Gills Creek Monitoring Sites Monitoring Data Summary for November 7th, 2019 – December 11th, 2019

Data Gaps

- The GILA station did not have any interruptions in the data during this monitoring period.
- The GILB station experienced turbidity sensor fouling from December 8th until the end of the deployment period. This period of fouling turbidity data was removed from the dataset.
- The GILC station turbidity sensor was buried in sediment from November 16th-25th which caused unreliable turbidity readings, so this period of turbidity was deleted.
- The GILC station experienced turbidity sensor fouling from November 28th-December 3rd and this period of turbidity data was 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 reading of 5.9, which is slightly below the acceptable SCDHEC minimum value.
- The GILA station recorded an average DO value of 10.5 mg/L, the GILB station recorded an average DO value of 9.7 mg/L, and the GILC station recorded an average DO value of 8.8 mg/L, all of which are 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 8.6 mg/L, 6.7 mg/L, and 6.6 mg/L, respectively. None of the stations in the Gills Creek watershed recorded DO values below the SCDHEC instantaneous minimum standard of 4 mg/L.

Storm Events

- The GILA station recorded 9 storm events resulting in approximately 3.6 inches of rainfall. The GILB station recorded 10 storms that resulted in approximately 3.6 inches of rainfall. The GILC station recorded 11 storms that resulted in approximately 3.9 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.
- The maximum antecedent dry time since the last significant precipitation event (at least 0.1 inches) was approximately 9.4 days at each of the Gills Creek stations, occurring prior to the December 10th storm event.

Potential Illicit Discharges and Abnormal Events

- At the GILA station, slightly elevated specific conductivity levels were observed on: November 8th, 12th, 15th, 16th, 18th, 23rd, 27th-28th, and December 1st. Some of these elevated readings occurred during storm events.
- At the GILB station, slightly elevated specific conductivity levels were observed on: November 8th, 12th, 14th- 15th, 16th, 18th, 23rd, 27th-28th, and December 1st.

Flow Measurements

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





Gills Creek A (Nov 7, 2019 - Dec 11, 2019)

		со	NTINUOUS	SUMMARY STATISTICS					
PARAMETER	DESCRIPTION	PAF	TER QUALITY RAMETERS:	MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION	
STREAM NAME:	Gills Creek	ST/	AGE (FT):	2.1	2.8	2.2	2.3	0.1	
LOCATION:	Forest Drive Bridge	TEN	IPERATURE	50	66	52	E A	2	
ADDRESS:	4840 Forest Drive, Columbia, SC 29206	(°F)	:	50	66	53	54	3	
COORDINATES:	34.019826, -80.963566	TUF	RBIDITY (NTU):	3	169	5	7	8	
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen		ζ, γ						
NEIGHBORING LANDUSE:	Residential and commercial	DH:		6.4	7.0	6.6	6.6	0.1	
APPROX. DRAINAGE AREA:	48 square miles								
SPATIAL LOCATION:	Most upstream site	SPE		0.011	0.057	0.047	0.047	0.002	
TOTAL NO. STORMS OVER 0.1 INCH:	9	(mS	S/cm):	0.041	0.057	0.047	0.047	0.002	
MAX. DAILY RAINFALL:	0.7 inches	DIS	SOLVED	8.6	11.3	10.6	10.5	0.5	
IOTAL RAINFALL (FOR PERIOD):	3.6 inches	ox	rGEN (mg/L):						
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Note: Data gaps appear when the sonde is removed for calibration or when the flow depth is below the sensors

Gills Creek A (Nov 7, 2019 - Dec 11, 2019)

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:

	Sam	ple 1	Sample 2		Sam	ple 3	3 Sample 4	
Analyte (units)	11/8/	/2019	11/12/2019					
	Time	Results	Time	Results	Time	Results	Time	Results
Escherichia coli (MPN/100mL)	8:05	506	14:19	5,446				
Total Suspended Solids (mg/L)	8:05	12.8	14:19	30				
Total Phosphorus (mg/L)	8:05	0.043	14:19	0.073				
Total Nitrogen (mg/L)	8:05	0.62	14:19	1.32				

Notes:

Samples 1 and 2 were taken during wet weather conditions.



11/7

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Continuous Water Quality Monitoring Periodic Report



Gills Creek B (Nov 7, 2019 - Dec 11, 2019)

		CONTINUOUS	SUMMARY STATISTICS					
ARAMETER	DESCRIPTION	WATER QUALITY PARAMETERS:	MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION	
STREAM NAME:	Gills Creek	DISCHARGE (CFS):	21.9	112.0	35.2	39.1	14.2	
.OCATION:	Devine Street bridge	TEMPERATURE	49	69	54	55	3	
ADDRESS:	Columbia, SC 29209	(°F):						
OORDINATES:	33.989656, -80.97433	TURBIDITY (NTU):	10	352	27	39	34	
MDL/IMPAIRMENT:	Fecal & Dissolved Oxygen							
ANDUSE: APPROX. DRAINAGE	Residential and commercial	pH:	6.4	6.8	6.7	6.7	0.1	
	59 square miles							
PATIAL LOCATION:	Middle site	SPECIFIC CONDUCTIVITY	0.045	0.069	0.056	0.056	0.002	
OTAL NO. STORMS OVER 0.1 INCH:	10	(mS/cm):						
IAX. DAILY RAINFALL:	0.7 inches	DISSOLVED	67	10.7	9.8	9.7	0.6	
OTAL RAINFALL (FOR PERIOD):	3.6 inches	OXYGEN (mg/L):	0.7	10.7	5.0			
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Note: Data gaps appear when the sonde is removed for calibration or when the flow depth is below the sensors

Gills Creek B (Nov 7, 2019 - Dec 11, 2019)

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:

	Sam	ple 1	Sam	ple 2	Sample 3		Sam	ple 4
Analyte (units)	11/8/	/2019	11/12	/2019	11/20	/2019		
	Time	Results	Time	Results	Time	Results	Time	Results
Escherichia coli (MPN/100mL)	8:40	4,028	14:00	1,968	14:03	596		
Total Suspended Solids (mg/L)	8:40	146	14:00	175	14:03	40.3		
Total Phosphorus (mg/L)	8:40	0.15	14:00	0.17				
Total Nitrogen (mg/L)	8:40	2.16	14:00	2.22				

Notes:

Samples 1 and 2 were taken during wet weather conditions. Sample 3 was taken during dry conditions.





Gills Creek C (Nov 7, 2019 - Dec 11, 2019)

		CONTINUOUS	SUMMARY STATISTICS				
PARAMETER	DESCRIPTION	WATER QUALITY PARAMETERS:	MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Gills Creek	STAGE (FT):	3.1	4.7	3.6	3.7	0.3
LOCATION:	Bluff Road bridge	TEMPERATURE	46	64	50	50	2
ADDRESS:	3009 Bluff Rd. Columbia, SC 29209	(°F):	40	04	52	53	3
COORDINATES:	33.948043, -80.9889				9	10	6
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	TURBIDITY (NTU):	4	43			
NEIGHBORING LANDUSE:	Residential and commercial		5.0	6.4	6.0	<u> </u>	0.1
APPROX. DRAINAGE AREA:	64 square miles	pn.	5.9	0.4	0.2	0.2	0.1
SPATIAL LOCATION:	Most downstream site	SPECIFIC					
TOTAL NO. STORMS OVER 0.1 INCH:	11	CONDUCTIVITY (mS/cm):	0.064	0.076	0.071	0.072	0.003
MAX. DAILY RAINFALL:	0.91 inches	DISSOLVED	6.6	10.0			0.7
TOTAL RAINFALL (FOR PERIOD):	3.9 inches	OXYGEN (mg/L):	0.0	10.3	0.9	0.0	0.7











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

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Gills Creek C (Nov 7, 2019 - Dec 11, 2019)

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:

	Sam	ple 1	Sam	ple 2	Sample 3		Sam	ple 4
Analyte (units)	11/8,	/2019	11/12	11/12/2019		11/20/2019		
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)	9:07	1,234	14:40	148	14:28	482		
Total Suspended Solids (mg/L)	9:07	11.6	14:40	5.9	14:28	6.8		
Total Phosphorus (mg/L)	9:07	0.07	14:40	0.047				
Total Nitrogen (mg/L)	9:07	0.97	14:40	1.38				

Notes:

Samples 1 and 2 were taken during wet weather conditions. Sample 3 was taken during dry conditions.