

Stream Performance Standards				
Monitoring Variable	Monitoring Stations	Monitoring Interval	Interim Performance Standards^{1,4,13}	Final Performance Standards^{2,13}
Hydrologic Permanence ³	Nine stations with location coordinates provided on the attached "Stream Monitoring Station Location" Chart	Annual	Perennial stream restoration reaches will flow continuously (> 90% of calendar year) and intermittent restoration reaches will flow for at least 90 consecutive days of the year. Must meet interim performance standard for four consecutive years prior to moving to final performance standard ^{5, 8} .	Following achievement of interim performance, perennial stream restoration reaches will flow continuously (> 90% of calendar year) and intermittent restoration reaches will flow for at least 90 consecutive days of the year for three consecutive years ^{5, 8,12} .
Channel Dimension, Pattern & Profile	Nine stations with location coordinates provided on the attached "Stream Monitoring Station Location" Chart	Annual	All stream restoration reaches will remain within the design ranges (as detailed in table of Reach Metrics, dated 03/19/2020. Must meet interim performance standard for four consecutive years prior to moving to final performance standard.	Following achievement of interim performance, stream restoration reaches will remain within design ranges for three consecutive years.
Fecal Coliform	15 stations with location coordinates provided on the attached "Stream Monitoring Station Location" Chart	Annual May - October	All sampled streams originating on the site ⁹ will meet the state standard, and all sampled streams which originate offsite ¹⁰ will meet the state standard or demonstrate that fecal loads exceeding the standard are from offsite contamination and are subsequently reduced on the mitigation site ¹¹ . Must meet interim performance standard for four consecutive years prior to moving to final performance standard.	Following achievement of interim performance, all sampled streams originating on the site ¹⁰ will meet the state standard, and all sampled streams which originate offsite ¹⁰ will meet the state standard or demonstrate that fecal loads exceeding the standard are from offsite contamination and are subsequently reduced on the mitigation site ¹¹ . This performance standard must be achieved for three consecutive years.

Macroinvertebrates - Weighted Tolerance Values (WTV)	Nine stations with location coordinates provided on the attached "Stream Monitoring Station Location" Chart	Annual	Each stream restoration reach will achieve a weighted tolerance value of equal to or less than the assigned target value (as detailed in the table entitled "Big Indian Creek Mitigation Site Macroinvertebrates Performance Standards", dated August 26, 2020). Must meet interim performance standard prior to moving to final performance standard.	Following achievement of interim performance, each stream restoration reach will achieve a weighted tolerance value of equal to or less than the assigned target value for the final performance milestone. ¹²
Macroinvertebrates - Percent Ephemeroptera/Plecoptera/Trichoptera (EPT)	Nine stations with location coordinates provided on the attached "Stream Monitoring Station Location" Chart	Annual	Each stream restoration reach will achieve a percent EPT value of equal to or greater than the assigned target value (as detailed in the table entitled "Big Indian Creek Mitigation Site Macroinvertebrates Performance Standards", dated August 26, 2020). Must meet interim performance standard prior to moving to final performance standard.	Following achievement of interim performance, each stream restoration reach will achieve a percent EPT value of equal to or greater than the assigned target value for the final performance milestone. ¹²
Riparian Vegetation	27 riparian vegetation plots with location coordinates provided on the attached "Stream Monitoring Station Location" Chart	Monitoring will be conducted annually no later than mid-October ⁶	Minimum of 150 planted saplings (trees) per acre with a minimum DBH of 1-inch or greater. Volunteer stems can be counted toward target performance if they (a) are 1-inch DBH at the time evaluated and, (b) identified on an approved species list. Vegetation plots must have three or more dominant species (defined by the Dominance Test) from the approved species list.	Following achievement of interim performance, minimum of 150 planted saplings (trees) per acre with a minimum DBH of 2-inch or greater. Volunteer stems can be counted toward target performance if they (a) are 2-inch DBH at the time evaluated and, (b) identified on an approved species list. Vegetation plots must have three or more dominant species (defined by the Dominance Test) from the approved species list.
Streamside Vegetation	36 riparian vegetation plots with location coordinates	Monitoring will be conducted annually no later than mid-October ⁶	Within planted portions of streamside vegetation zones, there must be a minimum of 50 percent absolute woody stem foliar cover.	Within planted portions of streamside vegetation zones, there must be a minimum of 80 percent absolute canopy closure using the modified convex densiometer method as

	provided on the attached "Stream Monitoring Station Location" Chart			outlined in Appendix D of the 2018 Draft Monitoring Guidelines.
Exotic/Invasive Vegetation	27 riparian vegetation plots with location coordinates provided on the attached "Stream Monitoring Station Location" Chart	Annual	Across all strata, a cumulative maximum of 5 percent absolute vegetative cover of all Category 1 and 2 species and a cumulative maximum of 10% when including Category 3 and 4 species as listed on the Georgia Exotic Pest Plant Council's List of Non-native Invasive Plants in Georgia (https://www.gaeppc.org/list/). Must meet interim performance standard for four consecutive years prior to moving to final performance standard. ⁷	Following achievement of interim performance, across all strata, a cumulative maximum of 5 percent absolute vegetative cover of Category 1 and 2 species and a cumulative maximum of 10% when including Category 3 and 4 species as listed on the Georgia Exotic Pest Plant Council's List of Non-native Invasive Plants in Georgia (https://www.gaeppc.org/list/). This performance standard must be achieved for three consecutive monitoring years. ⁷
<p>¹All interim performance standards must be achieved for the project to move to the final performance milestone. Failure to meet ANY interim performance standard for any individual monitoring reach will delay achievement of interim project performance and extend the monitoring period and/or require submittal of a formal adaptive management plan to address the deficiency.</p> <p>²All final performance standards must be achieved to meet the final project performance milestone. Failure to meet ANY final performance standard will delay achievement of final performance and extend the monitoring period or require submittal of a formal adaptive management plan to address the deficiency. In the event of a final performance standard failure CCWA will coordinate with the USACE regarding corrective action.</p> <p>³For each stream reach, failure to achieve this interim and final performance standard will result in 0% of the credit generation to be realized. After at least two years of failure to meet a performance standard, CCWA may terminate monitoring of all stream performance standards on a monitoring reach and compensate for the associated stream credit deficiency with the purchase of commercial mitigation credits.</p> <p>⁴For each stream reach, if any monitoring variable does not meet the interim performance standard within six years of project implementation commensurate compensation will be required to be purchased for that stream reach in the form of commercial mitigation credits.</p>				

⁵ Consecutive monitoring years will not be interrupted by years the standard is not met due to drought conditions. Drought conditions will be defined as drier than normal conditions (<30th percentile) using methods described in *Assessing and Using Meteorological Data to Evaluate Wetland Hydrology*, Sprecher and Warne (2000).

⁶ Per the *Draft Monitoring Guidelines & Performance Standards for Freshwater Wetlands and Non-Tidal Streams* (2018) vegetation monitoring events (August - October) will be scheduled as near as possible to the same date(s) as previous monitoring events.

⁷ In the event a cumulative maximum of $\geq 5\%$ absolute vegetative cover of all species as listed on the *Georgia Exotic Pest Plant Council's List of Non-native Invasive Plants in Georgia* are documented, adaptive management measures will be implemented.

⁸ The following are classified as intermittent streams: Massey Flats and Bobcat Run.

⁹ Streams which originate on the Big Indian Creek Mitigation Site: Massey Flats, Bobcat Run, and Corn Crib Creek.

¹⁰ Streams which originate off the Big Indian Creek Mitigation Site: Caterpillar Creek, Case Creek Deere Draw, and Bulldozer Branch.

¹¹ The State water quality fecal standard is <500 CFU/100mL at baseflow during May through October. Background samples for streams which originate offsite will be taken upon entering the Big Indian Creek Mitigation Site except for Deere Draw which will be taken offsite to the east of Watts Road. CCWA reserves the right to conduct DNA testing of fecal inputs to determine if samples are from non-bovine and non-human sources.

¹² If a reach has reached the performance standard for all variables other than biological performance, monitoring/reporting of those variables may be discontinued, but biological monitoring must be performed annually until final performance standards have been achieved. In lieu of continuing to monitor biological performance, CCWA may elect to purchase commercial mitigation bank credits equaling 20% of the total credits generated on a stream reach not meeting biological performance standards to satisfy the standard.

¹³ Revisions to the performance standards may be approved through a formal mitigation plan modification.