

# CALIBRATION AND VERIFICATION LOG (FDEP SOP FT 1000-FT 1500, FD 1000-FD 4000)

Boldly "X" this box if there are qualified data on this page.

Meter ID: Desi

RQ- 2020-01-06-05

Project: SCI Reference

Swansea

Notes: (1) Always wait for meter to stabilize before recording any readings.

(2) Report all digits displayed. Do not round before reporting measurements. (See special instructions for depth).

(3) For Calibrations, record calibrated meter reading. Do not record initial meter reading before calibration.

## Temperature (Quarterly) FT 1400

Date of Last Temperature Verification 10/2019

| DO DEP SOP FT 1500 | Name       | Date   | Time CT-ET | Temp °C | Baro-meter mmHg | D.O. Chart mg/L | Meter D.O. mg/L | % DO  | Probe Charge | Probe Gain | Pass / Fail | Lab / Field |
|--------------------|------------|--------|------------|---------|-----------------|-----------------|-----------------|-------|--------------|------------|-------------|-------------|
| Calibr.            | K. Appleby | 1/6/20 | 729        | 21.3    | 767.5           | 9.0             | 8.95            | 101.0 | —            | 1.05       | P/F         | D/F         |
| ICV                | ↓          | ↓      | 731        | 21.4    | 767.6           | 8.9             | 8.95            | 101.3 | —            | 1.05       | P/F         | L/F         |
| CCV                | ↓          | ↓      | 1535       | 22.8    | 764.8           | 8.7             | 8.74            | 101.5 | →            | 1.05       | P/F         | L/F         |
| CCV                |            |        |            |         |                 |                 |                 |       |              |            | P/F         | L/F         |

DO Acceptance criteria from Table  $\pm 0.3$  mg/L.

Rapid-Pulse Sensors: DO Gain Range 0.7 to 1.4; DO Charge Range 25-75.

Optical: DO gain range 0.85 to 1.15 (Pro DSS 0.75 to 1.50); DO charge N/A. Steady-state & Galvanic Sensors: DO Gain & Charge N/A.

| Spec. Cond. FT 1200 | Name       | Date   | Time CT-ET | Lot #   | Expir. Date | Standard $\mu$ mhos/cm | Meter Reading $\mu$ mhos/cm | Pass / Fail | Lab / Field |
|---------------------|------------|--------|------------|---------|-------------|------------------------|-----------------------------|-------------|-------------|
| Calibr.             | K. Appleby | 1/6/20 | 734        | 191018  | 10/2020     | 1000                   | 1000                        | P/F         | D/F         |
| ICV                 | ↓          | ↓      | 736        | 190711A | 7/2020      | 100                    | 103.8                       | P/F         | L/F         |
| CCV                 | ↓          | ↓      | 1537       | 191018  | 10/2020     | 1000                   | 1004                        | P/F         | L/F         |
| CCV                 |            |        |            |         |             |                        |                             | P/F         | L/F         |

Conductivity Acceptance criteria  $\pm 5\%$

| pH DEP SOP FT 1100 | Name       | Date   | Time CT-ET | Lot #   | Expir. Date | pH Buffer SU | Temp °C | Meter reading SU | mV     | Pass / Fail | Lab / Field |
|--------------------|------------|--------|------------|---------|-------------|--------------|---------|------------------|--------|-------------|-------------|
| Calibr.            | K. Appleby | 1/6/20 | 738        | 2902778 | 1/2021      | 7.00         | 22.8    | 7.00             | -35.4  | P/F         | D/F         |
| Calibr.            | ↓          | ↓      | 742        | 2907D62 | 7/2021      | 4.00         | 22.6    | 4.00             | 146.9  | P/F         | D/F         |
| Calibr.            | ↓          | ↓      | 745        | 2904E91 | 10/2020     | 10.00        | 22.7    | 10.00            | -205.3 | P/F         | D/F         |
| ICV                | ↓          | ↓      | 752        | 2907D62 | 7/2021      | 4.00         | 22.8    | 3.94             | 146.9  | P/F         | D/F         |
| CCV                | ↓          | ↓      | 1540       | 2902778 | 1/2021      | 7.00         | 23.1    | 7.09             | +36.3  | P/F         | D/F         |
| CCV                |            |        |            |         |             |              |         |                  |        | P/F         | L/F         |

pH Acceptance criteria  $\pm 0.2$  SU; mV pH 7 Range  $0 \pm 50$ ; mV pH 4 Range  $+180 \pm 50$ ; mV pH 10 Range  $-180 \pm 50$ ;

If mV are recorded: slope from 7 to 10 \_\_\_\_\_, slope from 4 to 7 \_\_\_\_\_ (both must be between 165 and 180 mV)

Does meter have a depth sensor that will be used to measure total depth & sample depth? YES / NO / NA (not surf. water project)

If YES, complete daily Calibr. & ICV below and list date of last quarterly depth verification: 10/2019

If NO, what will be used? (circle one) Secchi Disk Line / Sonar Unique ID: \_\_\_\_\_; Date of last verification: \_\_\_\_\_

| Depth Sensor (Daily Calibration & ICV) | Name       | Date     | Time CT-ET | Calibrated Value (0.00 or Offset), meters | ICV Value, meters | Pass / Fail | Lab / Field |
|----------------------------------------|------------|----------|------------|-------------------------------------------|-------------------|-------------|-------------|
| Pressure mode in air                   | K. Appleby | 1/6/2020 | 753        | 0.000                                     | 0.000             | P/F         | L/F         |

Report two decimal places. Round numbers  $\leq 4$  down,  $\geq 5$  up. ICV acceptance criteria  $\pm 5\%$  or  $\pm 0.05$ m, whichever is greater.

COMMENTS:



# FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2019

Data Qualified?

Yes ☒ No ☐

WIN Station Name:

Robinson CR @ West Corinth off CR 246

Date:

(mm/dd/yyyy)

1/6/2020

WIN/ Field ID:

21010017

WBID:

3448

Latitude:

30.31233

(Decimal Degrees)

County:

Suwannee

ORG ID:

21FLA

Longitude:

82.642861

(Decimal Degrees)

Receiving Body of Water:

Suwannee River

RQ:

2020-01-06-50

| Sampling Team Members                                                                      |      |                                                                                                                                                                                                                                                          |                  |                 | WQ Measurements                                  | Sample Collection                   | Documentation                                                                     | Preservation                        | Preservation Check                  | Sampling Equipment                                   |                                        |                               |  |  |                                              |  |  |  |  |
|--------------------------------------------------------------------------------------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------|--------------------------------------------------|-------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|------------------------------------------------------|----------------------------------------|-------------------------------|--|--|----------------------------------------------|--|--|--|--|
| K. Appleby<br>S. Parrish                                                                   |      |                                                                                                                                                                                                                                                          |                  |                 | <input checked="" type="checkbox"/>              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/>                                               | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> Sample Container | <input type="checkbox"/> Van Dorn      | <input type="checkbox"/> Pole |  |  |                                              |  |  |  |  |
|                                                                                            |      |                                                                                                                                                                                                                                                          |                  |                 |                                                  |                                     |                                                                                   |                                     |                                     | <input type="checkbox"/> Carboy                      | <input type="checkbox"/> Syringe       |                               |  |  |                                              |  |  |  |  |
|                                                                                            |      |                                                                                                                                                                                                                                                          |                  |                 |                                                  |                                     |                                                                                   |                                     |                                     | <input type="checkbox"/> Dipper                      | <input type="checkbox"/> Other         |                               |  |  |                                              |  |  |  |  |
|                                                                                            |      |                                                                                                                                                                                                                                                          |                  |                 | Depth Measured with                              |                                     |                                                                                   |                                     |                                     | DSC                                                  |                                        |                               |  |  |                                              |  |  |  |  |
|                                                                                            |      |                                                                                                                                                                                                                                                          |                  |                 | Equipment ID                                     |                                     |                                                                                   |                                     |                                     |                                                      |                                        |                               |  |  |                                              |  |  |  |  |
|                                                                                            |      |                                                                                                                                                                                                                                                          |                  |                 |                                                  |                                     |                                                                                   |                                     |                                     | Collection Method                                    |                                        |                               |  |  |                                              |  |  |  |  |
|                                                                                            |      |                                                                                                                                                                                                                                                          |                  |                 | <input checked="" type="checkbox"/> Wading       |                                     |                                                                                   |                                     |                                     | <input type="checkbox"/> Canoe/Kayak                 |                                        |                               |  |  |                                              |  |  |  |  |
|                                                                                            |      |                                                                                                                                                                                                                                                          |                  |                 | <input type="checkbox"/> From Shore              |                                     |                                                                                   |                                     |                                     | <input type="checkbox"/> Electric Motor              |                                        |                               |  |  |                                              |  |  |  |  |
|                                                                                            |      |                                                                                                                                                                                                                                                          |                  |                 | <input type="checkbox"/> Other                   |                                     |                                                                                   |                                     |                                     | <input type="checkbox"/> Gasoline Motor              |                                        |                               |  |  |                                              |  |  |  |  |
| Water Level: Dry/ Pooled/ Low / Normal / <u>High</u> / Flooded                             |      |                                                                                                                                                                                                                                                          |                  |                 | Meter ID# DSC                                    |                                     |                                                                                   |                                     |                                     | Matrix: <u>Fresh</u> / Marine / DI                   |                                        |                               |  |  |                                              |  |  |  |  |
| Photos: Yes / <u>No</u>                                                                    |      |                                                                                                                                                                                                                                                          |                  |                 | Flow: No Flow / Intestinal / <u>Flowing</u> / NA |                                     |                                                                                   |                                     |                                     | Tide: Rising/ Falling/ Slack/ <u>NA</u>              |                                        |                               |  |  | Tide Times: High <u>    </u> Low <u>    </u> |  |  |  |  |
| Time Zone                                                                                  | Time | Total Depth (m)                                                                                                                                                                                                                                          | Sample Depth (m) | Secchi Disk (m) | DO (mg/L)                                        | DO (%SAT)                           | pH                                                                                | Salinity (PPTH)                     | Sp COND (umhos/cm)                  | Temp. (C°)                                           |                                        |                               |  |  |                                              |  |  |  |  |
| EST                                                                                        | 1025 | 0.33                                                                                                                                                                                                                                                     | 0.15             | 0.3             | 8.80                                             | 80.0                                | 5.56                                                                              | 0.03                                | 73.3                                | 11.1                                                 |                                        |                               |  |  |                                              |  |  |  |  |
| CEN                                                                                        |      |                                                                                                                                                                                                                                                          |                  |                 |                                                  |                                     |                                                                                   |                                     |                                     |                                                      |                                        |                               |  |  |                                              |  |  |  |  |
| Biological Samples Collected: None <u>HA</u> <u>SCI</u> <u>RPS</u> Algae ID LVS LVI Other: |      |                                                                                                                                                                                                                                                          |                  |                 |                                                  |                                     |                                                                                   |                                     |                                     |                                                      |                                        |                               |  |  |                                              |  |  |  |  |
| SBIO ID Numbers: SBIO-ID: HA-ID: RPS-ID: Macrophyte-ID: LIMS#:                             |      |                                                                                                                                                                                                                                                          |                  |                 |                                                  |                                     |                                                                                   |                                     |                                     |                                                      |                                        |                               |  |  |                                              |  |  |  |  |
| Parameter Suite                                                                            |      | Parameter Methods                                                                                                                                                                                                                                        |                  |                 |                                                  |                                     | Preservation                                                                      |                                     | Lot#                                | Expiration                                           | pH Check                               |                               |  |  |                                              |  |  |  |  |
| Preserved Nutrients                                                                        |      | <input checked="" type="checkbox"/> W-NH3 / <input checked="" type="checkbox"/> W-NO2NO3 / <input checked="" type="checkbox"/> W-TKN / <input checked="" type="checkbox"/> W-TOC / <input checked="" type="checkbox"/> W-S-A-TP                          |                  |                 |                                                  |                                     | <input checked="" type="checkbox"/> Ice <input checked="" type="checkbox"/> H2SO4 |                                     | 5A9203100                           | 7/22/20                                              | <input checked="" type="checkbox"/> <2 |                               |  |  |                                              |  |  |  |  |
| Metals                                                                                     |      | <input checked="" type="checkbox"/> W-ICPMS <input checked="" type="checkbox"/> W-ICP                                                                                                                                                                    |                  |                 |                                                  |                                     | <input checked="" type="checkbox"/> Ice <input checked="" type="checkbox"/> HNO3  |                                     | NA9129070                           | 5/9/20                                               | <input checked="" type="checkbox"/> <2 |                               |  |  |                                              |  |  |  |  |
| Filtered Nutrients                                                                         |      | <input checked="" type="checkbox"/> W-PO4-F <input checked="" type="checkbox"/> Field Filtered 0.45 um Filter                                                                                                                                            |                  |                 |                                                  |                                     | <input checked="" type="checkbox"/> Ice                                           |                                     |                                     |                                                      |                                        |                               |  |  |                                              |  |  |  |  |
| Chlorophyll                                                                                |      | <input checked="" type="checkbox"/> CHLSUITE-W                                                                                                                                                                                                           |                  |                 |                                                  |                                     | <input checked="" type="checkbox"/> Ice                                           |                                     |                                     |                                                      |                                        |                               |  |  |                                              |  |  |  |  |
| Physical/Aggregate (Fresh)                                                                 |      | <input checked="" type="checkbox"/> Alkalinity / W-F / W-TSS / TURBIDITY / W-CL-IC / W-COLOR / W-SO4-IC / W-TDS                                                                                                                                          |                  |                 |                                                  |                                     | <input checked="" type="checkbox"/> Ice                                           |                                     |                                     |                                                      |                                        |                               |  |  |                                              |  |  |  |  |
| Physical/Aggregate (Marine)                                                                |      | <input type="checkbox"/> Alkalinity / W-BR-IC / W-F / W-TSS / TURBIDITY                                                                                                                                                                                  |                  |                 |                                                  |                                     | <input type="checkbox"/> Ice                                                      |                                     |                                     |                                                      |                                        |                               |  |  |                                              |  |  |  |  |
| Macroinvertebrates                                                                         |      | <input checked="" type="checkbox"/> MI-FW-QLDC                                                                                                                                                                                                           |                  |                 |                                                  |                                     | <input checked="" type="checkbox"/> Formalin                                      |                                     |                                     |                                                      |                                        |                               |  |  |                                              |  |  |  |  |
| Periphyton                                                                                 |      | <input type="checkbox"/> ALGAE-ID                                                                                                                                                                                                                        |                  |                 |                                                  |                                     | <input type="checkbox"/> Ice                                                      |                                     |                                     |                                                      |                                        |                               |  |  |                                              |  |  |  |  |
| Microbiology                                                                               |      | <input checked="" type="checkbox"/> E Coli <input type="checkbox"/> F Coli <input type="checkbox"/> Enterococci                                                                                                                                          |                  |                 |                                                  |                                     | <input checked="" type="checkbox"/> Ice                                           |                                     |                                     |                                                      |                                        |                               |  |  |                                              |  |  |  |  |
| Molecular                                                                                  |      | <input type="checkbox"/> PCR-FILTER <input type="checkbox"/> PCR-BacR <input type="checkbox"/> PCR-GULL2<br><input checked="" type="checkbox"/> PCR-HF183 <input checked="" type="checkbox"/> PCR-DG3 <input checked="" type="checkbox"/> PCR-GFD        |                  |                 |                                                  |                                     | <input checked="" type="checkbox"/> Ice                                           |                                     |                                     |                                                      |                                        |                               |  |  |                                              |  |  |  |  |
| Tracers                                                                                    |      | <input checked="" type="checkbox"/> W-E8321-DI <input checked="" type="checkbox"/> W-E8321-MS                                                                                                                                                            |                  |                 |                                                  |                                     | <input checked="" type="checkbox"/> Ice                                           |                                     |                                     |                                                      |                                        |                               |  |  |                                              |  |  |  |  |
| Pesticides                                                                                 |      | <input checked="" type="checkbox"/> W-PSNP-TQ <input type="checkbox"/> W-CT-CL-R <input checked="" type="checkbox"/> W-E8321-DI<br><input type="checkbox"/> W-PCL-SQ-R <input checked="" type="checkbox"/> W-E8321-MS <input type="checkbox"/> W-CARB-AA |                  |                 |                                                  |                                     | <input checked="" type="checkbox"/> Ice                                           |                                     |                                     |                                                      |                                        |                               |  |  |                                              |  |  |  |  |
| Phytoplankton                                                                              |      | <input type="checkbox"/> DTY-QN-C <input type="checkbox"/> PKD-QN-C                                                                                                                                                                                      |                  |                 |                                                  |                                     | <input type="checkbox"/> Ice                                                      |                                     |                                     |                                                      |                                        |                               |  |  |                                              |  |  |  |  |

Notes:

Reference S.C.I.

WIN ID/Field ID:



21010017

Robinson CR @ West Corinth off CR 246

Signature:

Jeremy Carr

Date:

1/6/2020

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)



# Florida Department of Environmental Protection

## Central Laboratory Submittal Form

Customer: NE-DIST

Project ID: SMP

Requester: Jeremy M. Parrish

Field Report Prepared By:

Collected By:

Sampling Agency:

J. Parrish + K. Appleby

Kim Appleby  
FDEP NE ROL

|              |                                                                                                                |           |                                                                           |                                                            |                                                                                 |                                                                            |                                   |      |
|--------------|----------------------------------------------------------------------------------------------------------------|-----------|---------------------------------------------------------------------------|------------------------------------------------------------|---------------------------------------------------------------------------------|----------------------------------------------------------------------------|-----------------------------------|------|
| Location     | WIN ID/Field ID: <br>21010017 |           | <input type="checkbox"/> Comp<br><input checked="" type="checkbox"/> Grab | Collection (comp begin or grab)<br>Date 1/6/2020 Time 1025 | <input checked="" type="checkbox"/> Eastern<br><input type="checkbox"/> Central | Composite end<br>Date — Time —                                             | Bottle Group(s)<br>(See pg 2)     |      |
| Field ID     | Robinson CR @ West Corinth off CR 246                                                                          |           | Matrix (type, e.g., Salt, Fresh, etc)<br>Fresh                            |                                                            | Diss. Oxygen<br>8.80                                                            | <input checked="" type="checkbox"/> mg/L<br><input type="checkbox"/> % sat | Total Res. Chlorine<br>(mg/L) —   |      |
| WIN/STORE    |                                                                                                                |           | Temp (C)<br>11.1                                                          | pH<br>5.56                                                 | Sample Depth<br>0.15                                                            | <input type="checkbox"/> ft<br><input checked="" type="checkbox"/> m       | Sp. Conductance<br>(umho/cm) 73.3 |      |
| Latitude     | <input type="checkbox"/> dd<br><input type="checkbox"/> dms                                                    | Longitude | <input type="checkbox"/> dd<br><input type="checkbox"/> dms               | Salinity (ppt)<br>0.03                                     | Comments                                                                        |                                                                            |                                   | A, B |
| Location     |                                                                                                                |           | <input type="checkbox"/> Comp<br><input type="checkbox"/> Grab            | Collection (comp begin or grab)<br>Date — Time —           | <input type="checkbox"/> Eastern<br><input type="checkbox"/> Central            | Composite end<br>Date — Time —                                             | Bottle Group(s)                   |      |
| Field ID     |                                                                                                                |           | Matrix (type, e.g., Salt, Fresh, etc)                                     |                                                            | Diss. Oxygen                                                                    | <input type="checkbox"/> mg/L<br><input type="checkbox"/> % sat            | Total Res. Chlorine<br>(mg/L)     |      |
| WIN/STORET # |                                                                                                                |           | Temp (C)                                                                  | pH                                                         | Sample Depth                                                                    | <input type="checkbox"/> ft<br><input type="checkbox"/> m                  | Sp. Conductance<br>(umho/cm)      |      |
| Latitude     | <input type="checkbox"/> dd<br><input type="checkbox"/> dms                                                    | Longitude | <input type="checkbox"/> dd<br><input type="checkbox"/> dms               | Salinity (ppt)                                             | Comments                                                                        |                                                                            |                                   |      |
| Location     |                                                                                                                |           | <input type="checkbox"/> Comp<br><input type="checkbox"/> Grab            | Collection (comp begin or grab)<br>Date — Time —           | <input type="checkbox"/> Eastern<br><input type="checkbox"/> Central            | Composite end<br>Date — Time —                                             | Bottle Group(s)                   |      |
| Field ID     |                                                                                                                |           | Matrix (type, e.g., Salt, Fresh, etc)                                     |                                                            | Diss. Oxygen                                                                    | <input type="checkbox"/> mg/L<br><input type="checkbox"/> % sat            | Total Res. Chlorine<br>(mg/L)     |      |
| WIN/STORET # |                                                                                                                |           | Temp (C)                                                                  | pH                                                         | Sample Depth                                                                    | <input type="checkbox"/> ft<br><input type="checkbox"/> m                  | Sp. Conductance<br>(umho/cm)      |      |
| Latitude     | <input type="checkbox"/> dd<br><input type="checkbox"/> dms                                                    | Longitude | <input type="checkbox"/> dd<br><input type="checkbox"/> dms               | Salinity (ppt)                                             | Comments                                                                        |                                                                            |                                   |      |
| Location     |                                                                                                                |           | <input type="checkbox"/> Comp<br><input type="checkbox"/> Grab            | Collection (comp begin or grab)<br>Date — Time —           | <input type="checkbox"/> Eastern<br><input type="checkbox"/> Central            | Composite end<br>Date — Time —                                             | Bottle Group(s)                   |      |
| Field ID     |                                                                                                                |           | Matrix (type, e.g., Salt, Fresh, etc)                                     |                                                            | Diss. Oxygen                                                                    | <input type="checkbox"/> mg/L<br><input type="checkbox"/> % sat            | Total Res. Chlorine<br>(mg/L)     |      |
| WIN/STORET # |                                                                                                                |           | Temp (C)                                                                  | pH                                                         | Sample Depth                                                                    | <input type="checkbox"/> ft<br><input type="checkbox"/> m                  | Sp. Conductance<br>(umho/cm)      |      |
| Latitude     | <input type="checkbox"/> dd<br><input type="checkbox"/> dms                                                    | Longitude | <input type="checkbox"/> dd<br><input type="checkbox"/> dms               | Salinity (ppt)                                             | Comments                                                                        |                                                                            |                                   |      |

|                                 |                            |                           |                                 |              |           |
|---------------------------------|----------------------------|---------------------------|---------------------------------|--------------|-----------|
| Relinquished By:<br>Kim Appleby | Date/Time<br>1/6/2020 1600 | Shipping Method<br>Fed Ex | Number of Coolers Shipped:<br>2 | Received By: | Date/Time |
|---------------------------------|----------------------------|---------------------------|---------------------------------|--------------|-----------|

|          |                                                                                               |                |                 |               |               |                                     |                        |
|----------|-----------------------------------------------------------------------------------------------|----------------|-----------------|---------------|---------------|-------------------------------------|------------------------|
| Group: A | Bottle Type:                                                                                  | P-1L           | # of Bottles: 2 | Preservative: | ICE           | Enter Number of Bottles Sent to Lab | <u>1</u>               |
|          | ALKALINITY<br>TURBIDITY<br>W-BR-IC<br>W-CL-IC<br>W-COLOR<br>W-F<br>W-SO4-IC<br>W-TDS<br>W-TSS |                |                 |               |               |                                     |                        |
| Group: A | Bottle Type:                                                                                  | BP-1L          | # of Bottles: 2 | Preservative: | ICE           | Enter Number of Bottles Sent to Lab | <u>1</u>               |
|          | CHLSUITE-W                                                                                    |                |                 |               |               |                                     |                        |
| Group: A | Bottle Type:                                                                                  | P-120ML-WC-THI | # of Bottles: 4 | Preservative: | ICE           | Enter Number of Bottles Sent to Lab | <u>2 → Sent to ALS</u> |
|          | NE-ALS-ECQ                                                                                    |                |                 |               |               |                                     |                        |
| Group: A | Bottle Type:                                                                                  | QPCR-P-500ML   | # of Bottles: 2 | Preservative: | ICE           | Enter Number of Bottles Sent to Lab | <u>1</u>               |
|          | PCR-BACR<br>PCR-DG3<br>PCR-GFD<br>PCR-HF183                                                   |                |                 |               |               |                                     |                        |
| Group: A | Bottle Type:                                                                                  | BG-500ML       | # of Bottles: 2 | Preservative: | ICE           | Enter Number of Bottles Sent to Lab | <u>1</u>               |
|          | W-E8321-DI<br>W-E8321-MS                                                                      |                |                 |               |               |                                     |                        |
| Group: A | Bottle Type:                                                                                  | P-500ML        | # of Bottles: 2 | Preservative: | HNO3          | Enter Number of Bottles Sent to Lab | <u>1</u>               |
|          | W-ICP<br>W-ICPMS                                                                              |                |                 |               |               |                                     |                        |
| Group: A | Bottle Type:                                                                                  | P-500ML        | # of Bottles: 2 | Preservative: | ICE And H2SO4 | Enter Number of Bottles Sent to Lab | <u>1</u>               |
|          | W-NH3<br>W-NO2NO3<br>W-S-A-TP<br>W-TKN<br>W-TOC                                               |                |                 |               |               |                                     |                        |
| Group: A | Bottle Type:                                                                                  | P-125ML        | # of Bottles: 2 | Preservative: | FILTER-ICE    | Enter Number of Bottles Sent to Lab | <u>1</u>               |
|          | W-PO4-F                                                                                       |                |                 |               |               |                                     |                        |

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|           |              |       |                 |               |     |                                     |          |
|-----------|--------------|-------|-----------------|---------------|-----|-------------------------------------|----------|
| Group: A  | Bottle Type: | BG-1L | # of Bottles: 6 | Preservative: | ICE | Enter Number of Bottles Sent to Lab | <u>3</u> |
| W-PSNP-TQ |              |       |                 |               |     |                                     |          |

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|            |              |       |                 |               |          |                                     |          |
|------------|--------------|-------|-----------------|---------------|----------|-------------------------------------|----------|
| Group: B   | Bottle Type: | PJ-2L | # of Bottles: 4 | Preservative: | Formalin | Enter Number of Bottles Sent to Lab | <u>2</u> |
| MI-FW-QLDC |              |       |                 |               |          |                                     |          |

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

|                            |                     |                             |                              |                          |
|----------------------------|---------------------|-----------------------------|------------------------------|--------------------------|
| SAMPLING AGENCY:<br>NE ROC |                     | STORET STATION NUMBER:      | DATE (MM/DD/YY):<br>1/6/2020 | RECEIVING BODY OF WATER: |
| REMARKS:                   | COUNTY:<br>Sullivan | LOCATION:<br>Robinson @ 246 | FIELD ID/NAME:               |                          |

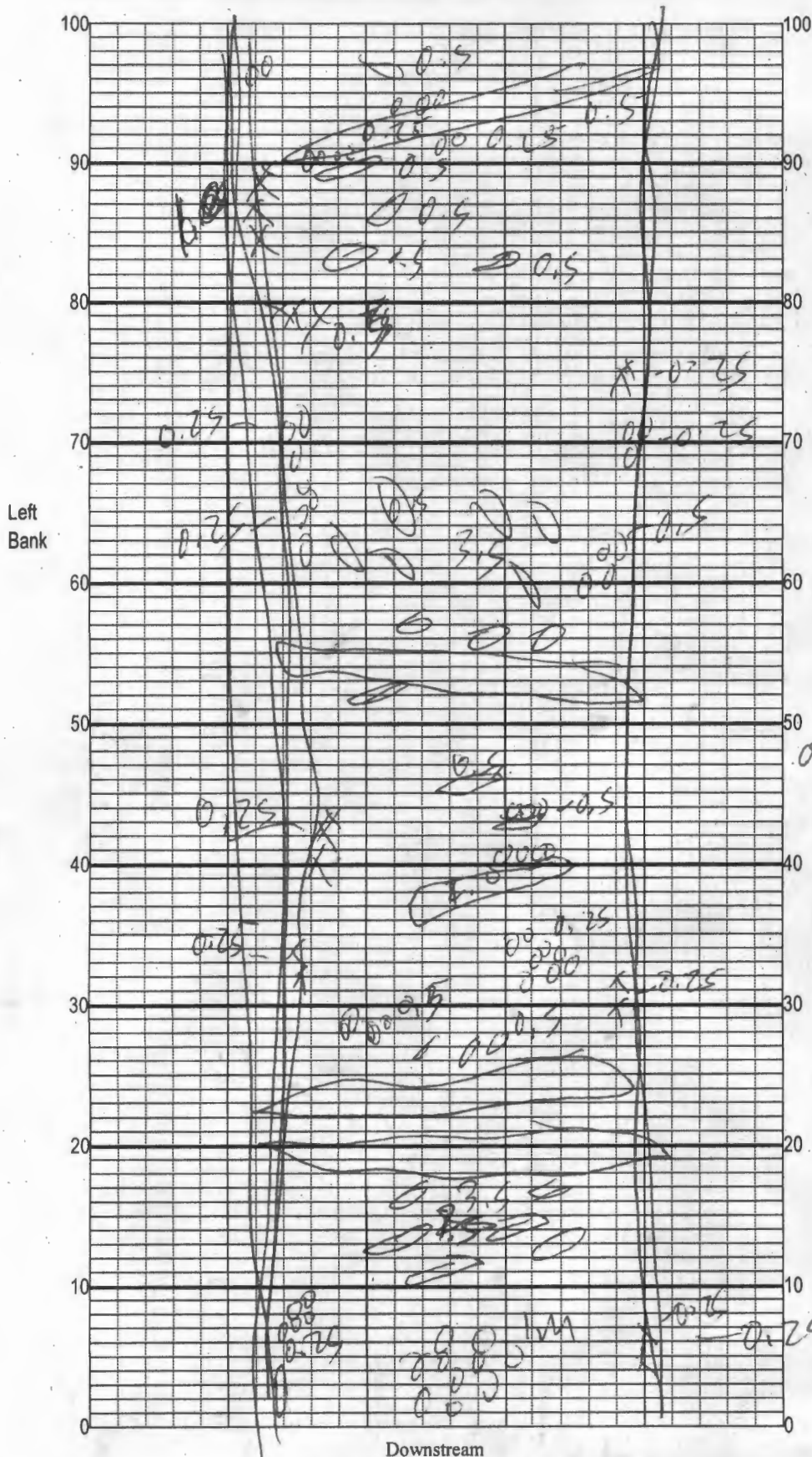
| Habitat Parameter                                                                                                   | Optimal                                                                                                                                                                                                                          | 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>12</u>                                                                                       | 20 19 18 17 16                                                                                                                                                                                                                   | 15 14 13 <u>12</u> 11                                                                                                                                                   | 10 9 8 7 6                                                                                                                                        | 5 4 3 2 1                                                                                                                          |
| Substrate Availability <u>9</u>                                                                                     | Greater than 30% major productive habitat present at site<br>20 19 18 17 16                                                                                                                                                      | 16% to 30% major productive habitat, by aerial extent<br>15 14 13 12 11                                                                                                 | 6% to 15% major productive habitat<br>10 <u>9</u> 8 7 6                                                                                           | Less than 5% major productive habitat<br>5 4 3 2 1                                                                                 |
| Water Velocity <u>18</u>                                                                                            | Max. observed at typical transect: > 0.25 m/sec. But < 1 m/sec<br>≥0.33 0.31 0.29 0.27 >0.25<br>20 19 <u>18</u> 17 16                                                                                                            | Max. observed at typical transect: >0.1 to 0.25 m/sec<br>0.25 0.21 0.17 0.13 >0.1<br>15 14 13 12 11                                                                     | Max. observed at typical transect: 0.05 to 0.1 m/sec<br>0.1 0.09 0.07 0.06 0.05<br>10 9 8 7 6                                                     | Max. observed at typical transect: <0.05 m/sec; or spate occurring: > 1 m/sec<br><0.05 0.04 0.03 0.01 <0.01<br>5 4 3 2 1           |
| Habitat Smothering <u>18</u><br>.....<br>Primary Score <u>57</u>                                                    | Adequate number of stable pools (1-2 per 12 times width) and <25% of habitats affected by sand, silt, or algae.<br>20 19 <u>18</u> 17 16                                                                                         | Adequate number of stable pools (1-2 per 12 times width) and >25% of habitats affected by sand, silt, or algae.<br>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).<br>10 9 8 7 6                | Stable pools are absent. Most habitats affected by sand, silt, or algae accumulation.<br>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<br>Right Bank <u>9</u><br>Left Bank <u>9</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.<br>10 <u>9</u>                                                            | Only meets 2 of the 3 requirements for optimal bank stability.<br>8 7 6                                                                                                 | Only meets 1 of the 3 requirements for optimal bank stability.<br>5 4                                                                             | Bankfull < 60% of bank height. Slope of bank > 60°. Bankfull is below the root zone with raw, eroded areas.<br>3 2 1               |
| Riparian Buffer Zone Width<br>Right Bank <u>10</u><br>Left Bank <u>10</u>                                           | Width of vegetation greater than 18 m<br><u>10</u> 9                                                                                                                                                                             | Width of vegetation >12 to 18m<br>8 7 6                                                                                                                                 | Width of vegetation 6 to 12 m. human activities close to system<br>5 4                                                                            | Less than 6 m of buffer zone due to intensive human activities<br>3 2 1                                                            |
| Riparian Zone Vegetation Quality<br>Right Bank <u>9</u><br>Left Bank <u>9</u><br>.....<br>Secondary Score <u>76</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.<br>10 <u>9</u> | >50% to 80% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Some disruption in community observed.<br>8 7 6 | 25% to 50% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Disruption obvious.<br>5 4 | Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions).<br>3 2 1 |

133

**TOTAL SCORE**

|              |                                   |                        |
|--------------|-----------------------------------|------------------------|
| Date: 1/6/20 | Analyst: <i>John / K. Appleby</i> | Signature: <i>John</i> |
|--------------|-----------------------------------|------------------------|

DEP Form FD 9000-4 Stream/River Habitat Assessment Sketch Sheet



Location: Robinson 246

Date: 1/6/2020

Sampler: DP/K.A

100 m: Latitude \_\_\_\_\_  
Longitude \_\_\_\_\_

0 m: Latitude \_\_\_\_\_  
Longitude \_\_\_\_\_

Substrates: Code key, draw proportionate habitat abundance.

|                          |                      | %          |
|--------------------------|----------------------|------------|
|                          | Snags                | <u>0.7</u> |
|                          | Roots/undercut banks | <u>1</u>   |
|                          | Leaf Packs (or mats) | <u>2</u>   |
|                          | Aquatic Macrophytes  | _____      |
|                          | Pools                | _____      |
| total # observed = _____ |                      |            |
| # range expected = _____ |                      |            |

Average width \_\_\_\_\_ m

Average depth \_\_\_\_\_ m

Velocity measured at \_\_\_\_\_ meter mark.

WQ & chemistry taken at \_\_\_\_\_ 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:

<2 M of Macrophytes was observed while doing the LVS? YES or NO

leaf -  
snag - 3.5 + 2 + 1 + 3.5 = 3.5

96 Root - 1 + P.S = 2.5

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 21FLA LATITUDE \_\_\_\_\_  
 COUNTY \_\_\_\_\_ STORET # 21010017 LONGITUDE \_\_\_\_\_  
 DATE 1/6/2020 TIME 1025 SAMPLING AGENCY \_\_\_\_\_  
 SITE NAME Robinson CR @ West Cornth off CR246  
 FIELD ID/NAME \_\_\_\_\_ RECEIVING BODY OF WATER Sunapee River

RIPARIAN ZONE / STREAM FEATURES

|                                                                                                                                                                                                                                                                                                                                                                                                         |  |  |  |                                                                                                                                                                                                       |  |  |                                                                                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--------------------------------------------------------------------------------|
| <b>PREDOMINANT LAND-USE IN WATERSHED</b> (specify relative percent in each category):<br>Forest/Natural <input type="checkbox"/> Silviculture <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Industry <input type="checkbox"/> Other (Specify) <input type="checkbox"/> |  |  |  |                                                                                                                                                                                                       |  |  | <b>Landscape Development Intensity Index (LDI)</b><br><input type="checkbox"/> |
| Local Watershed Erosion (select one): <input checked="" type="checkbox"/> None <input type="checkbox"/> Slight <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy<br>Local Watershed NPS Pollution: <input checked="" type="checkbox"/> No evidence <input type="checkbox"/> Slight <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy                                      |  |  |  | Typical Width (m) Depth (m)/Velocity (m/sec) Transect<br>_____ m/s <u>0.29</u> m/s _____ m/s<br>_____ m deep <u>0.3</u> m deep _____ m deep                                                           |  |  |                                                                                |
| Width of Riparian Vegetation (m) on Each Buffer Side<br>Left Bank: <u>718m</u> Right Bank: <u>718m</u>                                                                                                                                                                                                                                                                                                  |  |  |  | Hydrologic Modification Score (per FT 3101) <input type="checkbox"/>                                                                                                                                  |  |  |                                                                                |
| High Water Mark: <u>1.0</u> + <u>0.3</u> = <u>1.3</u><br>(m) (above present water level) (present depth) (above bed)                                                                                                                                                                                                                                                                                    |  |  |  | Artificially Impounded<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                                                                         |  |  |                                                                                |
| Artificially <input checked="" type="checkbox"/> No <input type="checkbox"/> Mostly recovered, more sinuous<br>Channelized: <input type="checkbox"/> Some recovery <input type="checkbox"/> Recent, severe                                                                                                                                                                                              |  |  |  | Canopy Cover % <input type="checkbox"/> Open <input type="checkbox"/> Lightly Shaded (11-45%)<br><input type="checkbox"/> Heavily Shaded <input checked="" type="checkbox"/> Moderate Shaded (46-80%) |  |  |                                                                                |

SEDIMENT / SUBSTRATE

| <b>Sediment Oils</b><br><input checked="" type="checkbox"/> Absent <input type="checkbox"/> Slight<br><input type="checkbox"/> Moderate <input type="checkbox"/> Profuse                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |             | <b>Sediment Odors</b><br><input checked="" type="checkbox"/> Normal <input type="checkbox"/> Sewage <input type="checkbox"/> Petroleum<br><input type="checkbox"/> Chemical <input type="checkbox"/> Anaerobic<br><input type="checkbox"/> Other (Specify): _____ |                                                                                                                                                                                                         | <b>Smothering of Substrates</b><br>Sand Smothering: None <input type="checkbox"/> Slight <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Severe <input type="checkbox"/><br>Silt Smothering: None <input checked="" type="checkbox"/> Slight <input type="checkbox"/> Moderate <input type="checkbox"/> Severe <input type="checkbox"/><br>Algae Smothering: None <input checked="" type="checkbox"/> Slight <input type="checkbox"/> Moderate <input type="checkbox"/> Severe <input type="checkbox"/> |                                 |                         |                      |                                         |          |  |                        |          |          |  |                         |          |          |  |                          |  |  |  |                        |  |  |  |           |           |          |  |                         |  |  |  |             |  |  |  |             |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |           |            |         |             |              |                 |                |            |      |  |  |  |  |  |  |  |            |      |             |             |             |             |           |           |             |                                         |        |            |  |  |  |  |  |  |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-------------------------|----------------------|-----------------------------------------|----------|--|------------------------|----------|----------|--|-------------------------|----------|----------|--|--------------------------|--|--|--|------------------------|--|--|--|-----------|-----------|----------|--|-------------------------|--|--|--|-------------|--|--|--|-------------|--|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|-----------|------------|---------|-------------|--------------|-----------------|----------------|------------|------|--|--|--|--|--|--|--|------------|------|-------------|-------------|-------------|-------------|-----------|-----------|-------------|-----------------------------------------|--------|------------|--|--|--|--|--|--|--|
| <b>SUBSTRATE TYPE</b><br>Assessment Tool: <input checked="" type="checkbox"/> SCI <input checked="" type="checkbox"/> RPS <input checked="" type="checkbox"/> LVS<br><input type="checkbox"/> LCI <input type="checkbox"/> BioRecon<br><table border="1"> <thead> <tr> <th></th> <th>% Coverage</th> <th>INVERT<br/># Times Sampled</th> <th>PERI<br/># Times Sampled</th> </tr> </thead> <tbody> <tr> <td>Woody Debris (Snags)</td> <td><u>7</u></td> <td><u>5</u></td> <td></td> </tr> <tr> <td>Undercut Banks / Roots</td> <td><u>1</u></td> <td><u>5</u></td> <td></td> </tr> <tr> <td>Leaf Packs or Mat .....</td> <td><u>2</u></td> <td><u>5</u></td> <td></td> </tr> <tr> <td>Aquatic Vegetation .....</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Rock or Shell Rubble..</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Sand.....</td> <td><u>90</u></td> <td><u>5</u></td> <td></td> </tr> <tr> <td>Mud / Muck / Silt .....</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Other .....</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Other .....</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> |             |                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                         | % Coverage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | INVERT<br># Times Sampled       | PERI<br># Times Sampled | Woody Debris (Snags) | <u>7</u>                                | <u>5</u> |  | Undercut Banks / Roots | <u>1</u> | <u>5</u> |  | Leaf Packs or Mat ..... | <u>2</u> | <u>5</u> |  | Aquatic Vegetation ..... |  |  |  | Rock or Shell Rubble.. |  |  |  | Sand..... | <u>90</u> | <u>5</u> |  | Mud / Muck / Silt ..... |  |  |  | Other ..... |  |  |  | Other ..... |  |  |  | <b>WATER QUALITY</b><br><table border="1"> <thead> <tr> <th></th> <th>Depth (M)</th> <th>Temp. (°C)</th> <th>pH (SU)</th> <th>D.O. (MG/L)</th> <th>D.O. Sat (%)</th> <th>Cond. (UMHO/CM)</th> <th>Salinity (PPT)</th> <th>SECCHI (M)</th> </tr> </thead> <tbody> <tr> <td>Top:</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u>0.3</u></td> </tr> <tr> <td>Mid:</td> <td><u>0.12</u></td> <td><u>11.1</u></td> <td><u>5.56</u></td> <td><u>8.80</u></td> <td><u>80</u></td> <td><u>73</u></td> <td><u>2.03</u></td> <td><input checked="" type="checkbox"/> VOB</td> </tr> <tr> <td>Bottom</td> <td><u>0.4</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> Meter ID: _____ |  |  |  | Depth (M) | Temp. (°C) | pH (SU) | D.O. (MG/L) | D.O. Sat (%) | Cond. (UMHO/CM) | Salinity (PPT) | SECCHI (M) | Top: |  |  |  |  |  |  |  | <u>0.3</u> | Mid: | <u>0.12</u> | <u>11.1</u> | <u>5.56</u> | <u>8.80</u> | <u>80</u> | <u>73</u> | <u>2.03</u> | <input checked="" type="checkbox"/> VOB | Bottom | <u>0.4</u> |  |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | % Coverage  | INVERT<br># Times Sampled                                                                                                                                                                                                                                         | PERI<br># Times Sampled                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                 |                         |                      |                                         |          |  |                        |          |          |  |                         |          |          |  |                          |  |  |  |                        |  |  |  |           |           |          |  |                         |  |  |  |             |  |  |  |             |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |           |            |         |             |              |                 |                |            |      |  |  |  |  |  |  |  |            |      |             |             |             |             |           |           |             |                                         |        |            |  |  |  |  |  |  |  |
| Woody Debris (Snags)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <u>7</u>    | <u>5</u>                                                                                                                                                                                                                                                          |                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                 |                         |                      |                                         |          |  |                        |          |          |  |                         |          |          |  |                          |  |  |  |                        |  |  |  |           |           |          |  |                         |  |  |  |             |  |  |  |             |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |           |            |         |             |              |                 |                |            |      |  |  |  |  |  |  |  |            |      |             |             |             |             |           |           |             |                                         |        |            |  |  |  |  |  |  |  |
| Undercut Banks / Roots                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <u>1</u>    | <u>5</u>                                                                                                                                                                                                                                                          |                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                 |                         |                      |                                         |          |  |                        |          |          |  |                         |          |          |  |                          |  |  |  |                        |  |  |  |           |           |          |  |                         |  |  |  |             |  |  |  |             |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |           |            |         |             |              |                 |                |            |      |  |  |  |  |  |  |  |            |      |             |             |             |             |           |           |             |                                         |        |            |  |  |  |  |  |  |  |
| Leaf Packs or Mat .....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <u>2</u>    | <u>5</u>                                                                                                                                                                                                                                                          |                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                 |                         |                      |                                         |          |  |                        |          |          |  |                         |          |          |  |                          |  |  |  |                        |  |  |  |           |           |          |  |                         |  |  |  |             |  |  |  |             |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |           |            |         |             |              |                 |                |            |      |  |  |  |  |  |  |  |            |      |             |             |             |             |           |           |             |                                         |        |            |  |  |  |  |  |  |  |
| Aquatic Vegetation .....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |             |                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                 |                         |                      |                                         |          |  |                        |          |          |  |                         |          |          |  |                          |  |  |  |                        |  |  |  |           |           |          |  |                         |  |  |  |             |  |  |  |             |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |           |            |         |             |              |                 |                |            |      |  |  |  |  |  |  |  |            |      |             |             |             |             |           |           |             |                                         |        |            |  |  |  |  |  |  |  |
| Rock or Shell Rubble..                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                 |                         |                      |                                         |          |  |                        |          |          |  |                         |          |          |  |                          |  |  |  |                        |  |  |  |           |           |          |  |                         |  |  |  |             |  |  |  |             |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |           |            |         |             |              |                 |                |            |      |  |  |  |  |  |  |  |            |      |             |             |             |             |           |           |             |                                         |        |            |  |  |  |  |  |  |  |
| Sand.....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <u>90</u>   | <u>5</u>                                                                                                                                                                                                                                                          |                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                 |                         |                      |                                         |          |  |                        |          |          |  |                         |          |          |  |                          |  |  |  |                        |  |  |  |           |           |          |  |                         |  |  |  |             |  |  |  |             |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |           |            |         |             |              |                 |                |            |      |  |  |  |  |  |  |  |            |      |             |             |             |             |           |           |             |                                         |        |            |  |  |  |  |  |  |  |
| Mud / Muck / Silt .....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                 |                         |                      |                                         |          |  |                        |          |          |  |                         |          |          |  |                          |  |  |  |                        |  |  |  |           |           |          |  |                         |  |  |  |             |  |  |  |             |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |           |            |         |             |              |                 |                |            |      |  |  |  |  |  |  |  |            |      |             |             |             |             |           |           |             |                                         |        |            |  |  |  |  |  |  |  |
| Other .....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                 |                         |                      |                                         |          |  |                        |          |          |  |                         |          |          |  |                          |  |  |  |                        |  |  |  |           |           |          |  |                         |  |  |  |             |  |  |  |             |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |           |            |         |             |              |                 |                |            |      |  |  |  |  |  |  |  |            |      |             |             |             |             |           |           |             |                                         |        |            |  |  |  |  |  |  |  |
| Other .....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                 |                         |                      |                                         |          |  |                        |          |          |  |                         |          |          |  |                          |  |  |  |                        |  |  |  |           |           |          |  |                         |  |  |  |             |  |  |  |             |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |           |            |         |             |              |                 |                |            |      |  |  |  |  |  |  |  |            |      |             |             |             |             |           |           |             |                                         |        |            |  |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Depth (M)   | Temp. (°C)                                                                                                                                                                                                                                                        | pH (SU)                                                                                                                                                                                                 | D.O. (MG/L)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | D.O. Sat (%)                    | Cond. (UMHO/CM)         | Salinity (PPT)       | SECCHI (M)                              |          |  |                        |          |          |  |                         |          |          |  |                          |  |  |  |                        |  |  |  |           |           |          |  |                         |  |  |  |             |  |  |  |             |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |           |            |         |             |              |                 |                |            |      |  |  |  |  |  |  |  |            |      |             |             |             |             |           |           |             |                                         |        |            |  |  |  |  |  |  |  |
| Top:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                 |                         |                      | <u>0.3</u>                              |          |  |                        |          |          |  |                         |          |          |  |                          |  |  |  |                        |  |  |  |           |           |          |  |                         |  |  |  |             |  |  |  |             |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |           |            |         |             |              |                 |                |            |      |  |  |  |  |  |  |  |            |      |             |             |             |             |           |           |             |                                         |        |            |  |  |  |  |  |  |  |
| Mid:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <u>0.12</u> | <u>11.1</u>                                                                                                                                                                                                                                                       | <u>5.56</u>                                                                                                                                                                                             | <u>8.80</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <u>80</u>                       | <u>73</u>               | <u>2.03</u>          | <input checked="" type="checkbox"/> VOB |          |  |                        |          |          |  |                         |          |          |  |                          |  |  |  |                        |  |  |  |           |           |          |  |                         |  |  |  |             |  |  |  |             |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |           |            |         |             |              |                 |                |            |      |  |  |  |  |  |  |  |            |      |             |             |             |             |           |           |             |                                         |        |            |  |  |  |  |  |  |  |
| Bottom                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <u>0.4</u>  |                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                 |                         |                      |                                         |          |  |                        |          |          |  |                         |          |          |  |                          |  |  |  |                        |  |  |  |           |           |          |  |                         |  |  |  |             |  |  |  |             |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |           |            |         |             |              |                 |                |            |      |  |  |  |  |  |  |  |            |      |             |             |             |             |           |           |             |                                         |        |            |  |  |  |  |  |  |  |
| <b>Water Odors</b> Normal <input checked="" type="checkbox"/> Petroleum <input type="checkbox"/><br>Sewage <input type="checkbox"/> Chemical <input type="checkbox"/> Other <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                                                                                                                                                                                                                                                   | <b>Water Surface Oils</b> Normal <input checked="" type="checkbox"/> Sheen <input type="checkbox"/><br>Globbs <input type="checkbox"/> Slick <input type="checkbox"/> Other <input type="checkbox"/>    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                 |                         |                      |                                         |          |  |                        |          |          |  |                         |          |          |  |                          |  |  |  |                        |  |  |  |           |           |          |  |                         |  |  |  |             |  |  |  |             |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |           |            |         |             |              |                 |                |            |      |  |  |  |  |  |  |  |            |      |             |             |             |             |           |           |             |                                         |        |            |  |  |  |  |  |  |  |
| Water Sample Taken? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Sample Preserved? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Lot Number: _____ Exp: _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |                                                                                                                                                                                                                                                                   | Color Tannic <input checked="" type="checkbox"/> Green (Algae) <input type="checkbox"/><br>Clear <input type="checkbox"/> Other (Specify) <input type="checkbox"/>                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                 |                         |                      |                                         |          |  |                        |          |          |  |                         |          |          |  |                          |  |  |  |                        |  |  |  |           |           |          |  |                         |  |  |  |             |  |  |  |             |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |           |            |         |             |              |                 |                |            |      |  |  |  |  |  |  |  |            |      |             |             |             |             |           |           |             |                                         |        |            |  |  |  |  |  |  |  |
| Algae Sample Taken? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>Sample Preserved? <input type="checkbox"/> Yes <input type="checkbox"/> No<br>Lot Number: _____ Exp: _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |                                                                                                                                                                                                                                                                   | Clarity Clear <input checked="" type="checkbox"/> Slightly Turbid <input type="checkbox"/><br>Turbid <input type="checkbox"/> Opaque <input type="checkbox"/>                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                 |                         |                      |                                         |          |  |                        |          |          |  |                         |          |          |  |                          |  |  |  |                        |  |  |  |           |           |          |  |                         |  |  |  |             |  |  |  |             |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |           |            |         |             |              |                 |                |            |      |  |  |  |  |  |  |  |            |      |             |             |             |             |           |           |             |                                         |        |            |  |  |  |  |  |  |  |
| <b>ABUNDANCE</b><br>Not Obs. Rare Common Abundant<br>Periphyton: <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/><br>Fish: <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/><br>Aquatic Plants: <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/><br>Iron/Sulfur Bacteria: <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                                                                                                                                                                                                                                   | <b>System Type:</b> Stream <input checked="" type="checkbox"/> Lake <input type="checkbox"/> Wetland <input type="checkbox"/> Estuary <input type="checkbox"/> Other (Specify) <input type="checkbox"/> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                 |                         |                      |                                         |          |  |                        |          |          |  |                         |          |          |  |                          |  |  |  |                        |  |  |  |           |           |          |  |                         |  |  |  |             |  |  |  |             |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |           |            |         |             |              |                 |                |            |      |  |  |  |  |  |  |  |            |      |             |             |             |             |           |           |             |                                         |        |            |  |  |  |  |  |  |  |
| <b>AMBIENT FIELD CONDITIONS / NOTES:</b><br><p style="text-align: center;"><i>See Reference</i></p> <input type="checkbox"/> The antecedent hydrologic conditions have been met to my best knowledge.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                 |                         |                      |                                         |          |  |                        |          |          |  |                         |          |          |  |                          |  |  |  |                        |  |  |  |           |           |          |  |                         |  |  |  |             |  |  |  |             |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |           |            |         |             |              |                 |                |            |      |  |  |  |  |  |  |  |            |      |             |             |             |             |           |           |             |                                         |        |            |  |  |  |  |  |  |  |
| <b>SAMPLING TEAM</b><br><u>Joanish / K Appleby</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                   | <b>SIGNATURE:</b><br><u>Jeremy Barr</u>                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>DATE:</b><br><u>1/6/2020</u> |                         |                      |                                         |          |  |                        |          |          |  |                         |          |          |  |                          |  |  |  |                        |  |  |  |           |           |          |  |                         |  |  |  |             |  |  |  |             |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |           |            |         |             |              |                 |                |            |      |  |  |  |  |  |  |  |            |      |             |             |             |             |           |           |             |                                         |        |            |  |  |  |  |  |  |  |

# DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

| Site: <u>Robinson @ 246</u> |                            |                                  |           |              | County: _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                            | Date: <u>1/6/2020</u>            |           | Investigators: _____ |   |  |   |
|-----------------------------|----------------------------|----------------------------------|-----------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------------------------------|-----------|----------------------|---|--|---|
|                             |                            |                                  |           |              | STORET Station Number: <u>2101 0017</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                            |                                  |           |                      |   |  |   |
| Transect (m)                | Point<br>1=right<br>9=left | Algal Thickness Rank<br>(N-6, X) | Estimated | Canopy Cover | Transect (m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Point<br>1=right<br>9=left | Algal Thickness Rank<br>(N-6, X) | Estimated | Canopy Cover         |   |  |   |
| 0                           | 1                          | N                                | N         | 96           | 60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1                          | N                                | N         | 64                   |   |  |   |
|                             | 2                          |                                  | Y         |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2                          |                                  | Y         |                      |   |  |   |
|                             | 3                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 3                          |                                  |           |                      |   |  |   |
|                             | 4                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 4                          |                                  |           |                      |   |  |   |
|                             | 5                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 5                          |                                  |           |                      |   |  |   |
|                             | 6                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 6                          |                                  |           |                      |   |  |   |
|                             | 7                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 7                          |                                  |           |                      |   |  |   |
|                             | 8                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 8                          |                                  |           |                      |   |  |   |
|                             | 9                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 9                          |                                  |           |                      |   |  |   |
| 10                          | 1                          | N                                | N         | 36           | 70                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1                          | N                                | N         | 90                   |   |  |   |
|                             | 2                          |                                  | Y         |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2                          |                                  | Y         |                      |   |  |   |
|                             | 3                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 3                          |                                  |           |                      |   |  |   |
|                             | 4                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 4                          |                                  |           |                      |   |  |   |
|                             | 5                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 5                          |                                  |           |                      |   |  |   |
|                             | 6                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 6                          |                                  |           |                      |   |  |   |
|                             | 7                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 7                          |                                  |           |                      |   |  |   |
|                             | 8                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 8                          |                                  |           |                      |   |  |   |
|                             | 9                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 9                          |                                  |           |                      |   |  |   |
| 20                          | 1                          | N                                | N         | 0            | 80                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1                          | N                                | N         | 88                   |   |  |   |
|                             | 2                          |                                  | Y         |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2                          |                                  | Y         |                      |   |  |   |
|                             | 3                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 3                          |                                  |           |                      |   |  |   |
|                             | 4                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 4                          |                                  |           |                      |   |  |   |
|                             | 5                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 5                          |                                  |           |                      |   |  |   |
|                             | 6                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 6                          |                                  |           |                      |   |  |   |
|                             | 7                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 7                          |                                  |           |                      |   |  |   |
|                             | 8                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 8                          |                                  |           |                      |   |  |   |
|                             | 9                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 9                          |                                  |           |                      |   |  |   |
| 30                          | 1                          | N                                | N         | 20           | 90                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1                          | N                                | N         | 35                   |   |  |   |
|                             | 2                          |                                  | Y         |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2                          |                                  | Y         |                      |   |  |   |
|                             | 3                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 3                          |                                  |           |                      |   |  |   |
|                             | 4                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 4                          |                                  |           |                      |   |  |   |
|                             | 5                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 5                          |                                  |           |                      |   |  |   |
|                             | 6                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 6                          |                                  |           |                      |   |  |   |
|                             | 7                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 7                          |                                  |           |                      |   |  |   |
|                             | 8                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 8                          |                                  |           |                      |   |  |   |
|                             | 9                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 9                          |                                  |           |                      |   |  |   |
| 40                          | 1                          | N                                | N         | 64           | 100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1                          | N                                | N         | 68                   |   |  |   |
|                             | 2                          |                                  | Y         |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2                          |                                  | Y         |                      |   |  |   |
|                             | 3                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 3                          |                                  |           |                      |   |  |   |
|                             | 4                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 4                          |                                  |           |                      |   |  |   |
|                             | 5                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 5                          |                                  |           |                      |   |  |   |
|                             | 6                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 6                          |                                  |           |                      |   |  |   |
|                             | 7                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 7                          |                                  |           |                      |   |  |   |
|                             | 8                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 8                          |                                  |           |                      |   |  |   |
|                             | 9                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 9                          |                                  |           |                      |   |  |   |
| 50                          | 1                          | N                                | N         | 64           | <p>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.</p> <p>Record "X" for points shallower than Secchi depth for which substrate cannot be seen or reached with the hand. No estimated rank.</p> <p>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.</p> <p>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 &gt;20%.</p> |                            |                                  |           |                      |   |  |   |
|                             | 2                          |                                  | Y         |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                            |                                  |           |                      | 2 |  | Y |
|                             | 3                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                            |                                  |           |                      | 3 |  |   |
|                             | 4                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                            |                                  |           |                      | 4 |  |   |
|                             | 5                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                            |                                  |           |                      | 5 |  |   |
|                             | 6                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                            |                                  |           |                      | 6 |  |   |
|                             | 7                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                            |                                  |           |                      | 7 |  |   |
|                             | 8                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                            |                                  |           |                      | 8 |  |   |
|                             | 9                          |                                  |           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                            |                                  |           |                      | 9 |  |   |

Secchi depth 0.3  
Estimated? 0.5

# 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-                |  |

| 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                                  |

| Waterbody: Robinsone 746                                                                                                                                                                                                                                                                                                                                                    |            |       |       |       |       | Date: 1/6/20                       | County: Sumner |       |       |        |                            |                           |      |       | Storet Number Z1010017 |       |       |       |       |       |       |        |                            |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-------|-------|-------|-------|------------------------------------|----------------|-------|-------|--------|----------------------------|---------------------------|------|-------|------------------------|-------|-------|-------|-------|-------|-------|--------|----------------------------|--|--|--|--|--|--|--|--|--|--|
| Analyst:                                                                                                                                                                                                                                                                                                                                                                    |            |       |       |       |       | Signature: [Handwritten Signature] |                |       |       |        |                            |                           |      |       |                        |       |       |       |       |       |       |        |                            |  |  |  |  |  |  |  |  |  |  |
| 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 <sup>2</sup> 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. |            |       |       |       |       |                                    |                |       |       |        |                            |                           |      |       |                        |       |       |       |       |       |       |        |                            |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                             | Meter Mark |       |       |       |       |                                    |                |       |       |        |                            |                           |      |       |                        |       |       |       |       |       |       |        | Meter Mark                 |  |  |  |  |  |  |  |  |  |  |
| HERBACEOUS SPECIES                                                                                                                                                                                                                                                                                                                                                          | 0-10       | 10-20 | 20-30 | 30-40 | 40-50 | 50-60                              | 60-70          | 70-80 | 80-90 | 90-100 | Specimen collected (check) | HERBACEOUS SPECIES        | 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                                                                                                                                                                                                                                                                                                                                                 |            |       |       |       |       |                                    |                |       |       |        |                            | Micranthemum glomeratum   |      |       |                        |       |       |       |       |       |       |        |                            |  |  |  |  |  |  |  |  |  |  |
| Bacopa caroliniana                                                                                                                                                                                                                                                                                                                                                          |            |       |       |       |       |                                    |                |       |       |        |                            | Micranthemum umbrosum     |      |       |                        |       |       |       |       |       |       |        |                            |  |  |  |  |  |  |  |  |  |  |
| Bacopa monnieri                                                                                                                                                                                                                                                                                                                                                             |            |       |       |       |       |                                    |                |       |       |        |                            | Myriophyllum aquaticum    |      |       |                        |       |       |       |       |       |       |        |                            |  |  |  |  |  |  |  |  |  |  |
| Bidens mitis                                                                                                                                                                                                                                                                                                                                                                |            |       |       |       |       |                                    |                |       |       |        |                            | Najas guadelupensis       |      |       |                        |       |       |       |       |       |       |        |                            |  |  |  |  |  |  |  |  |  |  |
| Boehmeria cylindrica                                                                                                                                                                                                                                                                                                                                                        |            |       |       |       |       |                                    |                |       |       |        |                            | Nuphar luteum             |      |       |                        |       |       |       |       |       |       |        |                            |  |  |  |  |  |  |  |  |  |  |
| Centella asiatica                                                                                                                                                                                                                                                                                                                                                           |            |       |       |       |       |                                    |                |       |       |        |                            | Oryzopsis aquatilis       |      |       |                        |       |       |       |       |       |       |        |                            |  |  |  |  |  |  |  |  |  |  |
| Ceratophyllum demersum                                                                                                                                                                                                                                                                                                                                                      |            |       |       |       |       |                                    |                |       |       |        |                            | Panicum hemitomon         |      |       |                        |       |       |       |       |       |       |        |                            |  |  |  |  |  |  |  |  |  |  |
| Chara                                                                                                                                                                                                                                                                                                                                                                       |            |       |       |       |       |                                    |                |       |       |        |                            | Panicum repens            |      |       |                        |       |       |       |       |       |       |        |                            |  |  |  |  |  |  |  |  |  |  |
| Cicutula maculata                                                                                                                                                                                                                                                                                                                                                           |            |       |       |       |       |                                    |                |       |       |        |                            | Panicum rigidulum         |      |       |                        |       |       |       |       |       |       |        |                            |  |  |  |  |  |  |  |  |  |  |
| Cladium jamaicense                                                                                                                                                                                                                                                                                                                                                          |            |       |       |       |       |                                    |                |       |       |        |                            | Pistia stratiotes         |      |       |                        |       |       |       |       |       |       |        |                            |  |  |  |  |  |  |  |  |  |  |
| Colocasia esculenta                                                                                                                                                                                                                                                                                                                                                         |            |       |       |       |       |                                    |                |       |       |        |                            | Polygonum glabra          |      |       |                        |       |       |       |       |       |       |        |                            |  |  |  |  |  |  |  |  |  |  |
| Commelina diffusa                                                                                                                                                                                                                                                                                                                                                           |            |       |       |       |       |                                    |                |       |       |        |                            | Polygonum hydropiperoides |      |       |                        |       |       |       |       |       |       |        |                            |  |  |  |  |  |  |  |  |  |  |
| Commelina virginica                                                                                                                                                                                                                                                                                                                                                         |            |       |       |       |       |                                    |                |       |       |        |                            | Polygonum punctatum       |      |       |                        |       |       |       |       |       |       |        |                            |  |  |  |  |  |  |  |  |  |  |
| Crinum americanum                                                                                                                                                                                                                                                                                                                                                           |            |       |       |       |       |                                    |                |       |       |        |                            | Pontederia cordata        |      |       |                        |       |       |       |       |       |       |        |                            |  |  |  |  |  |  |  |  |  |  |
| Diodia virginiana                                                                                                                                                                                                                                                                                                                                                           |            |       |       |       |       |                                    |                |       |       |        |                            | Potamogeton illinoensis   |      |       |                        |       |       |       |       |       |       |        |                            |  |  |  |  |  |  |  |  |  |  |
| Eichhornia crassipes                                                                                                                                                                                                                                                                                                                                                        |            |       |       |       |       |                                    |                |       |       |        |                            | Ruellia simplex           |      |       |                        |       |       |       |       |       |       |        |                            |  |  |  |  |  |  |  |  |  |  |
| Eleocharis (wispy viviparous)                                                                                                                                                                                                                                                                                                                                               |            |       |       |       |       |                                    |                |       |       |        |                            | Sagittaria striata        |      |       |                        |       |       |       |       |       |       |        |                            |  |  |  |  |  |  |  |  |  |  |
| Hydrilla verticillata                                                                                                                                                                                                                                                                                                                                                       |            |       |       |       |       |                                    |                |       |       |        |                            | Sagittaria kurziana       |      |       |                        |       |       |       |       |       |       |        |                            |  |  |  |  |  |  |  |  |  |  |
| Hydrocotyle                                                                                                                                                                                                                                                                                                                                                                 |            |       |       |       |       |                                    |                |       |       |        |                            | Sagittaria lancifolia     |      |       |                        |       |       |       |       |       |       |        |                            |  |  |  |  |  |  |  |  |  |  |
| Hypochaeris polisperma                                                                                                                                                                                                                                                                                                                                                      |            |       |       |       |       |                                    |                |       |       |        |                            | Sagittaria latifolia      |      |       |                        |       |       |       |       |       |       |        |                            |  |  |  |  |  |  |  |  |  |  |
| Hymenocallis                                                                                                                                                                                                                                                                                                                                                                |            |       |       |       |       |                                    |                |       |       |        |                            | Salvinia minima           |      |       |                        |       |       |       |       |       |       |        |                            |  |  |  |  |  |  |  |  |  |  |
| Lachnanthes caroliniana                                                                                                                                                                                                                                                                                                                                                     |            |       |       |       |       |                                    |                |       |       |        |                            | Samolus parviflorus       |      |       |                        |       |       |       |       |       |       |        |                            |  |  |  |  |  |  |  |  |  |  |
| Landoltia punctata                                                                                                                                                                                                                                                                                                                                                          |            |       |       |       |       |                                    |                |       |       |        |                            | Saururus cernuus          |      |       |                        |       |       |       |       |       |       |        |                            |  |  |  |  |  |  |  |  |  |  |
| Lemna                                                                                                                                                                                                                                                                                                                                                                       |            |       |       |       |       |                                    |                |       |       |        |                            | Sparganium angustifolium  |      |       |                        |       |       |       |       |       |       |        |                            |  |  |  |  |  |  |  |  |  |  |
| Limnophila sessiliflora                                                                                                                                                                                                                                                                                                                                                     |            |       |       |       |       |                                    |                |       |       |        |                            | Typha                     |      |       |                        |       |       |       |       |       |       |        |                            |  |  |  |  |  |  |  |  |  |  |
| Ludwigia leptocarpa                                                                                                                                                                                                                                                                                                                                                         |            |       |       |       |       |                                    |                |       |       |        |                            | Vallisneria spiralis      |      |       |                        |       |       |       |       |       |       |        |                            |  |  |  |  |  |  |  |  |  |  |
| 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                                                                                                                                                                                                                                                                                                                                                    |            |       |       |       |       |                                    |                |       |       |        |                            |                           |      |       |                        |       |       |       |       |       |       |        |                            |  |  |  |  |  |  |  |  |  |  |