 20 19 18 (17) 16	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh leaves or snags) 15 14 13 12 11	Two major productive habitats present. Less than desirable habitat, frequently disturbed or removed 10 9 8 7 6	One or less major productive habitat. Lack of habitat is obvious, substrates unstable or smothered 5 4 3 2 1
Substrate Availability ~~8~~ 6 yo.	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 LO 10 9 ~~8~~ 7 (6)	Less than 5% major productive habitat 5 4 3 2 1
Water Velocity 20	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 16	Max. observed at typical transect: >0.1 to 0.25 m/sec 0.25 0.21 0.17 0.13 >0.1 15 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 13 Primary Score 56	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. 15 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 **Artificial Channelization** 20	Expected sinuosity given the stream width. No evidence of dredging or artificial straightening. No spoil banks. (20) 19 18 17 16	Good sinuosity within old channelized area. Evidence of dredging in the past (>25 yrs) but mostly recovered. 15 14 13 12 11	Straightened with trapezoidal cross section, but has a small degree of sinuosity developed within channelized area. 10 9 8 7 6	Straightened or engineered by dredging, has trapezoidal or box cut cross section, lacks required pools. May have spoil banks. 5 4 3 2 1
Bank Stability Right Bank 4 Left Bank 4	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankful to top of bank. Bankfull is within or above the root zone with few raw, eroded areas. 10 9	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 10 Left Bank 10	Width of vegetation greater than 18 m 10 9	Width of vegetation >12 to 18m 8 7 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 3 2 1
Riparian Zone Vegetation Quality Right Bank 10 Left Bank 10 Secondary Score 68	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 9	>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. 5 4	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). 3 2 1

124 **TOTAL SCORE**

Date: 1/22/15	Analyst: Niesen, O'Neal, Jackson, Olney	Signature: Ashley Oneal

DEP-SOP-001/01 Form FD 9000-4
Stream/River Habitat Sketch Sheet



Location: SANDY CREEK @ CR 22

Date: 1.22.15

Sampler: L. OLNEY

100 m: Latitude	
Longitude	
0 m: Latitude	
Longitude	

Substrates: Code key, draw proportionate habitat abundance.		%
VV	Snags	2.5
XX	Roots/undercut banks	1
Δ	Leaf Packs (or mats)	1.5
YY	Aquatic Macrophytes	1.5
	Pools — total # observed = ____ ; # range expected = ____	

Average width 6.0 m

Average depth 0.3 m

Velocity measured at 80 meter mark. = 0.33 M/S

WQ & chemistry taken at 100 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:

CYR RAC, Que Nig
CLI MOR, MYR CER
VAL ELL
Myriophyllum ~~total~~ sp.

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

Revision Date: June 2, 2011

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Sandy Creek | County: Bay | Date: 1-22-15 | Investigators: O'Neal, Niesen

STORET Station Number: 32030002

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover
0	1	N		
	2	N		
	3	N		
	4	N		
	5	N		87
	6	N		
	7	N		
	8	N		
	9	N		
10	1	N		
	2	N		
	3	N		
	4	N	X	
	5	N	X	50
	6	N		
	7	N		
	8	N		
	9	N	X	
20	1	N		
	2	N		
	3	N		
	4	N		
	5	N		51
	6	N		
	7	N		
	8	N	X	
	9	N	X	
30	1	N		
	2	N		
	3	N		
	4	N		
	5	N		71
	6	N		
	7	N		
	8	N		
	9	3		
40	1	N		
	2	N		
	3	N		
	4	N		
	5	3		39
	6	N		
	7	N		
	8	N		
	9	3		
50	1	N		
	2	N		
	3	N		
	4	N		
	5	N		32
	6	N		
	7	N		
	8	N		
	9	N		

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover
60	1	N		
	2	N		
	3	N		
	4	N		
	5	N		24
	6	3		
	7	N		
	8	N		
	9	N		
70	1	N		
	2	N		
	3	N		
	4	N		
	5	N		64
	6	N		
	7	N		
	8	N		
	9	N		
80	1	N		
	2	MNP 5		
	3	6 5		
	4	4		
	5	5		15
	6	5	X	
	7	N	X	
	8	N		
	9	N		
90	1	N		
	2	N		
	3	N		
	4	N		
	5	N		16
	6	N		
	7	N		
	8	N		
	9	N		
100	1	N		
	2	N		
	3	N		
	4	N		
	5	N		31
	6	N		
	7	N		
	8	N		
	9	N		

Myriophyllum (tiny bit)

Suwannee

Secchi depth	VOB
Estimated?	

# points ranked 4-6	5
total points assessed	99
% points ranked 4-6	5

Check accompanying data collected at same site/date.	
Algal mat sample	
Linear Veg Survey	✓
Habitat Assessment	✓
SCI/Biorecon	✓
Water sample	✓
RQ-	

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

FORGOT SECCHI

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%.

Form FD 9000-32 **FDEP Linear Stream Vegetation Survey (DEP SOP FS 7320)** Revised 6/12/12

Waterbody: Sandy Creek | Date: 1/22/15 | County: Bay | Storet Number:

Analyst: Nieseh, O'Neal | Signature: [signature] | 320 30023

Comments:

Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1 m^2 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.

HERBACEOUS SPECIES	Meter Mark 0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	Specimen collected (check)
Alternanthera philoxeroides											
Bacopa caroliniana											
Bacopa monneri											
Bidens mitis											
Boehmeria cylindrica											
Centella asiatica											
Cephalanthus occidentalis											
Ceratophyllum demersum											
Chara											
Cicuta maculata											
Cladium jamaicense											
Colocasia esculenta											
Crinum americanum											
Diodia virginiana											
Eichhornia crassipes											
Eleocharis (wispy viviparous)											
Hydrilla verticillata											
Hydrocotle											
Hygrophila polysperma											
Hymenocallis											
Itea virginica											
Lachnanthes caroliniana											
Landoltia punctata											
Lemna											
Limnophila sessiflora											
Ludwigia leptocarpa											
Ludwigia palustris											
Ludwigia peruviana											
Ludwigia repens											
Luziola fluitans											
If no Dominant or Co-Dominant were selected, indicate with an "X"											
Indicate % cover macrophytes per section											
0-5% Macrophyte Coverage	X	—	—	—	—	—	—	—	—	X	
>5 and ≤10% Macrophyte Coverage											
>10 and ≤25% Macrophyte Coverage											
>25 and ≤50% Macrophyte Coverage											
> 50% Macrophyte Coverage											

HERBACEOUS SPECIES	Meter Mark 0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	Specimen collected (check)
Micranthemum glomeratum											
Micranthemum umbrosum		MH									
Myriophyllum ~~aquaticum~~		X	✓				✓	✓	✓		✓
Najas guadelupensis											
Nuphar luteum											
Orontium aquaticum											
Panicum hemitomon											
Panicum repens											
Panicum rigidulum											
Pistia stratioides											
Polygonum glabra											
Polygonum hydropiperoides											
Polygonum punctatum											
Pontedaria cordata											
Potamogeton illinoensis											
Ruellia simplex											
Sacciolepis striata											
Sagittaria kurziana											
Sagittaria lancifolia											
Sagittaria latifolia											
Salix caroliniana											
Salvinia minima											
Samolus parviflora											
Saururus cernuus											
Typha											
Vallisneria americana											
Zizania aquatica											
Sagittaria sp							✓				✓

Form FD9000-28 Water Field Form 031306_FD9000-28.doc

SITE NAME: Sandy Creek @ 22 DATE: 1/22/15 TIME 1030 (military) (EST)/CST DEPTH^: .1 ft (m) FIELD ID: Sandy22Ref

SAMPLING TEAM MEMBERS	WQ MEASUREMENTS	DOCUMENTATION	SAMPLE COLLECTION	PRESERVATION	PRESERVATION CHECK
Olney	X				
Jackson		X	X	X	X
Niesen					
O'Neal		X			

SAMPLING EQUIPMENT

- [x] Sample Container
- [ ] Pole
- [ ] Pump ID#: _____
- [ ] Tubing type: _____
- [ ] Other _____
- [ ] Other _____

WATER QUALITY MEASUREMENTS

Instrument ID: YSI #7

COLLECTION MODE

- [x] Wading
- [ ] Diving
- [ ] From Shore
- [ ] Other _____

Via Boat
- [ ] Canoe
- [ ] Electric Motor
- [ ] Gasoline Motor

Parameter Suite	Parameter(s)/Method	Matrix Code*	Preservation**	Preservative Lot #	pH Check	# Bottles ***
Preserved Nutrients	[x] TKN [x] TP [ ] NOx [x] NH3 [x] TOC [ ] Total N [ ] Other:	SW	[x] Ice [x] H_2SO_4	58101	[x] <2	1
Filtered Nutrients	[ ] oP [ ] Other:	W	[ ] Ice [ ] .45 um Filter			
Unpreserved Nutrients	[ ] NO_2 [ ] NO_3 [ ] SO4 [ ] Other:	W	[ ] Ice			
Physical/Aggregate Properties	[ ] TDS [x] TSS [ ] TS [x] Turbidity [x] Alk [x] Color [ ] Other:	SW	[x] Ice			1
Chlorophyll	[x] CHL-PPTN-W	W	[ ] Ice			1
BOD	[ ] BOD-INHB [ ] BOD-UNIN	W	[ ] Ice			
Microbiology	MF: [x] E coli [ ] T Coli [x] F Coli [ ] Entero [ ] F Strep	SW	[x] Ice			2
Macroinvertebrates	[x] MI-FW-QLDC [ ] MI-FW-QLBR [ ] MI-FW-QNNC [ ] MI-MN-QNNC	SW	[x] Formalin			3
Phytoplankton	[ ] PKD-QN-C [ ] DTY-QN-C	W	[ ] Lugol's			
Periphyton	[ ] PRN-QL-C [ ] DTM-QL-C [ ] PRN-QN-C [ ] DTM-QN-C	W	[ ] Formalin			
AGP	[ ] AA-AGP [ ] AA-LIM-NUT	W	[ ] Ice			
Metals	[ ] W-ICP [ ] W-FIAS [ ] W-ICPMS [ ] W-ICP-Tr	W	[ ] HNO_3		[ ] <2	
Filtered Metals	[ ] W-ICP-F [ ] W-FIAS-F [ ] W-ICPMS-F [ ] W-ICP-Tr-F	W	[ ] HNO_3 [ ] .45 um Filter		[ ] <2	
Mercury	[ ] W-HG-AF	W				
BaseNeutral / Acid Extractable	[ ] W-BNA [ ] W-AE [ ] W-BN [ ] W-PAH	W	[ ] Ice			
	[ ] W-FL-PRO [ ] W [ ] Other:	W	[ ] Ice [ ] H_2SO_4		[ ] <2	
Pesticides	[ ] W-PEST-CL [ ] W-PCB [ ] W PEST-NP [ ] W-PSCL-PCB	W	[ ] Ice			
	[ ] W-NP-AA-SF [ ] W-PC-AA-SF [ ] W-PSHRB-NP [ ] W-SLFN-UREA [ ] W-SULFN-LC [ ] Other:	W	[ ] Ice			
	[ ] W-ACIDHERB	W	[ ] Ice [ ] H_2SO_4			
	[ ] W-CARB	W	[ ] Ice [ ] MCAA			
Purgeables	[ ] W-VOC-MS	W	[ ] Ice			
	[ ] W-VOC-MS-A	W	[ ] Ice [ ] HCl			
Bioassay	Specify Test:	W	[ ] Ice			
OTHER	Sucralose	SW	[ ] Other: ice			2

Notes: _____

Use one line for each set of sample (as supplied by the laboratory) containers. Use separate sheet for field or laboratory duplicate or blank or different water depth

^Enter "S" for surface if collected at a depth less than or equal to 1 foot

*Matrix Codes (Insert prefix): **SW** = Surface Water **GW** = Groundwater **DW** = Drinking Water **WW** = Wastewater **O** = Other: _____

****PRESERVATIVES:1 ml added unless otherwise noted**

***Enter number of containers supplied by the laboratory for the test (e.g., 3 for volatile organics, etc.)

DEP Bureau of Laboratories Water Sample Collection Record

(Use with FDEP SOP-001/01 Form FD 9000-3 Physical/Chemical Characterization Field Sheet)