

# Gills Creek Monitoring Sites

## Monitoring Data Summary for August 27<sup>th</sup>, 2020 – September 24<sup>th</sup>, 2020

### *Data Gaps*

- The GILA station experienced turbidity sensor fouling from September 19<sup>th</sup> to September 21<sup>st</sup>. This period of turbidity data was removed from the dataset.
- The GILB station sonde was buried from September 13<sup>th</sup> to September 23<sup>rd</sup>, so the turbidity, DO, pH, specific conductivity, and temperature data during that period were removed from the dataset.
- The GILC station experienced turbidity sensor fouling from September 11<sup>th</sup> to September 12<sup>th</sup> and September 14<sup>th</sup> to September 18<sup>th</sup>. These periods of turbidity data were removed from the dataset.

### *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 5.8, which was below the acceptable SCDHEC range.
- The GILA station recorded an average DO value of 7.4 mg/L, the GILB station recorded an average DO value of 6.4 mg/L, and the GILC station recorded an average DO value of 5.8 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 5.8 mg/L, 5.2 mg/L, and 4.9 mg/L, respectively. All stations did not record any DO values below the SCDHEC instantaneous minimum standard of 4 mg/L.

### *Storm Events*

- The GILA station recorded 4 storm events resulting in approximately 5.1 inches of rainfall. The GILB station recorded 5 storms that resulted in approximately 4.8 inches of rainfall. The GILC station recorded 2 storms that resulted in approximately 3.8 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*

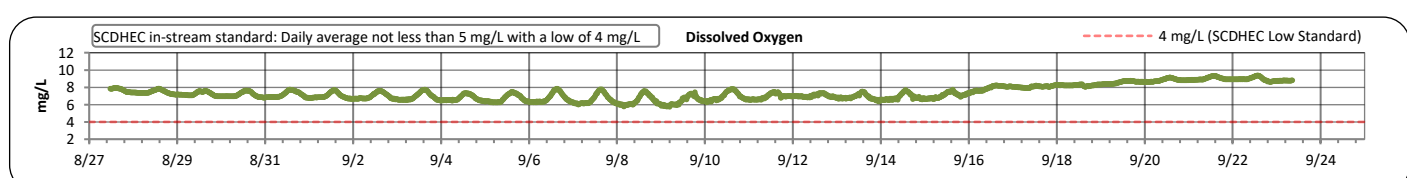
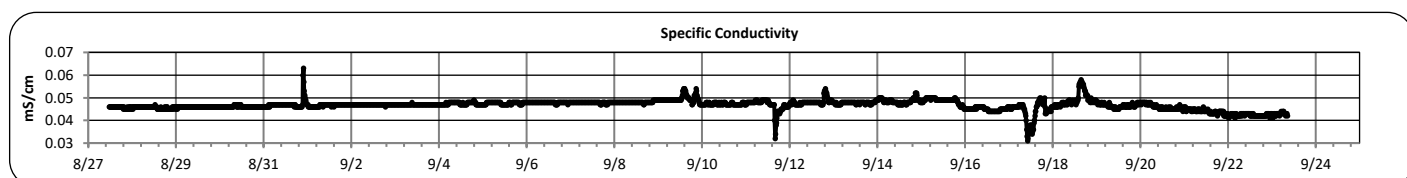
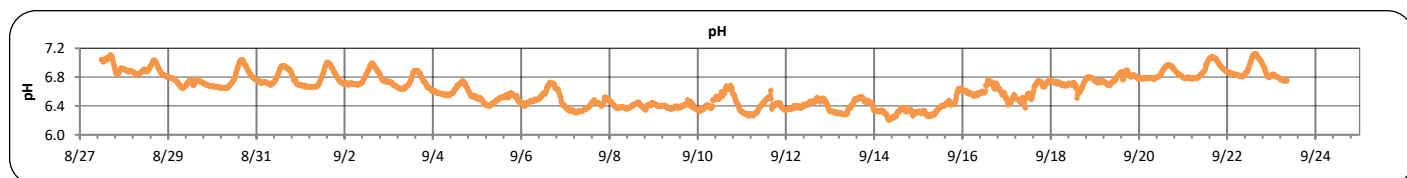
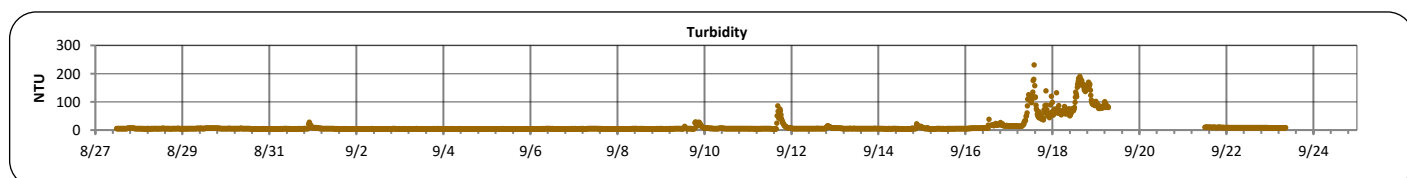
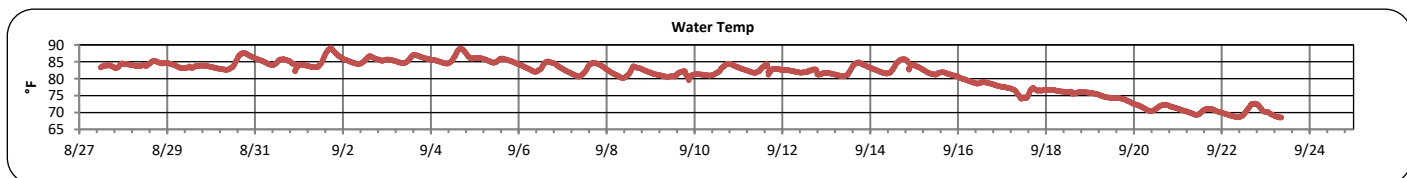
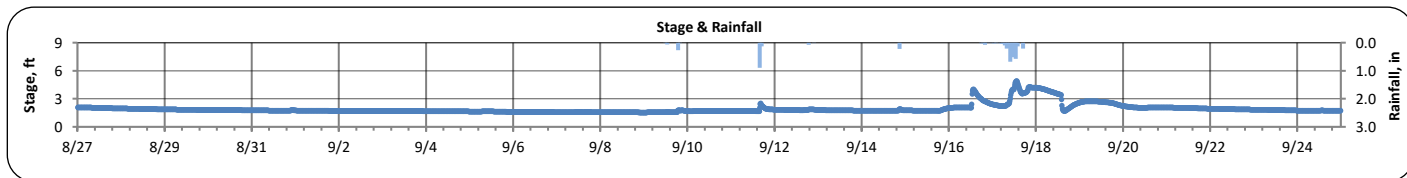
- At the GILA station, the specific conductivity increased several times during this deployment period. These specific conductivity spikes occurred on the following dates: August 31<sup>st</sup>, September 9<sup>th</sup>, September 12<sup>th</sup>, and September 18<sup>th</sup>.
- At the GILB station, the specific conductivity increased several times during this deployment period. These specific conductivity spikes occurred on the following dates: September 1<sup>st</sup>, September 5<sup>th</sup>, and September 9<sup>th</sup>.
- At the GILC station, the specific conductivity spiked on September 10<sup>th</sup>.

### *Flow Measurements*

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

**Gills Creek A (August 27, 2020 - September 24, 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):	1.6	4.9	1.8	1.9	0.5
LOCATION:	Forest Drive Bridge	TEMPERATURE (°F):	69	89	83	81	5
ADDRESS:	4840 Forest Drive, Columbia, SC 29206	TURBIDITY (NTU):	4	231	6	14	26
COORDINATES:	34.019826, -80.963566	pH:	6.2	7.1	6.7	6.6	0.2
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.031	0.063	0.047	0.047	0.002
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	5.8	9.4	7.2	7.4	0.8
APPROX. DRAINAGE AREA:	48 square miles						
SPATIAL LOCATION:	Most upstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	4						
MAX. DAILY RAINFALL:	3.2 inches						
TOTAL RAINFALL (FOR PERIOD):	5.1 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 (August 27, 2020 - September 24, 2020)**

**Explanation of Statistics:**

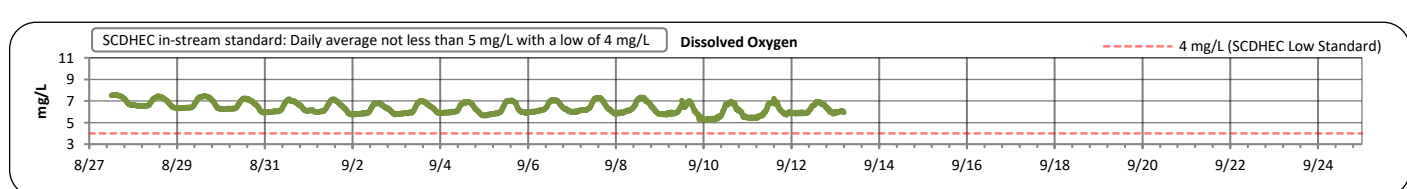
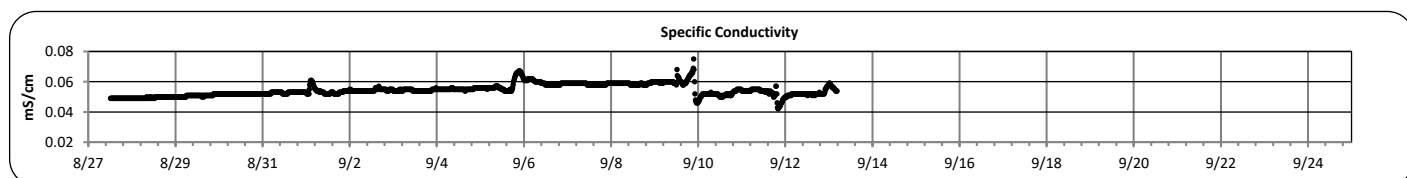
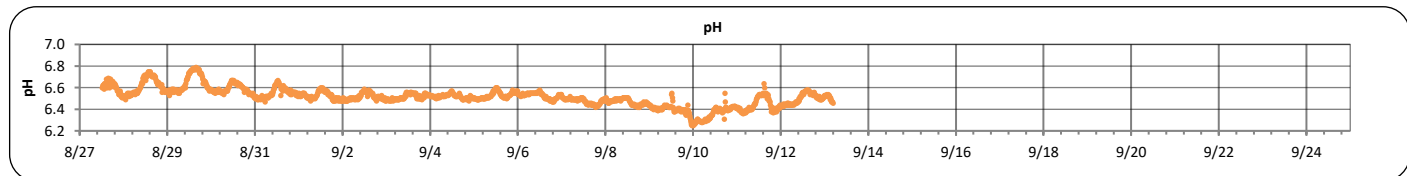
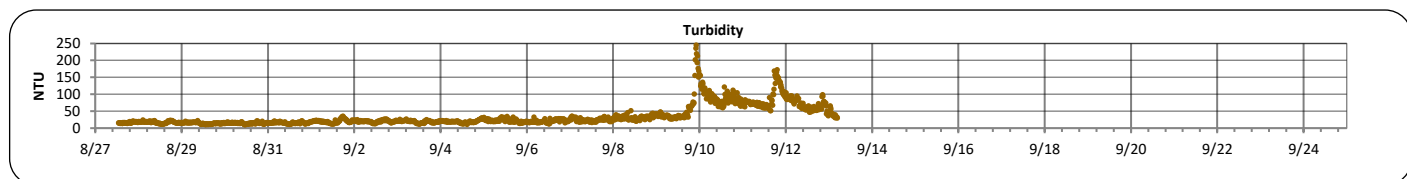
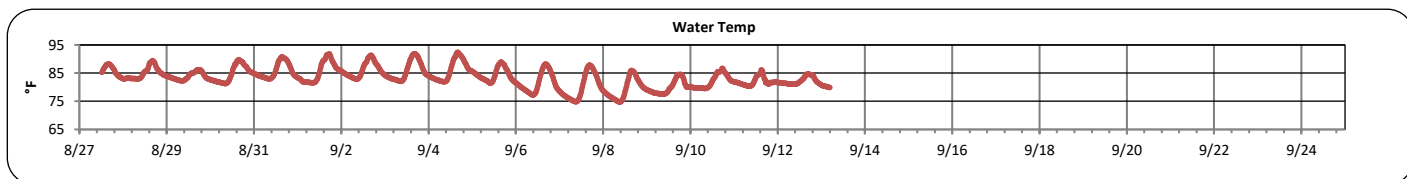
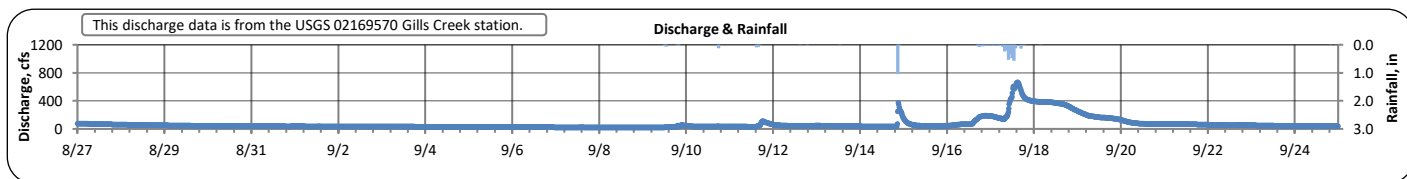
<b>MINIMUM OBSERVED</b>	The minimum of the values recorded by the datasonde in 15 minute intervals.
<b>MAXIMUM OBSERVED</b>	The maximum of the values recorded by the datasonde in 15 minute intervals.
<b>MEDIAN OBSERVED</b>	The median of all the values recorded by the datasonde in 15 minute intervals.
<b>MEAN OBSERVED</b>	The average of all the values recorded by the datasonde in 15 minute intervals.
<b>STANDARD DEVIATION</b>	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	
	9/17/2020		9/17/2020		9/17/2020		9/17/2020	
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)	10:16	9,768	11:12	6,896	12:37	9,222	14:03	4,028
Total Suspended Solids (mg/L)	10:16	160	11:12	164	12:37	126	14:03	119
Total Phosphorus (mg/L)	10:16	0.17	11:12	0.14	12:37	0.12	14:03	0.11
Total Nitrogen (mg/L)	10:16	1.25	11:12	1.42	12:37	0.99	14:03	1.09

**Gills Creek B (August 27, 2020 - September 24, 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):	23.0	667.0	42.7	73.5	91.4
LOCATION:	Devine Street bridge	TEMPERATURE (°F):	75	92	83	83	4
ADDRESS:	4716 Devine Street Columbia, SC 29209	TURBIDITY (NTU):	11	246	22	34	30
COORDINATES:	33.989656, -80.97433	pH:	6.3	6.8	6.5	6.5	0.1
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.042	0.075	0.054	0.054	0.004
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	5.2	7.6	6.3	6.4	0.5
APPROX. DRAINAGE AREA:	59 square miles						
SPATIAL LOCATION:	Middle site						
TOTAL NO. STORMS OVER 0.1 INCH:	5						
MAX. DAILY RAINFALL:	2.9 inches						
TOTAL RAINFALL (FOR PERIOD):	4.8 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 (August 27, 2020 - September 24, 2020)**

**Explanation of Statistics:**

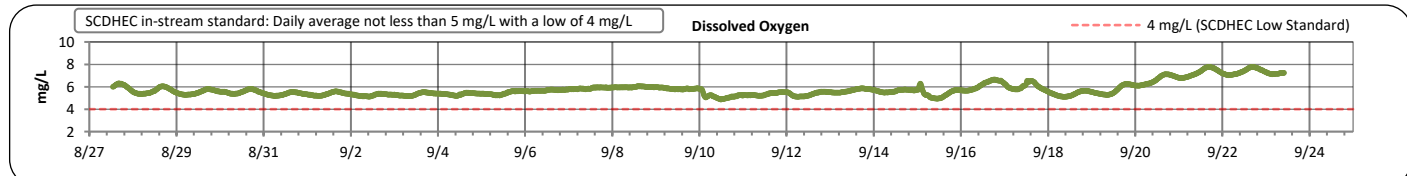
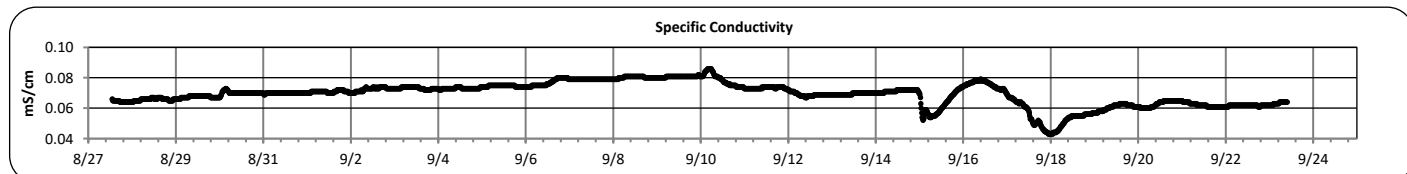
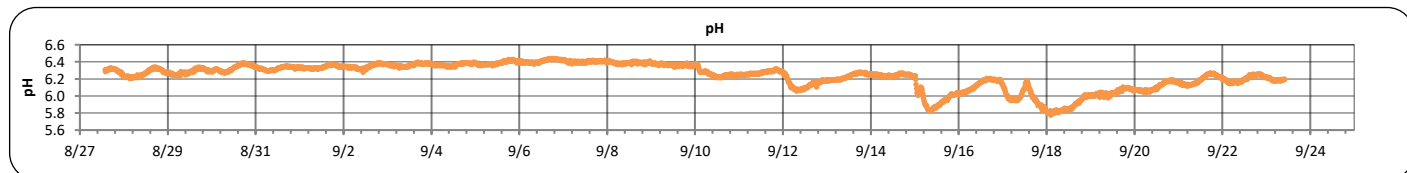
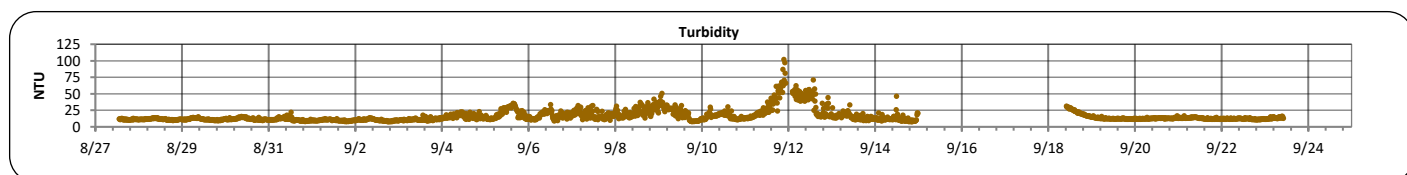
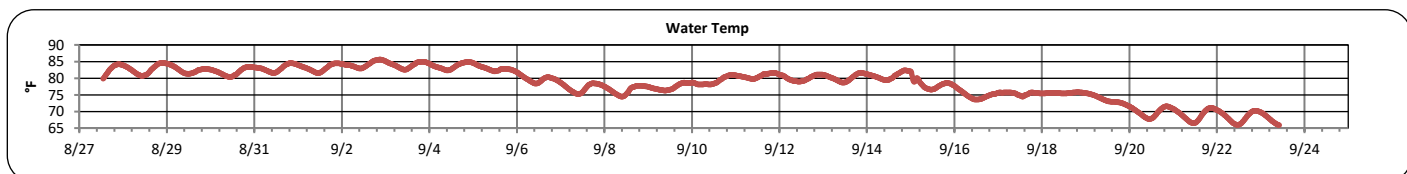
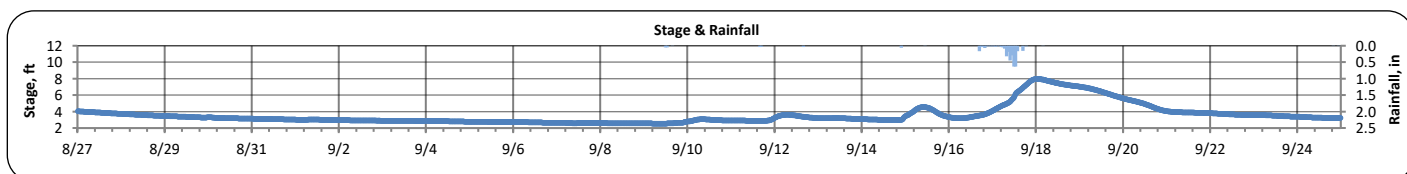
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**Sampled Data:**

Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	9/17/2020		9/17/2020		9/17/2020		9/17/2020	
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)	9:54	4,286	10:55	9,768	11:50	17,330	13:49	11,590
Total Suspended Solids (mg/L)	9:54	74.8	10:55	222	11:50	309	13:49	188
Total Phosphorus (mg/L)	9:54	0.08	10:55	0.17	11:50	0.18	13:49	0.13
Total Nitrogen (mg/L)	9:54	0.98	10:55	1.44	11:50	1.56	13:49	0.52

**Gills Creek C (August 27, 2020 - September 24, 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):	2.6	8.0	3.2	3.6	1.2
LOCATION:	Bluff Road bridge	TEMPERATURE (°F):	66	86	80	79	5
ADDRESS:	3009 Bluff Rd. Columbia, SC 29209	TURBIDITY (NTU):	8	102	13	16	9
COORDINATES:	33.948043, -80.9889	pH:	5.8	6.4	6.3	6.2	0.1
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.043	0.086	0.07	0.069	0.008
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	4.9	7.8	5.6	5.8	0.6
APPROX. DRAINAGE AREA:	64 square miles						
SPATIAL LOCATION:	Most downstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	2						
MAX. DAILY RAINFALL:	3.1 inches						
TOTAL RAINFALL (FOR PERIOD):	3.8 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 (August 27, 2020 - September 24, 2020)**

**Explanation of Statistics:**

<b>MINIMUM OBSERVED</b>	The minimum of the values recorded by the datasonde in 15 minute intervals.
<b>MAXIMUM OBSERVED</b>	The maximum of the values recorded by the datasonde in 15 minute intervals.
<b>MEDIAN OBSERVED</b>	The median of all the values recorded by the datasonde in 15 minute intervals.
<b>MEAN OBSERVED</b>	The average of all the values recorded by the datasonde in 15 minute intervals.
<b>STANDARD DEVIATION</b>	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	
	9/17/2020		9/17/2020		9/17/2020		9/17/2020	
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)	9:32	ND	10:30	1,218	12:00	2,212	13:15	3,030
Total Suspended Solids (mg/L)	9:32	26	10:30	25.8	12:00	18.8	13:15	34.4
Total Phosphorus (mg/L)	9:32	0.065	10:30	0.073	12:00	0.11	13:15	0.1
Total Nitrogen (mg/L)	9:32	0.6	10:30	0.73	12:00	0.79	13:15	0.61