

(Initials/Date)



Site Name: Owen Creek

Date: 10/03/2019

Sampler: _____

100 m: Latitude _____

Longitude _____

0 m: Latitude _____

Longitude _____

Substrates: Code key, draw proportionate habitat abundance. %

☐ Snags 5
☐ Roots/undercut banks 1
☐ Leaf Packs (or mats) _____

☐ Aquatic Macrophytes _____

☐ ROCKS _____

☐ _____

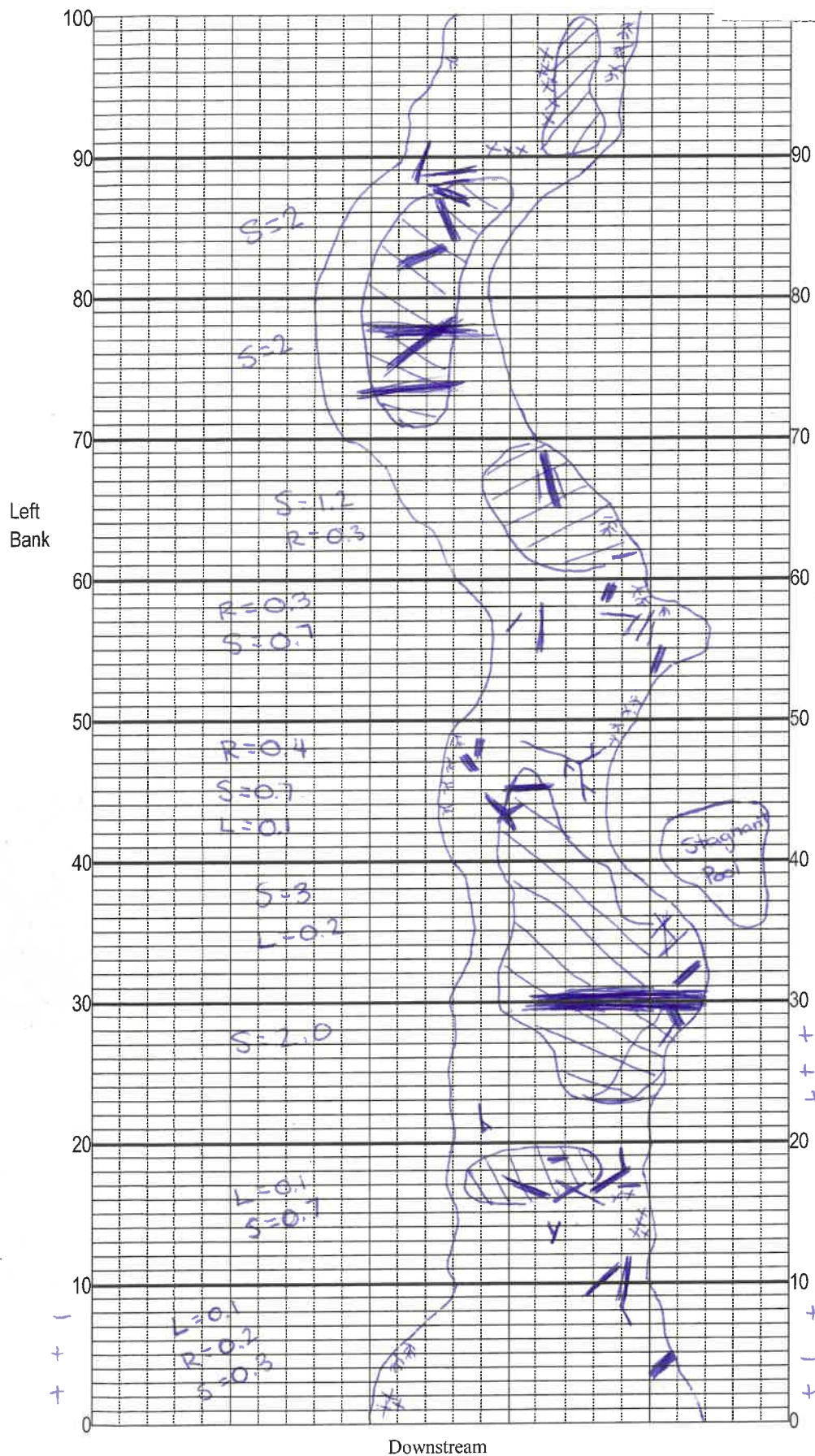
☐ Pools total # observed = 5
range expected = 4
Average width 3 mAverage depth 0.5 mVelocity measured at 0, 50, 100 meter mark.WQ & chemistry taken at 100 meter mark.

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:



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



EP FORM FD 9000-25 Rapid Periphyton Survey Field Sh

Site Name: Owen Creek

Investigators: BP

County: Manatee

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		52	60	1	N		82
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
10	1	↓		93	70	1	↓		86
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
20	1	↓		95	80	1	↓		4
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
30	1	↓		76	90	1	↓		64
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
40	1	↓		95	100	1	↓		94
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
50	1	↓		96		1	↓		
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								

STORET Station Number: see label

 Secchi depth: 5
 Estimated?: No

 # points ranked 4-6: None
 total points assessed: 96
 % 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-2019-09-30-87

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%.



DEP Form FD 9000-5 Stream/River Habitat Assessment Sheet

Site Name: Owen Creek

STORET STATION
NUMBER: see sticker

DATE (MM/DD/YY):

10/3/19

SAMPLING AGENCY:

FDEP SWROC

FIELD ID/NAME: see sticker

LOCATION:

COUNTY:

Manatee

RECEIVING BODY OF WATER:

Myakka River

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>10</u>	20 19 18 17 16	15 14 13 12 11	<u>10</u> 9 8 7 6	5 4 3 2 1
Substrate Availability <u>6</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 <u>6</u>	Less than 5% major productive habitat 5 4 3 2 1
Water Velocity <u>10</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 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 <u>0.1</u> 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>41</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>17</u>	20 19 18 <u>17</u> 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Bank Stability	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.	Only meets 2 of the 3 requirements for optimal bank stability.	Only meets 1 of the 3 requirements for optimal bank stability.	Bankfull < 60% of bank height. Slope of bank > 60°. Bankfull is below the root zone with raw, eroded areas.
Right Bank <u>6</u> <u>8</u> Left Bank	10 9	<u>8</u> 7 <u>6</u>	5 4	3 2 1
Riparian Buffer Zone Width	Width of vegetation greater than 18 m	Width of vegetation >12 to 18m	Width of vegetation 6 to 12 m. human activities close to system	Less than 6 m of buffer zone due to intensive human activities
Right Bank <u>9</u> <u>9</u> Left Bank	10 <u>9</u>	8 7 6	5 4	3 2 1
Riparian Zone Vegetation Quality	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.	>50% to 80% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Some disruption in community observed.	25% to 50% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Disruption obvious.	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions).
Right Bank <u>7</u> <u>7</u> Left Bank	10 9	8 <u>7</u> 6	5 4	3 2 1
Secondary Score <u>53</u>				

94 TOTAL SCORE

Date:

10/3/19

Analyst:

Ben Paswater

Signature:

Ben Paswater



Site Name: Owen Creek

1FLTPA

LATITUDE

LONGITUDE

SITE NAME: SEE SLICK

TIME

SAMPLING AGENCY FDEP SW ROC

DATE 10/3/19

RECEIVING BODY OF WATER Myakka River

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural ☐ 20 ☐ Silviculture ☐ Field/Pasture ☐ 80 ☐ Agricultural ☐ Residential ☐ Commercial ☐ Industry ☐ Other (Specify) ☐							Landscape Development Intensity Index (LDI) ☐
Local Watershed Erosion (select one): ☐ None ☒ Slight ☐ Moderate ☐ Heavy Local Watershed NPS Pollution: ☐ No evidence ☐ Slight ☒ Moderate ☐ Heavy				Typical Width (m) Depth (m)/Velocity (m/sec) Transect 1 1 3 m wide 7.0 m/s 7.0 m/s 7.0 m/s .2 m deep .8 m deep .2 m deep			
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: 18 Right Bank: 18				Hydrologic Modification Score (per FT 3101) ☐			
High Water Mark: 1.2 + .5 = 1.7 (m) (above present water level) (present depth) (above bed)				Artificially Impounded ☐ Yes ☒ No			
Artificially ☒ No ☐ Mostly recovered, more sinuous Channelized: ☐ Some recovery ☐ 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 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			WATER QUALITY Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat (%) Cond. (UMHO/CM) Salinity (PPT) SECCHI (M) Top: 0.2 24.8 6.96 6.29 76 548 0.26 .5 Mid: ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☒ VOB Bottom: ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ TOTAL DEPTH 15 Meter ID: Chewy			Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐ Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: Exp: Algae Sample Taken? ☐ Yes ☒ No Sample Preserved? ☐ Yes ☐ No Lot Number: Exp:		
Woody Debris (Snags) ☐ ☐ ☐ Undercut Banks / Roots ☐ ☐ ☐ Leaf Packs or Mat ☐ ☐ ☐ Aquatic Vegetation ☐ ☐ ☐ Rock or Shell Rubble ☐ ☐ ☐ Sand ☐ ☐ ☐ Mud / Muck / Silt ☐ ☐ ☐ Other ☐ ☐ ☐ Other ☐ ☐ ☐			Water Surface Oils Normal ☒ Sheen ☐ Globbs ☐ Slick ☐ Other ☐ Color Tannic ☐ Green (Algae) ☐ Clear ☒ Other (Specify) ☐			Clarity Clear ☒ Slightly Turbid ☐ Turbid ☐ Opaque ☐		
ABUNDANCE Not Obs. Rare Common Abundant Periphyton: ☐ ☐ ☒ ☐ Fish: ☐ ☐ ☐ ☒ Aquatic Plants: ☒ ☐ ☐ ☐ Iron/Sulfur Bacteria: ☒ ☐ ☐ ☐			System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☐			AMBIENT FIELD CONDITIONS / NOTES: ☒ The antecedent hydrologic conditions have been met to my best knowledge.		
SAMPLING TEAM Ben Paswater, Sarah Meyer			SIGNATURE: Ben Paswater			DATE: 10/3/19		



Site Name: Owen Creek

County:

Waterbody: See Sticker

Date:

Signature:

Analyst:

Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1 m² 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. **BOLD is exotic invasive**

HERBACEOUS SPECIES	Meter Mark										Specimen collected (check)	HERBACEOUS SPECIES	Meter Mark										Specimen collected (check)
	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100			0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	
Alternanthera philoxeroides												Micranthemum glomeratum											
Bacopa caroliniana (Lemon)												Micranthemum umbrosum											
Bacopa monnieri												Myriophyllum aquaticum											
Bidens mitis												Najas guadelupensis											
Boehmeria cylindrica												Nitella sp.											
Centella asiatica												Nuphar luteum											
Ceratophyllum demersum												Orontium aquaticum											
Chara sp.												Panicum hemitomon											
Cicuta maculata												Panicum repens											
Cladium jamaicense												Panicum rigidulum											
Colocasia esculenta												Pistia stratioides											
Commelina diffusa												Polygonum glabra											
Commelina virginica												Polygonum hydropiperoides											
Crinum americanum												Polygonum punctatum											
Cyperus												Pontedaria cordata											
Diodia virginiana												Potamogeton illinoensis											
Eichhornia crassipes												Ruellia simplex (Mex Petunia)											
Eleocharis (wispy viviparous)												Sacciolepis striata											
Fontinalis sp. (Aquatic Moss)												Sagittaria kurziana											
Fraxinus caroliniana												Sagittaria lancifolia											
Hydrilla verticillata												Sagittaria latifolia											
Hydrocotyle sp.												Salvinia minima											
Hygrophila polysperma												Samolus parviflora											
Hymenachne amplexicaulis												Saururus cernuus											
Hymenocallis												Sparganium americanum											
Lachnanthes caroliniana												Schoenoplectus americanus											
Landoltia punctata												Sphagneticola trilobata (Wedelia)											
Lemna sp.												Typha sp.											
Limnophila sessiflora												Urochloa mutica (Brachiaria)											
Ludwigia leptocarpa												Vallisneria americana											
Ludwigia palustris												Zizania aquatica											
Ludwigia peruviana																							
Ludwigia repens																							
Luziola fluitans																							
If no Dominant or Co-Dominant were selected, indicate with "X"																							
Indicate % cover macrophytes per section																							
0-5% Macrophyte Coverage																							
>5 and ≤10% Macrophyte Coverage																							
>10 and ≤25% Macrophyte Coverage																							
>25 and ≤50% Macrophyte Coverage																							
> 50% Macrophyte Coverage																							

NO SAV

Florida Department of Environmental Protection
Central Laboratory Submittal Form

Owen Creek Sites

Customer: SW-DIST

Requester: Judy Ashton

Field Report Prepared By: S Meyer

Project ID: SMP

Collected By: B Paswater + S Meyer

Sampling Agency: FDEP SW ROC

Location		☐ Comp ☒ Grab	Collection (comp begin or grab) Date <u>10/3/19</u> Time <u>1150</u>		☒ Eastern ☐ Central	Composite end Date _____ Time _____		Bottle Group(s) (See pg 2) A
Field ID	Field ID/WIN G3SW0053	Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen <u>6.29</u>	☒ mg/L ☐ % sat	Total Res. Chlorine (mg/L)		
WIN/STO		Temp (C) <u>24.8</u>	pH <u>6.96</u>	Sample Depth <u>0.3</u>	☐ ft ☒ m	Sp. Conductance (umho/cm) <u>548</u>		
Site Name: Owen Creek		Comments						
Latitude		☐ dd ☐ dms	Salinity (ppt)					

Location		☐ Comp ☒ Grab	Collection (comp begin or grab) Date <u>10/03/2019</u> Time <u>0950</u>		☒ Eastern ☐ Central	Composite end Date _____ Time _____		Bottle Group(s) A
Field ID	Field ID/WIN G3SW0056	Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen <u>1.08</u>	☒ mg/L ☐ % sat	Total Res. Chlorine (mg/L)		
WIN/STO		Temp (C) <u>25.0</u>	pH <u>6.50</u>	Sample Depth <u>0.2</u>	☐ ft ☒ m	Sp. Conductance (umho/cm) <u>780</u>		
Site Name: Mobley Ditch @ 70		Comments						
Latitude		☐ dd ☐ dms	Salinity (ppt) <u>0.38</u>					

Location		☐ Comp ☐ Grab	Collection (comp begin or grab) Date _____ Time _____		☐ Eastern ☐ Central	Composite end Date _____ Time _____		Bottle Group(s)
Field ID		Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)		
WIN/STORET #		Temp (C)	pH	Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm)		
Latitude		☐ dd ☐ dms	Longitude	☐ dd ☐ dms	Salinity (ppt)			
Comments								

Location		☐ Comp ☐ Grab	Collection (comp begin or grab) Date _____ Time _____		☐ Eastern ☐ Central	Composite end Date _____ Time _____		Bottle Group(s)
Field ID		Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)		
WIN/STORET #		Temp (C)	pH	Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm)		
Latitude		☐ dd ☐ dms	Longitude	☐ dd ☐ dms	Salinity (ppt)			
Comments								

Relinquished By: <i>Sarah Meyer</i>	Date/Time <u>10/03/2019 1700</u>	Shipping Method <u>FedEx</u>	Number of Coolers Shipped: <u>1</u>	Received By:	Date/Time
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Group: A	Bottle Type:	P-1L	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab	2
	ALKALINITY						
	TURBIDITY						
	W-CL-IC						
	W-COLOR						
	W-F						
	W-SO4-IC						
	W-TDS						
	W-TSS						
Group: A	Bottle Type:	BP-1L	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab	2
	CHLSUITE-W						
Group: A	Bottle Type:	QPCR-P-500ML	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab	2
	PCR-BACR						
	PCR-HF183						
Group: A	Bottle Type:	P-250ML-WI-THI	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab	2
	SW-AEL-ECQ				* Dropped @ Benchmark		
Group: A	Bottle Type:	BG-500ML	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab	2
	W-E8321-DI						
	W-E8321-MS						
Group: A	Bottle Type:	P-500ML	# of Bottles: 2	Preservative:	ICE And H2SO4	Enter Number of Bottles Sent to Lab	2
	W-NH3						
	W-NO2NO3						
	W-S-A-TP						
	W-TKN						
	W-TOC						
Group: A	Bottle Type:	P-125ML	# of Bottles: 2	Preservative:	FILTER-ICE	Enter Number of Bottles Sent to Lab	2
	W-PO4-F						

Benchmark EnviroAnalytical, Inc
1711 12th Street East
Palmetto, FL 34221
941-723-9986
941-723-6061 Fax

PO# _____

Client Information: **FDEP**

Address: 13051 N. Telecom Parkway

Tampa FL 33604

Phone # 815-470-5772

Report to: Judy.ashton@dep.state.fl.us

Invoice to: FDEP Micro Overflow

Project Name: RQ-2019-09-30-87

Laboratory Submission #

19100176

Sample Name	Sample Type ¹ / Sample Matrix ²	Collection		Container			Preservative ⁴	Parameters for Analysis	Laboratory Sample #
		Date	Time	Qty	Capacity	Type ³			
G3SW0056	G FSW	10/03/2019	0950	1				E Coli	1
G3SW0053	G FSW	10/03/2019	1150	1				E Coli	2

¹ "Sample Type" is used to indicate whether the sample was a grab (G) or whether it was a composite (C).

² "Sample Matrix" is used to indicate whether the sample is being discharged to drinking water (DW), groundwater (GW), surface water (SW), fresh surface water (FSW), saline surface water (SSW), soil, sediment (SDA/INT), or sludge (SLDO).

³ "Container Type" is used to indicate whether the container is plastic (P) or glass (G).

⁴ Sample must be refrigerated or stored in wet ice after collection. The temperature during storage should be less than or equal to 6°C (42.8°F). Under "Preservative," list any preservatives that were added to the sample container.

Instructions:

1. Each bottle has a label identifying sample ID, preservative contained in the bottle, sample type, client ID, and parameters for analysis.

2. The following information should be added to each bottle label after collection with permanent black ink: date and time of collection, sampler's name or initials, and any field number or ID.

3. All bottles not containing preservative may be rinsed with appropriate sample prior to collection.

4. The client is responsible for documentation of the sampling event. Please note special sampling events on the sample custody form.

Laboratory Sample Acceptability:

Temperature: 4.2°C

1	Collected / Relinquished By: <u>Sarah Meyer</u>	Date 10/03/2019	Time 1317	Received By: <u>[Signature]</u>	Date 10-3-19	Time 1317
2	Relinquished By: _____	Date	Time	Received By: _____	Date	Time