# Smith Branch Monitoring Sites Monitoring Data Summary for August 22<sup>nd</sup>, 2018 – September 26<sup>th</sup>, 2018

#### Data Gaps

- The SMIA sonde became buried on September 15<sup>th</sup> until September 18<sup>th</sup>. All water quality data was removed during this period except for specific conductivity. Specific conductivity was not impacted due to the location of the specific conductivity sensor on the sonde.
- At the SMIB station, significantly low flow conditions caused all of the sensors to be unsubmerged resulting in inaccurate data recorded from the beginning of this deployment period. The SMIB sonde was temporarily removed from the field on August 28<sup>th</sup> and was redeployed on September 12<sup>th</sup>, once the stage returned to a sufficient depth. All data from the beginning of the deployment period until September 12<sup>th</sup> was removed from the dataset.
- At the SMIB station, due to dry conditions and low flow, the specific conductivity sensor and temperature sensor became unsubmerged for several periods during this deployment. For the periods where the temperature sensor was unsubmerged, DO and pH values were also removed from the dataset because they are temperature dependent parameters.

#### SCDHEC Standards

- Neither of the Smith Branch stations recorded pH values outside of the acceptable SCDHEC range of 6 to 8.5.
- The SMIA and SMIB stations recorded average DO concentrations of 6.7 mg/L and 7.3 mg/L, respectively, which are well above the SCDHEC daily average standard of 5 mg/L.
- The minimum DO concentration recorded at the SMIA station was 4.6 mg/L and 6.6 mg/L at the SMIB station, which are above the SCDHEC discrete minimum standard of 4.0 mg/L.

#### Storm Events

- The SMIA station recorded 5 storms (at least 0.1 inches) in this monitoring period that resulted in 4.8 inches of precipitation. The SMIB station recorded 4 storms (at least 0.1 inches) in this monitoring period that resulted in 4.7 inches of precipitation.
- The Smith Branch monitoring stations both 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 inch) was approximately 20.7 days at the SMIA station and 21.8 days at the SMIB station, both occurring prior to the storm event on September 10<sup>th</sup>.

#### Potential Illicit Discharges and Abnormal Events

• There were no abnormal events observed at the Smith Branch stations during this deployment period.

#### Flow Measurements

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





#### Smith Branch A (August 22, 2018 -- September 26, 2018)



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

#### Smith Branch A (August 22, 2018 -- September 26, 2018)

## **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:

Applyto	Sample 1		Sample 2		Sample 3		Sample 4	
Analyte (upits)	8/24/2018							
(units)	Time	Result	Time	Result	Time	Result	Time	Result
Escherichia coli (MPN/100mL)	9:33	435.2						
Total Suspended Solids (mg/L)								
Total Phosphorus (mg/L)								
Total Nitrogen (mg/L)	9:33	1.2						

Note: The samples collected on 8/24/2018 at Smith A were collected during dry weather conditions and were collected by Woolpert for a secondary project.





## Smith Branch B (August 22, 2018 -- September 26, 2018)

		CONTINUOUS		SUMMARY STATISTICS				
PARAMETER	DESCRIPTION	WATER O PARAME	WATER QUALITY PARAMETERS:		MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Smith Branch	STAGE (FT):		0.0	3.8	0.1	0.2	0.4
LOCATION:	Off Mountain Drive			70	00			_
NEAREST ADDRESS:	3950 Clement Rd Columbia, SC 29203	TEMPER	TEMPERATURE (°F):		82	11	11	2
COORDINATES:	34.037933,-81.0591	TURBIDI	Y (NTU):	2	472	68	61	54
TMDL/IMPAIRMENT:	Fecal Coliform			_				0.
NEIGHBORING LANDUSE:	Residential and commercial	pH:		6.3	7.5	7.1	7.0	0.3
SPATIAL LOCATION:	Most Downstream Site							
TOTAL NO. STORMS OVER 0.1 INCH:	4	CONDUC (mS/cm):	SPECIFIC CONDUCTIVITY (mS/cm):		0.151	0.078	0.074	0.028
MAX. DAILY RAINFALL:	1.8 inches	DISSOLV	ED OXYGEN			7.4	7.0	0.4
TOTAL RAINFALL (FOR PERIOD):	4.7 inches	(mg/L):		0.0	8.0	7.4	7.3	0.4
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2								Lainfa
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			Water Tem	n				
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* 80 75								
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P 300 200								
8/22 8/24 8/20		3 9/5	9/7 9/9	9/11 9/13	9/15 9/1	7 9/19 9/2	21 9/23 9/	/25 9/27
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1.5 E 7.0				<b>/</b>	la			
6.0	8/28 8/30 9/1 9/3	9/5	9/7 9/9	9/11 9/13	9/15 9/17	7 9/19 9/2	21 9/23 9	/25 9/27
0/22 0/24 0/20		5/5	5,7 5,5	5,11 5,15	5,15 5,11	5,15 5,1	LI 5/25 5/	
Specific Conductivity								
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		and the second	<i>u</i>	-				
9 SCDHEC in-stream standard: Daily average not less than 5 mg/L with a low of 4 mg/L Dissolved Oxygen 4 mg/L (SCDHEC Low Standard)								
<mark>1, 7 дани 1, 20 дани</mark>								
3		2 0/5	0/7 0/2	0/11 0/1	2 0/45 0/	17 0/10 2	/21 0/22	0/25 0/27
8/22 8/24 8/26	o 8/28 8/30 9/1 9/	3 9/5	9/1 9/9	9/11 9/1	3 9/15 9/	1/ 9/19 9	9/23	9/25 9/27

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## Sampled Data:

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

Note: