

Gills Creek Monitoring Sites

Monitoring Data Summary for October 30th, 2020 – December 1st, 2020

Data Gaps

- The GILA station experienced turbidity sensor fouling on November 30th. The DO sensor was fouled from November 23rd to November 30th. These periods of data were removed from the dataset.
- The GILB station experienced turbidity, DO, and pH sensor fouling from November 13th to November 26th. These periods of data were removed from the dataset.
- The GILC station did not experience any interruptions in the data during this monitoring period.

SCDHEC Standards

- The GILA and GILB stations did not record any pH readings outside of the acceptable SCDHEC range of 6 to 8.5. The GILC station recorded a minimum pH value of 5.9, which was below the acceptable SCDHEC range.
- The GILA station recorded an average DO value of 9.2 mg/L, the GILB station recorded an average DO value of 8.5 mg/L, and the GILC station recorded an average DO value of 7.6 mg/L, all of which were above the SCDHEC daily average DO standard of 5 mg/L.
- During this deployment period, the GILA, GILB, and GILC stations recorded minimum DO levels of 8.1 mg/L, 6.8 mg/L, and 2.5 mg/L, respectively. GILA and GILB did not record any DO values below the SCDHEC instantaneous minimum standard of 4 mg/L. GILC recorded DO values below this standard. These low values at GILC were recorded during a storm event and during a potential illicit discharge activity.

Storm Events

- The GILA station recorded 8 storm events resulting in approximately 4.4 inches of rainfall. The GILB station recorded 8 storms that resulted in approximately 4.2 inches of rainfall. The GILC station recorded 6 storms that resulted in approximately 3.7 inches of rainfall.
- The monitored water quality parameters all displayed typical storm event response patterns during the recorded storm events in the Gills Creek watershed.

Potential Illicit Discharges and Abnormal Events

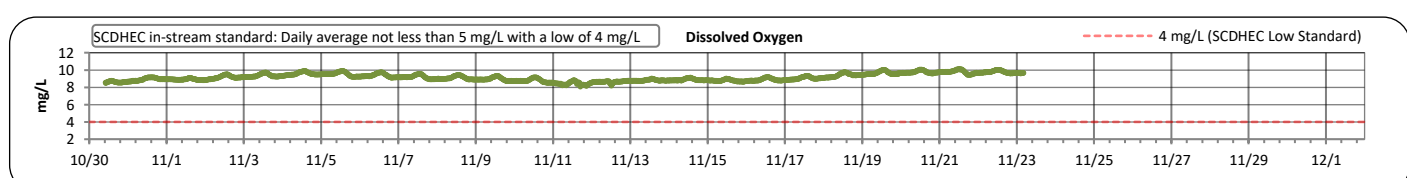
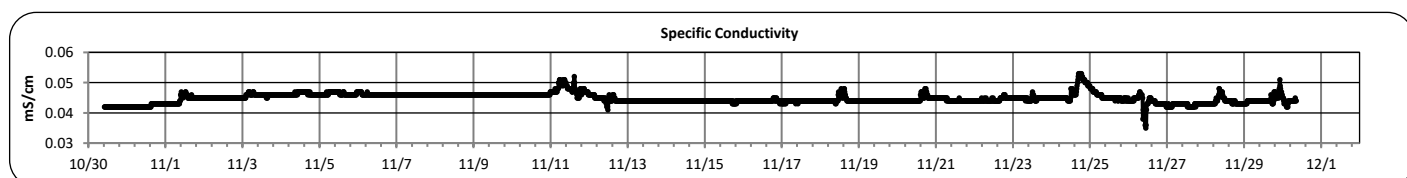
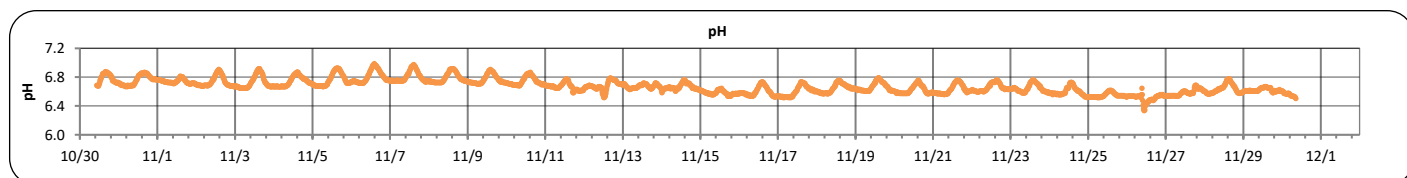
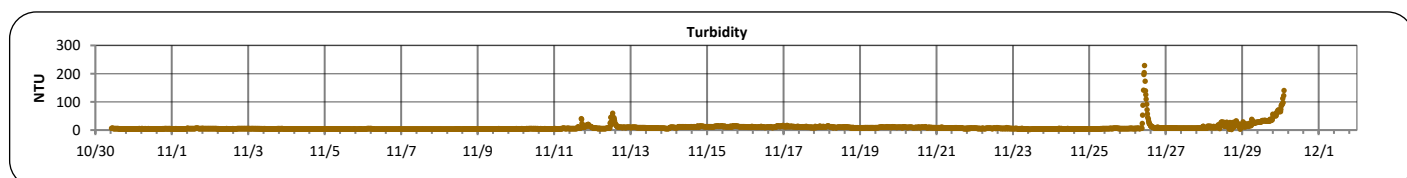
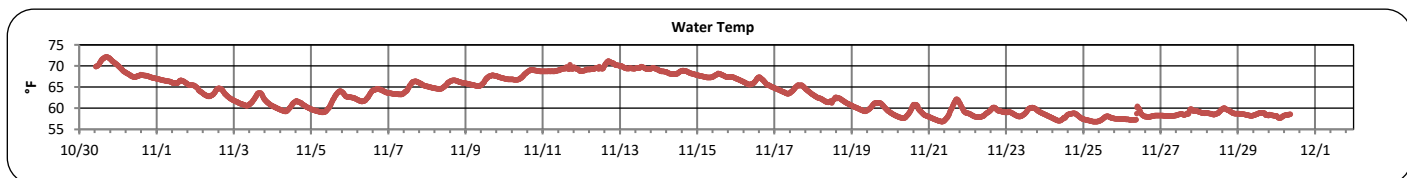
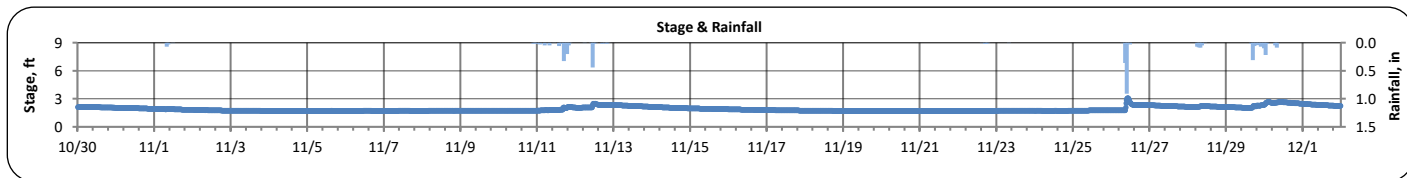
- At the GILA station, the specific conductivity increased several times during this deployment period. These specific conductivity spikes occurred on the following dates: November 11th, November 24th – 25th, November 28th, and November 29th.
- At the GILB station, the specific conductivity increased several times during this deployment period. These specific conductivity spikes occurred on the following dates: November 1st, November 11th, November 28th, and November 29th.

Flow Measurements

- No flow measurements were taken in Gills Creek during this monitoring period.

Gills Creek A (October 30, 2020 - December 1, 2020)

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Gills Creek	STAGE (FT):	1.7	3.1	1.8	1.9	0.3
LOCATION:	Forest Drive Bridge	TEMPERATURE (°F):	57	72	63	63	4
ADDRESS:	4840 Forest Drive, Columbia, SC 29206	TURBIDITY (NTU):	2	229	6	9	12
COORDINATES:	34.019826, -80.963566	pH:	6.3	7.0	6.7	6.7	0.1
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.035	0.053	0.045	0.045	0.002
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	8.1	10.2	9.1	9.2	0.4
APPROX. DRAINAGE AREA:	48 square miles						
SPATIAL LOCATION:	Most upstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	8						
MAX. DAILY RAINFALL:	1.3 inches						
TOTAL RAINFALL (FOR PERIOD):	4.4 inches						



Note: Data gaps appear when the sonde is removed for calibration or when the flow depth is below the sensors

**Continuous Water Quality
Monitoring Periodic Report**

Gills Creek A (October 30, 2020 - December 1, 2020)

Explanation of Statistics:

MINIMUM OBSERVED	The minimum of the values recorded by the datasonde in 15 minute intervals.
MAXIMUM OBSERVED	The maximum of the values recorded by the datasonde in 15 minute intervals.
MEDIAN OBSERVED	The median of all the values recorded by the datasonde in 15 minute intervals.
MEAN OBSERVED	The average of all the values recorded by the datasonde in 15 minute intervals.
STANDARD DEVIATION	The standard deviation of all the values recorded by the datasonde in 15 minute intervals.

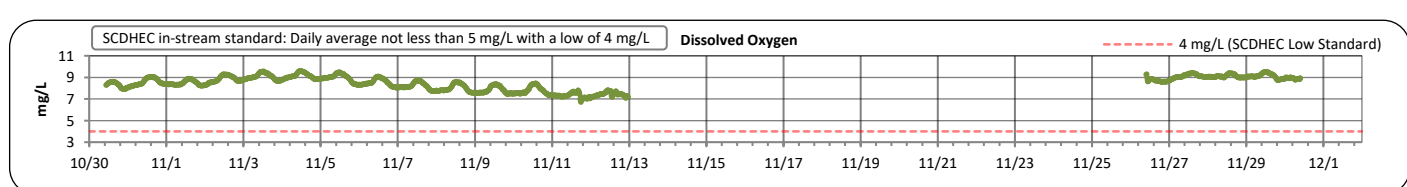
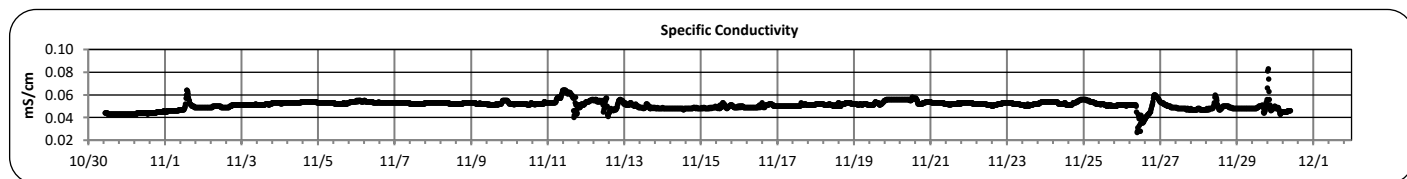
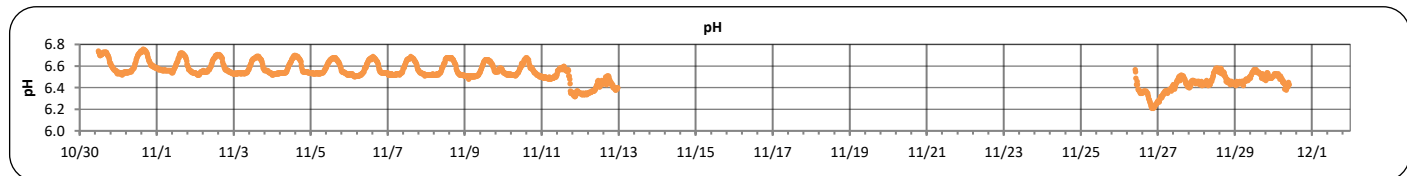
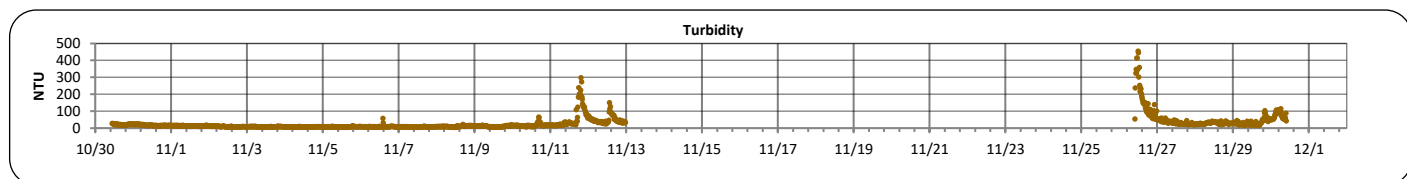
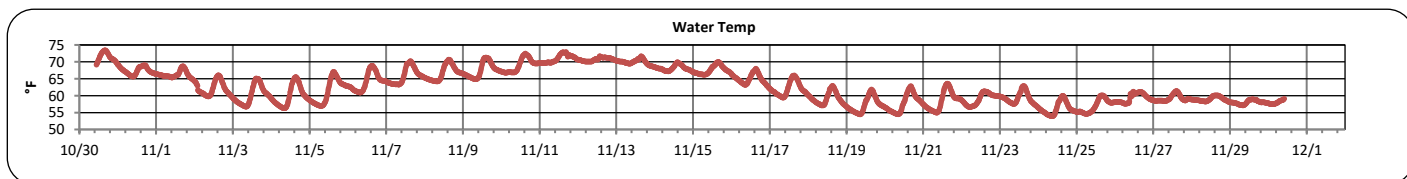
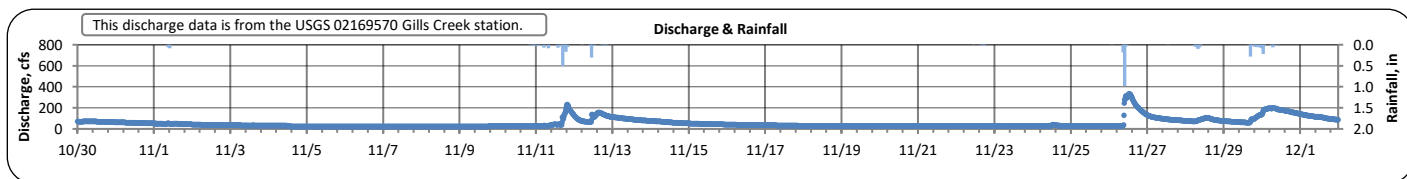
Sampled Data:

Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	11/12/2020		11/12/2020		11/12/2020			
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)	8:50	486	11:15	5,510	13:15	7,308		
Total Suspended Solids (mg/L)	8:50	5.7	11:15	65.6	13:15	46.4		
Total Phosphorus (mg/L)	8:50	0.039	11:15	0.093	13:15	0.07		
Total Nitrogen (mg/L)	8:50	0.5	11:15	0.79	13:15	0.89		

Notes: All samples were taken during wet weather conditions.

Gills Creek B (October 30, 2020 - December 1, 2020)

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Gills Creek	DISCHARGE (CFS):	24.1	335.0	34.2	55.6	45.7
LOCATION:	Devine Street bridge	TEMPERATURE (°F):	54	73	62	63	5
ADDRESS:	4716 Devine Street Columbia, SC 29209	TURBIDITY (NTU):	6	456	15	27	41
COORDINATES:	33.989656, -80.97433	pH:	6.2	6.8	6.5	6.5	0.1
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.027	0.083	0.052	0.051	0.004
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	6.8	9.7	8.6	8.5	0.6
APPROX. DRAINAGE AREA:	59 square miles						
SPATIAL LOCATION:	Middle site						
TOTAL NO. STORMS OVER 0.1 INCH:	8						
MAX. DAILY RAINFALL:	1.2 inches						
TOTAL RAINFALL (FOR PERIOD):	4.2 inches						



Note: Data gaps appear when the sonde is removed for calibration or when the flow depth is below the sensors

**Continuous Water Quality
Monitoring Periodic Report**

Gills Creek B (October 30, 2020 - December 1, 2020)

Explanation of Statistics:

MINIMUM OBSERVED	The minimum of the values recorded by the datasonde in 15 minute intervals.
MAXIMUM OBSERVED	The maximum of the values recorded by the datasonde in 15 minute intervals.
MEDIAN OBSERVED	The median of all the values recorded by the datasonde in 15 minute intervals.
MEAN OBSERVED	The average of all the values recorded by the datasonde in 15 minute intervals.
STANDARD DEVIATION	The standard deviation of all the values recorded by the datasonde in 15 minute intervals.

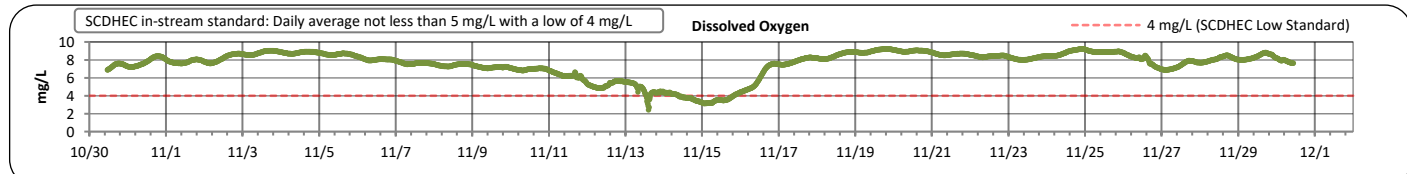
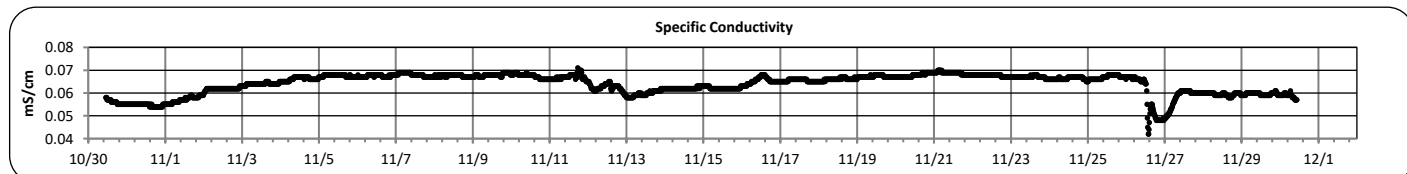
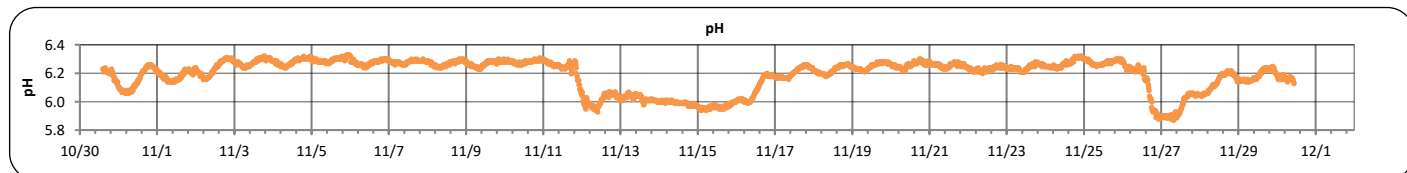
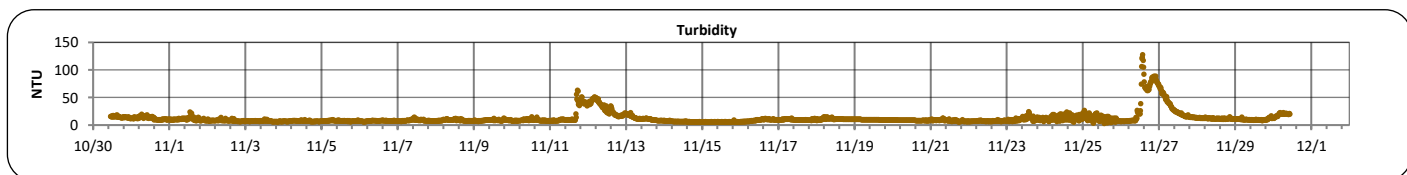
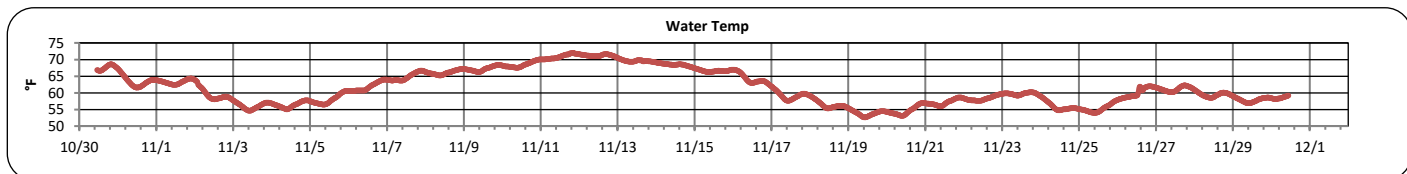
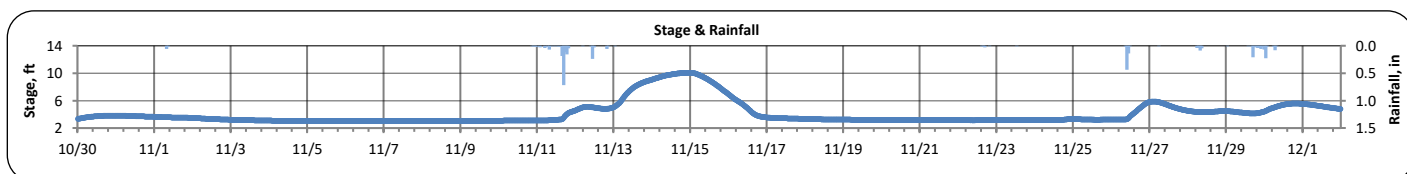
Sampled Data:

Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	11/12/2020		11/12/2020		11/12/2020		11/20/2020	
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)	9:45	1,596	11:30	4,666	14:00	14,540	9:12	126
Total Suspended Solids (mg/L)	9:45	30.3	11:30	40	14:00	126	9:12	68.4
Total Phosphorus (mg/L)	9:45	0.047	11:30	0.066	14:00	0.12		
Total Nitrogen (mg/L)	9:45	0.66	11:30	0.64	14:00	0.72		

Notes: Samples 1-3 were taken during wet weather conditions. Sample 4 was taken during dry weather conditions.

Gills Creek C (October 30, 2020 - December 1, 2020)

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Gills Creek	STAGE (FT):	3.0	10.1	3.3	4.1	1.7
LOCATION:	Bluff Road bridge	TEMPERATURE (°F):	53	72	60	62	5
ADDRESS:	3009 Bluff Rd. Columbia, SC 29209	TURBIDITY (NTU):	3	128	10	13	12
COORDINATES:	33.948043, -80.9889	pH:	5.9	6.3	6.2	6.2	0.1
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.042	0.071	0.066	0.064	0.004
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	2.5	9.3	8.0	7.6	1.5
APPROX. DRAINAGE AREA:	64 square miles						
SPATIAL LOCATION:	Most downstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	6						
MAX. DAILY RAINFALL:	1.44 inches						
TOTAL RAINFALL (FOR PERIOD):	3.7 inches						



Note: Data gaps appear when the sonde is removed for calibration or when the flow depth is below the sensors

**Continuous Water Quality
Monitoring Periodic Report**

Gills Creek C (October 30, 2020 - December 1, 2020)

Explanation of Statistics:

MINIMUM OBSERVED	The minimum of the values recorded by the datasonde in 15 minute intervals.
MAXIMUM OBSERVED	The maximum of the values recorded by the datasonde in 15 minute intervals.
MEDIAN OBSERVED	The median of all the values recorded by the datasonde in 15 minute intervals.
MEAN OBSERVED	The average of all the values recorded by the datasonde in 15 minute intervals.
STANDARD DEVIATION	The standard deviation of all the values recorded by the datasonde in 15 minute intervals.

Sampled Data:

Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	11/12/2020		11/12/2020		11/12/2020		11/20/2020	
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)	10:19	4,196	11:50	2,758	14:04	7,308	9:35	170
Total Suspended Solids (mg/L)	10:19	15.1	11:50	15.8	14:04	27	9:35	7.1
Total Phosphorus (mg/L)	10:19	0.064	11:50	0.075	14:04	0.088		
Total Nitrogen (mg/L)	10:19	0.53	11:50	0.73	14:04	0.74		

Notes: Samples 1-3 were taken during wet weather conditions. Sample 4 was taken during dry weather conditions.