Smith Branch Monitoring Sites
Monitoring Data Summary for
November 7th, 2019 – December 11th, 2019

Data Gaps

- The DO and turbidity sensors became buried in sediment during the December 1st storm event. A field visit by Woolpert field staff on December 3rd cleared the sediment covering the sensors so the DO and turbidity data was removed from the dataset from December 1st-3rd.
- Heavy sediment accumulation covered the turbidity sensor on December 6th which resulted in invalid NTU readings, so the turbidity data was deleted from December 6th until the end of the deployment period.
- The SMIB station experienced submergence issues during this monitoring period. Several periods of water quality data were deleted because the sonde's sensors were not submerged. On November 25th, the SMIB sonde was removed from the field due to low stage in the creek, therefore there is no water quality data record from November 25th-December 11th.
- The website experienced reporting issues with the CS451 pressure transducers at SMIA and SMIB from November 16th-17th, therefore no CS451 stage data was recorded during that time.

SCDHEC Standards

- The SMIB statistics are based only on the days that the sonde was deployed in the field and the sensors were submerged.
- The SMIA and SMIB stations did not record any pH values outside of the acceptable SCDHEC range of 6 to 8.5.
- The SMIA station recorded an average DO concentration of 9.1 mg/L and the SMIB station recorded an average DO concentration of 9.8 mg/L, which are both above the SCDHEC daily average standard of 5 mg/L.
- The minimum DO concentration recorded at the SMIA station was 4.1 mg/L and 8.4 mg/L at the SMIB station, which are above the SCDHEC discrete minimum standard of 4 mg/L.

Storm Events

- The SMIA rain gauge recorded 10 storms (at least 0.1 inches) in this monitoring period resulting in 3.6 inches of precipitation. The SMIB rain gauge recorded 10 storms (at least 0.1 inches) resulting in 3.2 inches of precipitation.
- The SMIA monitoring station recorded typical water quality responses to the storm events observed during this monitoring period.
- The maximum antecedent dry time since the last significant precipitation event (at least 0.1 inches) was approximately 9.3 days at the ROCA station and approximately 9.4 days at the ROCB station, both occurring prior to December 10th.
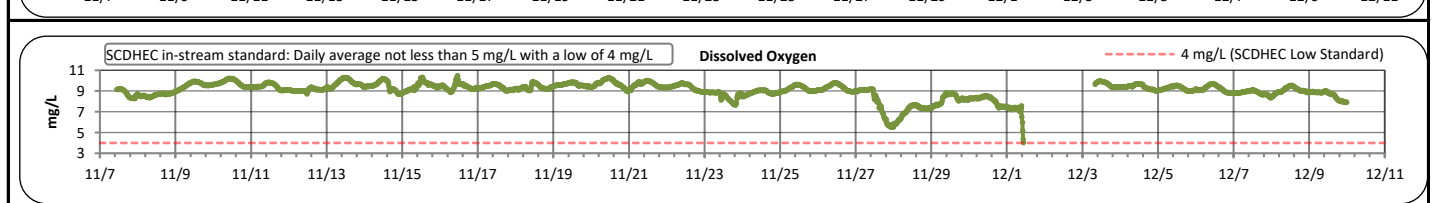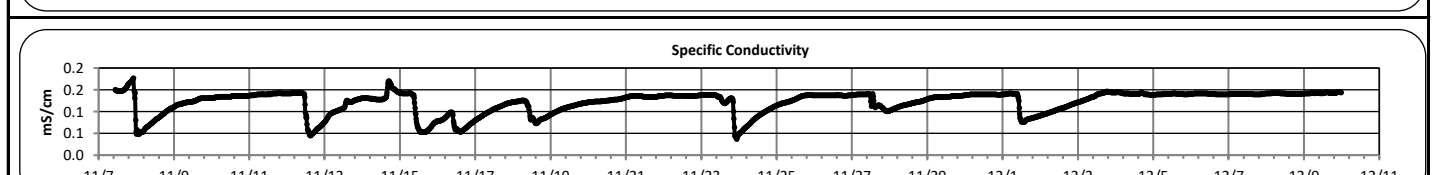
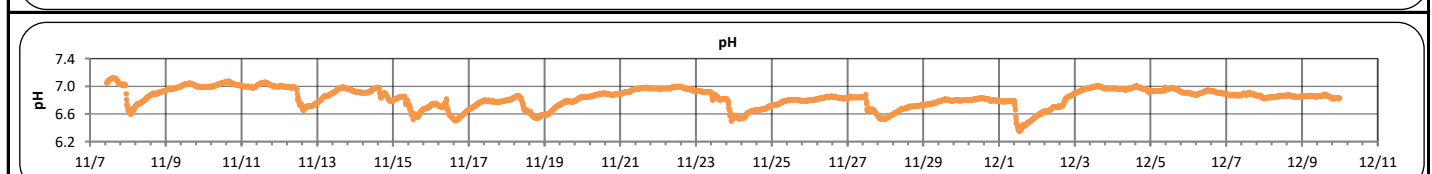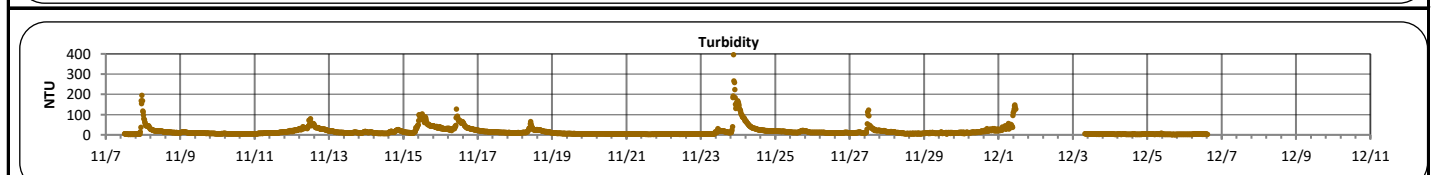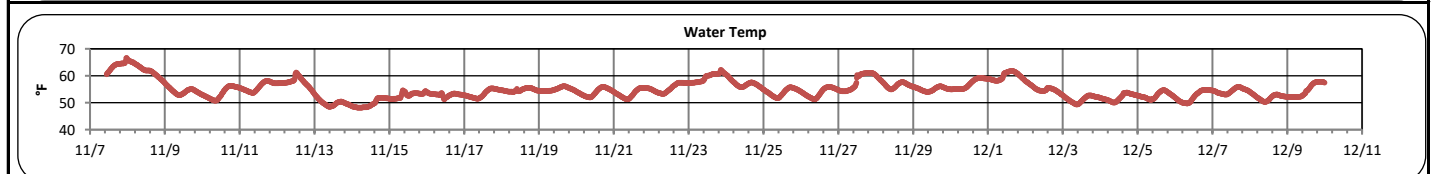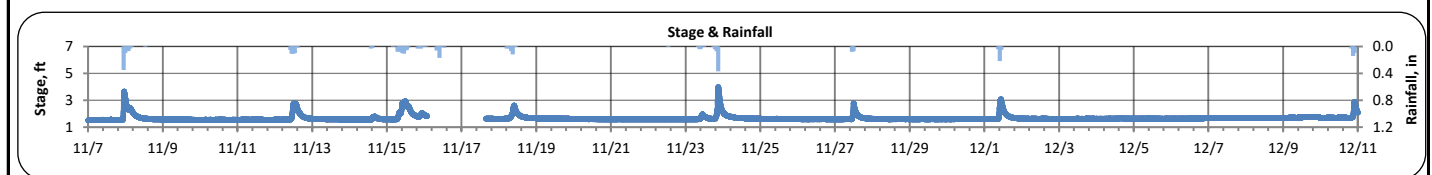*Potential Illicit Discharges and Abnormal Events*

- There were no potential illicit discharges or abnormal events observed at the SMIA station during this monitoring period.

Flow Measurements

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

City of Columbia, SC
Stormwater Management
Partnering for clean waterways

WOOLPERT

Smith Branch A (November 7, 2019 - December 11, 2019)

PARAMETER	DESCRIPTION
STREAM NAME:	Smith Branch
LOCATION:	Earlewood Park
ADDRESS:	1111 Parkside Dr Columbia, SC 29201
COORDINATES:	34.027289,-81.04265
TMDL/IMPAIRMENT:	Fecal Coliform
NEIGHBORING LANDUSE:	Residential and commercial
SPATIAL LOCATION:	Most upstream site
TOTAL NO. STORMS OVER 0.1 INCH:	10
MAX. DAILY RAINFALL:	0.6 inches
TOTAL RAINFALL (FOR PERIOD):	3.6 inches

CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
	MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STAGE (FT):	1.5	4.0	1.6	1.7	0.2
TEMPERATURE (°F):	48	67	55	55	3
TURBIDITY (NTU):	2	397	11	17	24
pH:	6.4	7.1	6.9	6.8	0.1
SPECIFIC CONDUCTIVITY (mS/cm):	0.037	0.177	0.134	0.123	0.025
DISSOLVED OXYGEN (mg/L):	4.1	10.5	9.2	9.1	0.8

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

Explanation of Statistics:

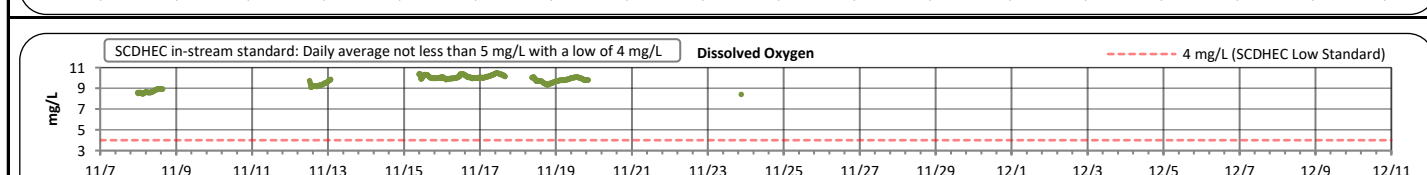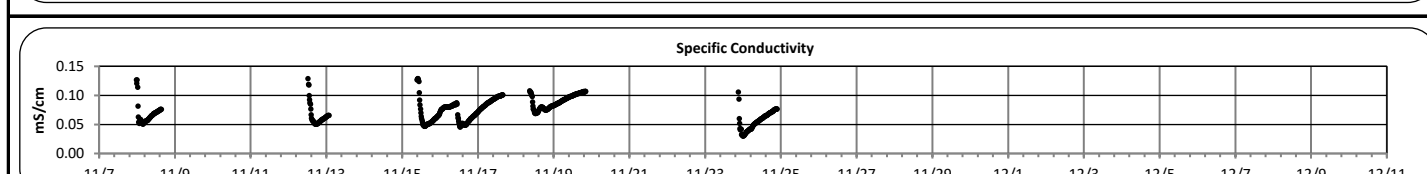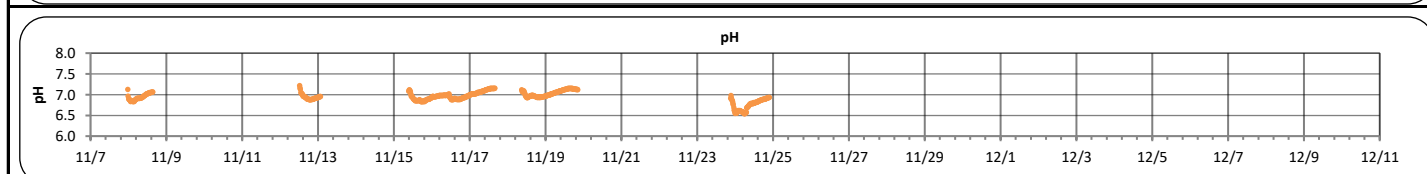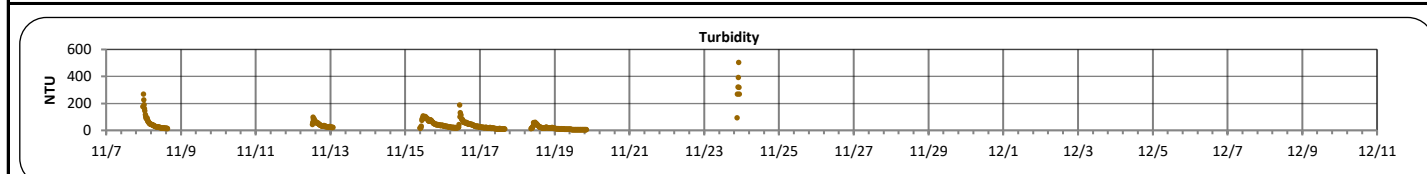|	
MINIMUM OBSERVED	The minimum of the values recorded by the datasonde in 15 minute intervals.
MAXIMUM OBSERVED	The maximum of the values recorded by the datasonde in 15 minute intervals.
MEDIAN OBSERVED	The median of all the values recorded by the datasonde in 15 minute intervals.
MEAN OBSERVED	The 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.

Grab Sample Data:

Analyte (units)	Sample 1 11/12/2019		Sample 2 11/12/2019		Sample 3 11/20/2019		Sample 4	
	Time	Result	Time	Result	Time	Result	Time	Result
Escherichia coli (MPN/100mL)	12:01	11590	13:04	9,768	13:20	62		
Total Suspended Solids (mg/L)	12:01	97.5	13:04	48	13:20	1.4		
Total Phosphorus (mg/L)	12:01	0.37	13:04	0.17				
Total Nitrogen (mg/L)	12:01	1.91	13:04	1.42				

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

City of Columbia, SC
Stormwater Management
Partnering for clean waterways

Continuous Water Quality
Monitoring Periodic Report

WOOLPERT

Smith Branch B (November 7, 2019 - December 11, 2019)

PARAMETER	DESCRIPTION
STREAM NAME:	Smith Branch
LOCATION:	Off Mountain Drive
NEAREST ADDRESS:	3950 Clement Rd Columbia, SC 29203
COORDINATES:	34.037933,-81.0591
TMDL/IMPAIRMENT:	Fecal Coliform
NEIGHBORING LANDUSE:	Residential and commercial
SPATIAL LOCATION:	Most Downstream Site
TOTAL NO. STORMS OVER 0.1 INCH:	10
MAX. DAILY RAINFALL:	0.6 inches
TOTAL RAINFALL (FOR PERIOD):	3.2 inches

CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
	MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STAGE (FT):	0.1	2.8	0.2	0.2	0.2
TEMPERATURE (°F):	50	66	54	55	4
TURBIDITY (NTU):	6	506	25	39	47
pH:	6.5	7.2	7.0	6.9	0.1
SPECIFIC CONDUCTIVITY (mS/cm):	0.030	0.129	0.072	0.073	0.020
DISSOLVED OXYGEN (mg/L):	8.4	10.5	10.0	9.8	0.5

Stage & Rainfall

Water Temp

Turbidity

pH

Specific Conductivity

Dissolved Oxygen
SCDHEC in-stream standard: Daily average not less than 5 mg/L with a low of 4 mg/L
4 mg/L (SCDHEC Low Standard)

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

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	
	Time	Result	Time	Result	Time	Result	Time	Result
Escherichia coli (MPN/100mL)								
Total Suspended Solids (mg/L)								
Total Phosphorus (mg/L)								
Total Nitrogen (mg/L)								