Fletcher Stream and Wetland Mitigation Site

Annual Monitoring Report

Monitoring Year 3 of 7

FINAL

Fletcher Stream and Wetland Mitigation Site
NCDMS Contract No. 006997
NCDMS Project No. 100004
DWR# 16-1076
USACE Action ID: SAW-2016-02205
Henderson County, North Carolina
Data Collected: April 2022– January 2023
Date Submitted: February 2023

Submitted to:

NCDEQ-Division of Mitigation Services
1652 Mail Service Center Raleigh N C 27699-1652

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Harry Tsomides
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NCDEQ-DMS
Asheville Regional Office
2090 U.S. 70 Highway

Subject: Draft MY3 Monitoring Report
Fletcher Stream and Wetland Site, Henderson County
French Broad River CU 06010105
DMS Project ID No. 100004 / DEQ Contract #006997

Mr. Tsomides

On February 3, 2023 EWS received comments on the Fletcher Stream and Wetland Site Draft MY3 Monitoring Report. Included with the monitoring report comments are comments regarding the MY3 boundary inspection report conducted by DMS Staff. The following are DMS comments and responses by EWS (**in RED**).

Report Comments

- Other than the 14 LF erosion noted on Fletcher Reach 2B, the stream visual assessment tables indicate 100% performance across the site for all visual monitoring metrics. Can EWS confirm this is the case for 2022/MY3? If not then please update these tables accordingly. **One failed structure on Fletcher Reach 2A was discussed and mapped in addition to the 14 lf mentioned above. No other locations were called out in MY3.**

- DMS appreciates that some measures were taken in 2022 to try and address the violations however some of the problem areas have not disappeared and some new ones have occurred. Monitoring providers are responsible for annually checking and reporting on the easement integrity across the project site for encroachments, missing markers, adequate signage, fence breaks, etc. Please confirm that the site was fully checked and what the results are. Project easement violations need to be discussed in the text, noting what is occurring and where, and what remedial actions have been or will be taken. **The site was walked in its entirety on April 6 & 7 and September 14-15. Fence breaks, downed trees, and other potential problems were addressed throughout MY3 as observed. Text has been added to further address previous and current concerns.**

- For the vegetation visual assessment table, easement encroachment level was noted as 0.00 however this does not seem to capture the multiple sections of easement scalloping/ edge mowing that are currently occurring. **A number of areas called out during the easement inspection along Fletcher Reach 1A and B were re-planted during MY3 and signage added or modified. These areas have not fully healed from the initial encroachment. Fenceline mowing along the LDB of Fletcher 2A occurred after our September assessment and was conducted by day laborers not familiar with the restrictions of the easement. A 3' easement boundary setback from fences was incorporated in the alignment to allow for maintenance of fences. Some**

constrictions in this setback were identified and co-occur with areas of encroachment. The property owner and lessee have been consulted regarding easement restrictions. Tables and text will be updated with the most current conditions.

- Supplemental Planting has been mapped on the CCPVs and the plant list is included in Appendix F; please also note that all the species planted are from the IRT-approved mitigation plan. **The provided species list was drawn from the Approved mitigation plan. Clarifying text has been added to the report body.**

- Thank you for providing the culvert photos from on top of the culverts; however to fully view the stream conditions at the culvert intakes/outlets DMS would like to see photos looking into the culverts from either side (upstream and downstream) of the culverts to show if there are any ongoing concerns such as debris jamming, siltation, perching, etc. If this is not possible for this year's report please begin tracking this in 2023. **Clarification on the exact need, purpose, and expectation for requested photos is appreciated. Additional photos displaying these features will be provided starting in MY4.**

- It is noted that the area of bank scour (Station 142+25) on Fletcher Creek Reach 2B has remained stable from MY1 through MY3 and will continue to be monitored in future site visits for further signs of structural instability. Does EWS feel like live staking this section would be beneficial and reduce failure risks moving forward? **EWS initially treated the scour with livestakes and the addition was beneficial in stabilizing the area. Survival and growth of livestakes along Reach 2B has been high overall. EWS does not believe a reach wide supplemental planting is needed. Livestakes will be be utilized in areas identified as current or potential problems.**

- EWS indicates that geomorphology data were collected November 2022 to January 2023. Data collection for each year should be limited to the calendar year for which it is reporting, unless there are previously approved extenuating circumstances. **EWS makes a full faith effort to collect, process, and report data within an acceptable timeframe. Unforeseen and irreconcilable circumstances were present during MY3 such that pre-approval could not be planned for or requested.**

- Similarly, vegetation data should be collected prior to leaf drop. The growing season for the project is listed at 4/9 through 10/26; it is indicated that vegetation data were collected in November 2022. **EWS makes a full faith effort to collect, process, and report data within an acceptable timeframe. EWS began monitoring in October although vegetation data collection did extend ultimately into November.**

- The supplemental planting list (Appendix F) is comprised of species that were all in the approved mitigation plan; however quantities are not listed. Can EWS provide a planting area and quantities of each species? This would be helpful to know a) the area across the site that got planted relative to the total planted area, and b) an idea of the proportional amounts of each species (e.g., that it wasn't 90% one species and 10% all the rest). **The supplemental planting was conducted following identification of existing stem location. The planting re-established an approximate**

6' center of woody stems in encroachment and low stem density areas. A bulk order was placed for use in numerous projects. As such, EWS is unable to provide a specific number of stems planted at the Fletcher Project but can provide an approximate species distribution of approved species based upon that bulk order.

- Silky willow and black willow live stakes were two of the six supplementally planted species; typically, bare roots or containerized trees are used in supplemental plantings. Were the willow live stakes used mainly along the channel, and if so, does this indicate there were channel stability issues? **Livestakes were utilized to address poor initial livestake establishment, lack of shading, and herbaceous vegetation crowding along the stream. This effort was not in response to a channel or bank stability issue.**

- Thank you for your continued attention to the scattered invasives across the site; DMS appreciates EWS staying ahead of this issue in the earlier monitoring years. **Yearly treatments will be continued through the life of the project.**

- Continuous stage data –can EWS provide a timetable for replacing the Raccoon Branch pressure transducer in 2023, since it has had problems the past two monitoring years? **The Raccoon gauge and logger were replaced January 17th 2023.**

- Coates Reach 1B (lower) was noted last year as having in stream vegetation; can EWS provide an update on the conditions in this section with regard to vegetation in the channel? **Areas of herbaceous vegetation encroachment are still present. Supplemental planting of livestakes in early 2022 was conducted to provide more near stream cover and competition for herbaceous species.**

Conservation Easement Inspection Comments

Observations:

- Numerous mowed areas were observed along field/lawn boundaries and are shown in the attached kmz file. **Reviewed**
- Several areas with damaged fencing were seen but no livestock encroachment was noted at these locations. **Noted**
- A utility pole guy wire appears to be within the CE along Weston Creek. **Noted**
- A residential outdoor patio area with furniture is also located within the CE near Jackson Road along Weston Creek. **EWS is aware and is taking steps toward remediation.**
- A platted spring box is located at the upper end of Racoon Branch. **Noted**
- Numerous t-posts were loose/leaning. **Noted**
- The exclusion fencing is damaged at multiple locations including broken wire, fallen tree, broken H-bracing, disconnected gate, leaning post and missing sections of safety fence in row crop areas.
- A small area of soil disturbance suggested possible minor grading along the north side of Fletcher Creek. **This is a low area along the easement boundary where debris accumulates along the**

easement boundary during heavy rainfall. Debris is removed from this area on a regular basis by EWS or the lessee.

Action Items (please include written responses to each)

- Due to the numerous mowing encroachments and possible minor grading along the easement boundary, the easement marking should be upgraded and the landowner/operator should be notified about compliance. **The fence line mowing noted at Fletcher 2A was conducted by day laborers not properly informed on the restrictions of the easement. There is an average of a 3' setback from fencing to the easement boundary to allow for maintenance. EWS has consulted both the property owner and lessee regarding fencing repairs/maintenance and restrictions.**
- Repair damaged and improperly fastened signs and loose/leaning posts. **Loose and leaning posts will be repaired or upgraded with a u-posts and rivet configuration when identified.**
- Repair damaged livestock exclusion and safety fencing. **EWS has consulted both the property owner and lessee regarding exclusionary fencing repairs. It is EWS' understanding that the removal of safety fencing will be required prior to project closeout.**
- The platted soil road along Fletcher Creek appears to be abandoned and of little potential use. A deed modification or quit claim should be considered. **This road is currently in use by the lessee for maintenance of the nursery operation, predominantly during the summer months.**
- The residential outdoor patio encroachment still needs resolution. **Noted. A request to remove the remaining gravel has been made. A previous request to remove the furniture and fire ring was initially followed and remained in compliance through the September 2022 site walk. A check of this location conducted on February 10, 2023 showed that the furniture had been moved out of the easement. Once the remaining gravel is removed, the area is to be remediated with topsoil and seeded. Due to the existing canopy coverage planting of woody stems has not been planned. Natural recruitment is anticipated to occur.**

Digital Support File Comments

- The groundwater gauge data includes six additional gauges not referenced in the report; TW 1-6. Please clarify if this data was to be submitted with the Fletcher groundwater gauge data. **Removed template title from the electronic files.**
- The geodatabase file submitted does not contain any data. Please submit the required spatial data. This may be a download time out error that could be resolved by sending the spatial data zip file individually. **The finals will be delivered via jump drive.**

Sincerely,

David Tuch
Managing Partner

Prepared for:

EW SOLUTIONS

37 Haywood Street, Suite 100
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Prepared by:

EQUINOX

balance through proper planning

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1.0 PROJECT SUMMARY

1.1. Project Setting and Background

The Fletcher Stream and Wetland Mitigation Site (Fletcher Site) is located in the French Broad River Basin (CU 06010105). The Fletcher Site also lies within the lower portion of the Cane Creek (HUC 060101050703) watershed which is identified as a Targeted Local Watershed (TLW) according to the 2009 French Broad River Basin Restoration Priorities (RBRP) Plan. Project work at the Fletcher Site was completed in March 2019, and included construction, planting, monitoring feature installation, and fence installation. Through the project work, a total of 9,528 linear feet were restored, 896 linear feet were enhanced through Enhancement II activities, 1,249 linear feet were preserved, and 8.91 acres of wetland were re-established. The Fletcher Site is anticipated to generate a total of 10,011.300 SMU's and 8.910 WMU's. Refer to Appendix A, Table 1 for the project components and mitigation credit information and Figure 2 for the Project Asset Map.

Historic land use at the Fletcher Site has consisted primarily of agriculture and livestock grazing. Additional land use practices, including the excavation of drainage ditches, maintenance and removal of riparian vegetation, and the relocating, dredging, and straightening of on-site streams have contributed to unstable channel characteristics, degraded water quality, and degradation of prior wetlands. Previous stream conditions at the site consisted of incised channels with unstable banks and a limited riparian buffer width. Fletcher Creek and Coates Branch flow though active pastures with livestock access to the streams. The floodplain adjacent to Weston Creek contains approximately 8.91 acres of mapped hydric soils that have been farmed for produce. Previous ditching and farming activities eliminated jurisdictional wetlands. The completed project restored ecological function to the existing streams, wetlands, and riparian corridor by returning streams to a proper relationship with the floodplain, excluding cattle from the riparian buffer, eliminating drainage ditches and spoil piles, removing invasive species, and re-vegetating the riparian buffer with native plant species appropriate for the valley and the watershed conditions. Grading activities improved the groundwater hydrology of the onsite wetlands, increased hydrologic access of the floodplain for overbank flows, and provided attenuation of flood flows.

This project is protected by a 34.81-acre conservation easement and is located approximately 1.1 miles southeast of Fletcher, NC in Henderson County at 35.422278° N, -82.486183° W. The Fletcher Site is bounded by agricultural land and is bisected by Jackson Road.

1.2. Project Goals and Objectives

The project goals address stressors identified in the TLW and priority subwatershed, as outlined in the Final Mitigation Plan, and include:

- Provide a network of streams with natural, stable forms that support proper stream functions;
- Improve groundwater hydrology to support recovery of native riparian vegetation;
- Reduce sediment inputs from eroding stream banks to reduce fine sediment loads and percentage of fines in the bed-material load;
- Restore proper sediment transport to support channel stability and bedform diversity;
- Improve substrate quality to facilitate hyporheic flow and support aquatic communities;
- Improve quantity, quality, and diversity of habitats to support healthy aquatic communities;
- Reduce pollutant inputs to the project streams (fecal coliform, nitrogen, phosphorus) to restore a balance to proper nutrient cycles;
- Improve riparian vegetation community to provide temperature regulation of the stream, provide a future source of organic inputs, and aid in long-term channel bank stability;

- Restore areas of former riparian wetlands so that the hydrology and soils will support wetland vegetative communities and wildlife;
- Improve landscape connectivity that allows space for biotic and abiotic process and provides a source and sink for natural populations; and,
- Prevent the site from future impacts of development and agricultural issues.

The following objectives are proposed for accomplishing the above listed goals as outlined in the Final Mitigation Plan:

- Construct stream channels that will maintain proper dimension, pattern, and profile and meet jurisdictional status;
- Construct streams with proper bankfull to floodplain relationship;
- Construct streams that provide naturally stable dimensions and stabilize constructed banks with appropriate bioengineering;
- Construct streams that maintain an appropriate sediment transport balance with the sediment that is supplied by the watershed so that the overall stream profile neither aggrades nor degrades over time;
- Create and improve stream bedform diversity by constructing pools of varied depths and riffles of varied slopes;
- Construct stable riffles that provide an improved diversity of bed material clast and a reduction in fines relative to existing conditions;
- Construct in-stream habitat features from native material to provide diversity of habitat;
- Prevent cattle from access to the streams and riparian areas by installing exclusion fencing;
- Install BMPs in concentrated runoff areas that drain agricultural fields;
- Provide a buffer from agricultural activates and row crops;
- Plant native climax tree species and understory species in the riparian zone;
- Reconstruct stream channels that are properly connected to the riparian wetlands;
- Re-grade topography to eliminate ditches and drainage features;
- Plant native wetland tree and shrub species; and,
- Establish a conservation easement that provides a minimum buffer from future activities in the adjacent watershed.

1.3. Project Performance Standards

The stream restoration performance standards for the project will follow accepted and approved criteria based on the Final Mitigation Plan for the Fletcher Mitigation Site (2018). Performance criteria will be evaluated throughout the monitoring period as defined in Table 4 of the Fletcher Adaptive Management Summary Packet. The table below provides a list of the performance standards associated with each project objective along with a description of the monitoring approach.

Fletcher Mitigation Site Project Performance Standards		
Objective	**Performance Standard**	**Monitoring Approach**
Construct stream channels that will maintain proper dimension, pattern, and profile	Riffle section W/D ratios should remain within the range of the appropriate stream type. BHR should not exceed 1.2. BHR should not change more than 10% in any given monitoring interval. Changes that do occur should indicate a trend toward stability.	Survey of select cross sections and visual assessment.
Construct streams with proper bankfull to floodplain relationship	Four bankfull events or greater will be documented during the monitoring period	Crest gauges, continuous stage recorders, and debris lines.
Construct streams that provide naturally stable dimensions and stabilize constructed banks with appropriate bioengineering	Channel banks should generally remain stable. Where bank migration does occur it should not exceed 20% of the bankfull width.	Visual assessment and bank pin monitoring as necessary.
Construct streams that maintain an appropriate sediment transport balance with the sediment that is supplied by the watershed so that the overall stream profile neither aggrades nor degrades over time.	Profile adjustments should not indicate significant aggradation or degradation. BHR requirements as stated above.	Resurvey of longitudinal profile if visual assessment indicates potential instability.
Create and improve stream bedform diversity by constructing pools of varied depths and riffles of varied slopes	Profile should maintain a diversity of depths expressed in riffle/pool forms.	Visual assessment
Construct stable riffles that provide an improved diversity of bed material clast and a reduction in fines relative to existing conditions	Substrate material should progress towards or maintain coarser material in riffles and runs with finer material present in pools and glides.	Pebble count measurements will not be be taken as part of routine monitoring unless deemed necessary per Sept 29, 2021 Technical Working Group Memo.
Construct in-stream habitat features from native material to provide a diversity of habitats	In-stream habitat structures should remain intact and functional.	Visual assessment
Prevent cattle from access to the streams and riparian areas by installing exclusion fencing.	Exclusion fencing should remain intact and effective at preventing livestock access.	Visual assessment
Install BMP's in concentrated runoff areas that drain agricultural fields	Capacity for sediment storage should be available for at least one year following construction completion.	Visual assessment
Provide a buffer from agricultural activities and row crops	Record conservation easement prior to implementation.	None
Plant native climax tree species and understory species in the riparian zone	Minimum of 320 stems/ac present at MY-3. Minimum of 260 stems/ac present at MY-5. Minimum of 210 stems/ac present at MY-7.	Vegetation plots
Reconstruct stream channels that are properly connected to the riparian wetlands	Groundwater elevation within 12 inches of the ground surface for 10% of the growing season.	Groundwater monitoring gauges
Re-grade topography to eliminate ditches and drainage features	Groundwater elevation within 12 inches of the ground surface for 10% of the growing season.	Groundwater monitoring gauges
Plant native wetland tree and shrub species.	Minimum of 320 stems/ac present at MY-3. Minimum of 260 stems/ac present at MY-5. Minimum of 210 stems/ac present at MY-7.	Vegetation plots
Establish a conservation easement that provides a minimum buffer from future activities in the adjacent watershed.	Record conservation easement prior to implementation.	None

1.4. Mitigation Components

The Fletcher Site generated 10,011.300 SMUs and 8.910 WMUs. Refer to Table 1 for project components and mitigation credit information for the Fletcher Site and Table 2 for the project component and the CCPV for a visual description of the project assets. These credits are based on the Approved Fletcher Site Mitigation Plan.

1.5. Project Performance

Monitoring Year 3 (MY 3) data was collected from April 2022 to January 2023. Monitoring activities included visual assessments of all reaches and the surrounding easement, collection of images at 33 permanent photo stations, inventory of 26 permanent vegetation monitoring plots, and surveying of 28 cross-sections.

Summary information/data related to the occurrence of items such as beaver or encroachment and statistics related to performance of various project and monitoring elements can be found in the tables and figures in the report appendices. Narrative background and supporting information formerly found in these reports can be found in the Baseline Monitoring Report (formerly Mitigation Plan) and in the Mitigation Plan (formerly Restoration Plan) documents available on the NCDMS website (https://deq.nc.gov/about/divisions/mitigation-services/dms-project-documents). All raw data supporting the tables and figures in the appendices is available from DMS upon request.

1.5.1. Vegetation

Visual assessment of vegetation outside of the monitoring plots (Appendix B – Table 6) indicates that the herbaceous vegetation is well established throughout the project. The site will continue to be monitored for problems in future monitoring years.

Monitoring of the permanent vegetation plots (n = 26) was completed in November 2022. Summary tables and photographs associated with MY3 vegetation monitoring are located in Appendix B and Tables 7a and 7b, Appendix C. MY3 monitoring data indicates that plot #26 is failing to meet the MY3 criteria of 320 planted stems per acre. The remainder of plots are well above success criteria. Planted stem densities among plots ranged from 202 to 850 planted stems per acre. A total of 26 species of stems were documented within the plots. Results from the vegetation plots surveyed during MY3 (2022) and a summary of preceding years can be found in Table 7b, Appendix C.

Numerous small areas of mowing encroachment were identified during a January 2023 boundary inspection. In most cases these encroachments have resulted in scalloping of the easement along bends, between corner posts, or inline markers and generally cover areas between 10 and < 20 sqft. One new area of encroachment was noted at the upstream extent of Fletcher Reach 1. This circular area was created during fence line upgrade work in late MY3. The corner marker occurs along the fence line and was obscured by vegetation leading to the encroachment. An additional post and sign will be installed at this location to better denote the presence of the corner. One area along the right descending easement boundary of Fletcher Reach 1A and 1B, previously identified in MY2 was still present but drastically reduced from the previous year. An area of easement encroachment co-occurs with an identified area of invasive vegetation along left descending fence line of Fletcher Reach 2A. This area was mowed during routine fence line maintenance. An offset of 3’ was designated along the exterior of exclusionary fence lines to facilitate their maintenance. At the northern end of the fence line of Fletcher Reach 2A this offset decreases to ~18” and coincides with the triangular area of encroachment. The final area of encroachment occurred at the downstream boundary of Fletcher Reach 2B where some scalloping of the easement occurred.

A supplemental planting of both woody stems and livestakes was conducted on February 28 and March 3, 2022. Species were drawn from the list within the approved mitigation plan. Additional livestakes were installed along Coates Branch Reach 1B, 1C, and 1D in areas where herbaceous vegetation has become dominant. Supplemental live stake install was intended to provide additional shading and aid in competition with the dense herbaceous layers. Bare root stems were installed along the right descending easement boundary of Fletcher Reach 1B (MY2 Encroachment) and 2A (MY2 Bare

Area); and between Coates Branch Reach 1D and Fletcher 1C. These areas of replanting coincide with two of the three areas of encroachment documented in MY2 and areas of low stem density. Supplemental plantings were intended to bring stem density to approximately 600 stems/acre. Additionally, areas noted as bare in MY2 were also supplementally planted during this effort. A table listing species and material type is located in Appendix F.

Invasive species occur in low abundance throughout the site. Largely along fences and around the bases of existing mature trees. The majority of dense infestations were documented and treated in MY1 and MY2. Treatments continued through MY3. Fourteen areas were identified during MY3 and will continue to be treated in future monitoring years. The primary species documented at the Fletcher Site include Chinese Privet (*Ligustrum sinense*) and Multiflora Rose (*Rosa multiflora*), although there are areas containing Oriental bittersweet (*Celastrus orbiculatus*), kudzu (*Pueraria montana var. lobata*), and fescue (*Festuca spp.*). The largest areas of invasive vegetation occur along Raccoon Branch Reach 1B/1C (*Rosa multiflora*), Coates Branch Reach 1A (Rose, Privet, and Bittersweet) and the lower portion of Coates Reach 1B (Fescue). The most complicated area of treatment occurs in the northwestern extent of the easement boundary of Weston Creek Reach 1B, along Hoopers Creek. Mature stands of canopy entangled kudzu are located immediately adjacent to and upstream of the easement in this location. Joint efforts are ongoing to control kudzu and to a lesser extent bittersweet and grape in both the easement and adjacent private land. The level of infestation has required a mechanical treatment to ground level in the extreme northeastern corner of the easement. This area will be replanted with size appropriate species as the invasive population is brought to a "spot treatment" level of control. Details on invasive species density and area can be found in Table 6 and the CCPV, Appendix B. Treatment logs are located in Appendix F.

1.5.2. Stream Geomorphology

Visual assessment of the stream channel was performed to document signs of beaver damage, structural instability, such as eroding banks, or excessive sedimentation. The area of bank scour (Station 142+25) on Fletcher Creek Reach 2B in MY1 has remained stable through MY3 (Table 5, Figure 2 CCPV). This area and the remainder of the project will continue to be monitored in future site visits for further signs of structural instability.

One beaver dam was documented within the site during MY3. This beaver dam was located at Stations 424+50. USDA APHIS has managed the beaver within the site. The beaver dam was breached in early October and a follow-up visit in December of 2022 confirmed no further activity during MY3. The site will continue to be monitored for signs of beaver activity.

Geomorphic data for MY3 was collected between October 2022 and January 2023. Summary tables and cross-section data plots related to stream morphology are located in Appendix D. Cross-sectional dimensions remained relatively stable between baseline conditions and MY3 monitoring efforts. The most substantial changes have occurred at cross-sections 9 and 10. Cross-section 9 had shown some fluctuation in bankfull depth over the course of monitoring but had returned to roughly baseline condition in MY3. At cross-section 10 a portion of the toe structure has failed leading to an extension of the upstream pool (Appendix A, Table 5, Appendix D, cross-section graphics and Table 11a). The trend continued into MY3 remaining similar to MY2 conditions. Overall, riffle dimensions for each reach also remained relatively similar between baseline conditions and MY3 monitoring (Appendix D, Table 11b).

1.5.3.Hydrology

Since project completion in late 2019, bankfull flows have been recorded on Fletcher Reach 1 a total of three times (zero events in MY3), Fletcher Reach 2 a total of 7 times (1 event in MY3), Coates Branch a total of 17 times (3 events in MY3), and Weston Creek Reach 1A a total of 6 times (2 events in MY3). Rainfall data includes precipitation events exceeding 2 inches per day occurring on 2/3/2022, 3/23/2022, 5/23/2022, and 11/11/2022. The pressure transducer on Raccoon Branch failed during MY2, resulting in uncorrectable data beginning on April 27th, 2021. Prior to that date, the transducer recorded 170 days of continuous surface flow. Data was successfully downloaded from the pressure transducer on Raccoon Branch twice during 2022 (4/6/2022 and 11/16/2022). However, upon working the data up to a useable state, it became evident that the pressure transducer on Raccoon Branch was malfunctioning for the entirety of MY3. The transducer will be replaced in January 2023. See Table 10, Appendix E for details regarding bankfull events by stream.

Groundwater wells (n=11) installed on Weston Creek Reach were largely falling short of the expected performance standard of 12% of the growing season. Increased groundwater elevations and duration of saturation was noted in 3 of 11 wells. Four of the 11 wells maintained a similar hydroperiod to what was observed during MY2. A reduction of hydroperiod was observed in 4 of 11 wells all of which occurred along the left descending bank of Weston Creek. MW1 exceeded the performance standard during MY3 (25%). Additionally, MW3, MW9, and MW10 fell just short of the 12% standard despite regionwide drought status during significant portions of MY3 (Groundwater Summary Table and Figures, Appendix E, Drought.gov). Observations from MY3 continue to suggest a trend towards increased saturation around Weston Reach 1A. Data from future monitoring years will provide additional information regarding hydrologic uplift and wetland establishment. Groundwater wells will continue to be monitored throughout the life of the project.

2.0 METHODS

The visual assessment of the project was performed on April 6-7 2022 and again on September 14-15 2022. Permanent photo station photos were taken during the fall monitoring efforts. Additional photos of vegetation or stream problem areas were taken as needed throughout MY3.

Geomorphic measurements were taken during low flow conditions using a Nikon® NPR 332 Total Station. Three-dimensional coordinates associated with cross-section and profile data were collected in the field and geo-referenced (NAD83 State Plane feet FIPS 3200). Morphological data were collected at 28 cross-sections. Survey data was imported into CAD, ArcGIS®, and Microsoft Excel® for data processing and analysis. Channel substrate monitoring is no longer required but if needed will be characterized using a Wolman Pebble Count as outlined in Harrelson et al. (1994) and processed using Microsoft Excel. Vegetation success is being monitored at 26 permanent monitoring plots. Vegetation monitoring follows the CVS-EEP Level 2 Protocol for Recording Vegetation, version 4.2 (Lee et al. 2008) and includes analysis of species composition and density of planted species. Data is processed using the NCDMS Shiny App Vegetation Tool (https://ncdms.shinyapps.io/Veg_Table_Tool/). In the field, the four corners of each plot were permanently marked with metal t-posts and photos of each plot are taken from the origin each monitoring year.

Precipitation data was reported from the NCCRONOS station in at the Asheville Regional Airport. Bankfull events were documented with crest gauges and continuous stage recorders, each cross-referenced with the bankfull elevation at its location. Crest gauges will be monitored semi-annually. The height of the corklines was recorded and cross-referenced with known bankfull elevations at each crest gauge.

Groundwater for hydrologic success of restored wetlands was monitored using HOBO U20 Water Level Loggers. An additional logger was installed on site, above ground, for use as a barometric reference. Data loggers collected depth to groundwater daily and all data were processed using HOBOware and analyzed using Microsoft Excel.

3.0 REFERENCE

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Kee Mapping and Survey. 2019. As-Built Survey of Fletcher Creek Restoration Project. Prepared for EW Solutions.

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Appendix A
Project Background Data and Maps

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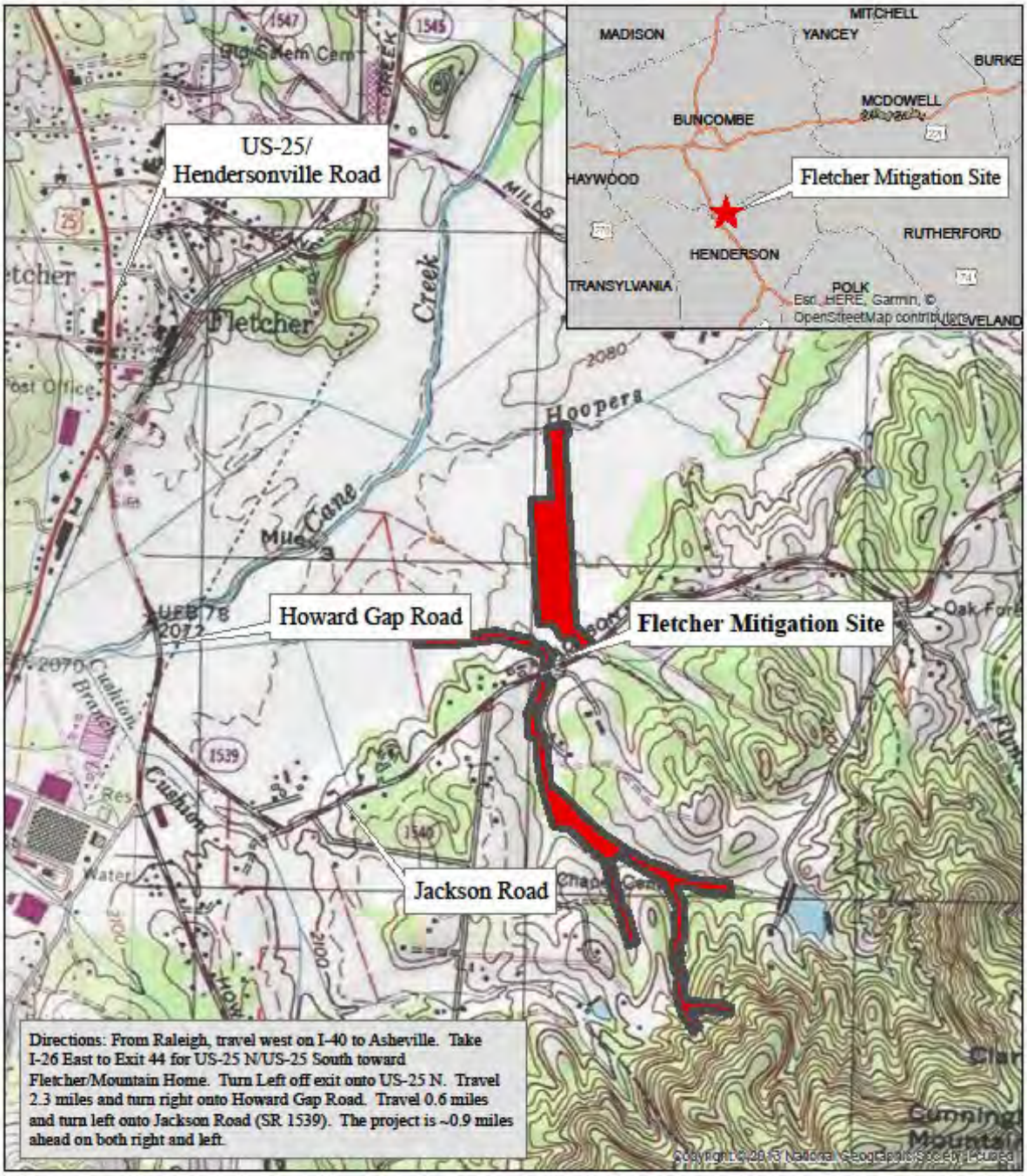

EQUINOX

Figure 1
Vicinity Map
Fletcher Mitigation Site

Proposed Site

0 500 1,000 2,000 Feet

This map is not a survey and is not to be construed as such.

Table 1. Project Mitigation Assets and Components Fletcher Mitigation Site							
Project Segment	Mitigation Plan (ft/Ac)	As-Built Centerline (ft/Ac)^	Mitigation Category	Restoration Level	Mitigation Ratio (X:1)	Mitigation Plan Credits*	Comments
Fletcher Creek 1a	461	457	Cool	EII	2.5	184.400	
Fletcher Creek 1b	377	377	Cool	R	1.0	377.000	
Fletcher Creek 1c	1,540	1,507	Cool	R	1.0	1,540.000	Less 51' for crossing
Fletcher Creek 2a	1,296	1,290	Cool	R	1.0	1,296.000	Less 33' for utility crossing; Less than 30' buffer for 86 LF
Fletcher Creek 2b	1,470	1,558	Cool	R	1.0	1,470.000	Less 33' for outlet protection and 51' and 73' for 2 crossings
Raccoon Branch 1a	489	489	Cool	P	10.0	48.900	.001 ac temporary impact to Wetland A
Raccoon Branch 1b	461	461	Cool	P	10.0	46.100	.006 ac temporary impact to Wetland B
Raccoon Branch 1c	153	143	Cool	EII	2.5	61.200	Less 53' for crossing; Stream length not included in wetlands
Raccoon Branch 1d	448	439	Cool	R	1.0	448.000	
Pine Branch 1	299	301	Cool	P	10.0	29.900	
Coates Branch Reach 1a	282	283	Cool	EII	2.5	112.800	
Coates Branch Reach 1b	606	598	Cool	R	1.0	606.000	.016 ac temporary impact to Wetland D
Coates Branch Reach 1c	708	702	Cool	R	1.0	708.000	Less 44' for crossing
Coates Branch Reach 1d	325	321	Cool	R	1.0	325.000	
Weston Creek 1a	1,954	1,916	Cold	R	1.0	1,954.000	Less 29' for ROW and outlet protection
Weston Creek 1b	804	798	Cold	R	1.0	804.000	
Wetland A	0.03	n/a	RNR	E	n/a	n/a	0.001 ac temporary impact to Wetland A
Wetland B	0.11	n/a	RNR	E	n/a	n/a	0.006 ac temporary impact to Wetland A
Wetland D	0.05	n/a	RNR	E	n/a	n/a	0.016 ac temporary impact to Wetland A
Wetland E	8.9	8.910	RNR	REE	1.0	8.910	

* Mitigation plan credits account for breaks in conservation easements and are based on design stream stationing and taken from the approved mitigation plan. Mitigation plan credits are the same as the approved mitigation plan.

^ Based on centerline calculations from the as-built survey, accounts for breaks in conservation easement and utility right-of-ways.

Project Credits

	Stream			Wetland	Non-Rip	Coastal
Restoration Level	Warm	Cool	Cold	Non-Riv	Wetland	Marsh
Restoration	-	6770.000	2758.000	-	-	-
Re-establishment				8.910	-	-
Rehabilitation				-	-	-
Enhancement				-	-	-
Enhancement I	-	-	-			
Enhancement II	-	358.400	-			
Creation						
Preservation	-	124.900	-	-	-	
Total Credits[%]	**-**	**7253.300**	**2758.000**	**8.910**	**-**	**-**

[%] Project credits reflect the sum of credits outlined in the approved mitigation plan.

Total Stream Credit 10,011.300

Total Wetland Credit 8.910

Wetland Mitigation Category

CM	Coastal Marsh
R	Riparian
NR	Non-Riparian

Restoration Level

HQP	High Quality Preservation
P	Preservation
E	Wetland Enhancement - Veg and Hydro
EII	Stream Enhancement II
EI	Stream Enhancement I
C	Wetland Creation
RH	Wetland Rehabilitation - Veg and Hydro
REE	Wetland Re-establishment Veg and Hydro
R	Restoration

Table 2. Project Activity and Reporting History Fletcher Mitigation Site		
Activity or Report	**Data Collection Complete**	**Completion or Delivery**
Mitigation Plan	Feb - 2018	Feb - 2018
Mitigation Plan Addendum	-	-
Final Design - Construction Plans	-	Mar - 2018
Construction	-	Mar - 2019
Temporary S&E Mix Applied	-	Mar - 2019
Permanent Seed Mix Applied	-	Mar - 2019
Bare Root and Live Stake Plantings	-	Mar- 2019
Baseline Monitoring Document (Year 0 Monitoring - Baseline)	Mar - 2019	Apr - 2019
Stream Assessment	Mar - 2019	Apr - 2019
Vegetation Assessment	Mar - 2019	
Adaptive Management-Weston Cr	-	Dec-2019
Adaptive Management-Weston Cr replant	-	Jan-2020
Pre-Year 1 Vegetation Monitoring-North Side	Dec 2019	-
Pre-Year 1 Geomorphology Monitoring-North Side	Dec 2019	-
Pre-Year 1 Vegetation Monitoring-South Side	Dec 2019	-
Pre-Year 1 Geomorphology Monitoring-South Side	Dec 2019	-
Weston Cr flood damage repair	-	Feb-2020
Weston Cr flood damage replant	-	Feb-2020
MY1 Invasive Vegetation Treatments	Jun 2020	-
MY1 Invasive Vegetation Treatments	Jul 2020	
MY1 Invasive Vegetation Treatments	Aug 2020	-
MY1 Weston Reach Beaver Removal	-	July 2020
MY1 Monitoring Geomorphology	Oct 2020	-
MY1 Monitoring Vegetation	Oct 2020	-
MY1 Monitoring Report	-	Dec-2020
MY2 Initial Site Assessment		April-2021
MY2 Weston Reach Beaver Removal	-	July-2021
MY2 Monitoring Vegetation	Oct-2021	-
MY2 Monitoring Geomorphology	Oct-2021	-
MY2 Monitoring Report		Dec-2021
MY3 Supplemental planting	March-2022	
MY3 Initial Site Assessment	April-2022	
MY3 Invasive Vegetation Treatments	June 2022	
M3 Weston Reach Beaver Management	-	Nov 2022
MY3 Monitoring Vegetation	Nov 2022	-
MY3 Monitoring Geomorphology	Nov 2022-Jan 2023	-
MY3 Monitoring Report		Jan-2023

Table 3. Project Contacts	
Fletcher Mitigation Site	
Prime Contractor	EW Solutions 37 Haywood Street, Suite 100 Asheville, NC 28801 David Tuch (828) 253-6856
Designer	Stantec Consulting, Inc 56 College Street, Suite 201 Asheville, North Carolina 28801 Grant Ginn (828) 449-1930
Construction Contractor (North Side)	Penland Contracting, Inc 300 NP&L Loop Franklin, NC 28734 Lewis Penland (828) 421-1753
Construction Contractor (South Side)	Baker Construction 1000 Bat Cave Road Old Fort, NC 28762 Charles Baker (828) 668-5060
Seeding Contractor (North Side)	Penland Contracting, Inc 300 NP&L Loop Franklin, NC 28734 Lewis Penland (828) 421-1753
Seeding Contractor (South Side)	Baker Construction 1000 Bat Cave Road Old Fort, NC 28762 Charles Baker (828) 668-5060
Planting Contractor	Equinox 37 Haywood St. Asheville, North Carolina 28801 Owen Carson (828) 253-6856
As-built Surveys	Kee Mapping 88 Central Ave. Asheville, NC 28801 Brad Kee (828) 575-9021
Seeding Mix Source	SESSCO LLC 209 Cane Creek Rd Fletcher , NC 28732 (828) 654-8991
Live Stakes	Mellow Marsh Farms 1312 Woody Store Road Siler City, NC 27344 (919) 742-1200
Monitoring Performers (MY3)- 2022	Equinox 37 Haywood St. Asheville, North Carolina 28801 Danvey Walsh (828) 253-6856

Table 4. Project Baseline Information and Attributes

Project Information

Project Name	Fletcher Stream and Wetland Mitigation Site
County	Henderson
Project Area (acres)	34.8
Project Coordinates (latitude and longitude)	35.422278° N, -82.486183° W

Project Watershed Summary Information

Physiographic Province	Blue Ridge		
River Basin	French Broad River		
USGS Hydrologic Unit 8-digit	6010105	USGS Hydrologic Unit 14-digit	06010105040010
DWR Sub-basin	04-03-02		
Project Drainage Area (sq. miles)	0.52 Fletcher Creek / 0.37 Weston Branch		
Project Drainage Area Percentage of Impervious Area	< 1%		
CGIA Land Use Classification	Agricultural		

Reach Summary Information

Parameters	Fletcher Creek 1A	Fletcher Creek 1B	Fletcher Creek 1C	Fletcher Creek 2A	Fletcher Creek 2B	Raccoon Branch 1A	Raccoon Branch 1B	Raccoon Branch 1C	Raccoon Branch 1D	Pine Branch	Coates Branch 1A	Coates Branch 1B	Coates Branch 1C	Coates Branch 1D	Weston Creek 1A	Weston Creek 1B
Length of Reach (linear feet) ^	457	380	1,541	1,299	1,510	489	461	143	440	301	283	601	708	325	1,982	825
Valley Confinement (Rosgen)	II	II	II	II	VIII	II	II	II	II	II	II	II	II	II	VIII	VIII
Drainage area (miles^2)	0.30	0.30	0.37	0.49	0.52	0.01	0.03	0.04	0.04	0.01	0.02	0.03	0.04	0.07	0.30	0.37
Perennial, Intermittent, Ephemeral	Perennial	Perennial	Perennial	Perennial	Perennial	Perennial	Perennial	Perennial	Perennial	Intermittent	Perennial	Perennial	Perennial	Perennial	Perennial	Perennial
NCDWR Water Quality Classification	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C: Tr	C: Tr
Stream Classification (existing)	G	G	B, F, G	B, G	B, E, G	B	B	B, G	B, G	B	B, G	B, G	B, F, G	B	E, G	E, G
Stream Classification (proposed)	B4	B4	B4	B4	B5	B4	B4	B4	B4	B4	B4	B4	B4	B4	C5	C5
FEMA classification	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Wetland Summary Information

Parameters	Wetland A	Wetland B	Wetland D	Wetland E
Size of Wetland (acres)	0.03	0.11	0.05	8.91
Wetland Type (non-riparian, riparian riverine or riparian non-riverine)	Riparian	Riparian	Riparian	Riparian
Mapped Soil Series	-	-	-	Ha
Drainage class	-	-	-	poorly
Soil Hydric Status	Hydric	Hydric	Hydric	Hydric
Source of Hydrology	Spring	Spring	Spring	Groundwater
Hydrologic Impairment	Agriculture/ Livestock Grazing	Agriculture/ Livestock Grazing	Agriculture/ Livestock Grazing	Agriculture
Native vegetation community	Mountain Alluvial Forest	Mountain Alluvial Forest	Mountain Alluvial Forest	Mountain Alluvial Forest
Percent composition of exotic invasive vegetation	15%	15%	15%	1%

Regulatory Considerations

Regulation	Applicable?	Resolved?	Supporting Documentation
Waters of the United States – Section 404	Yes	Yes	Jurisdictional Determination
Waters of the United States – Section 401	Yes	Yes	Jurisdictional Determination
Endangered Species Act	Yes	Yes	ERTR
Historic Preservation Act	No	N/A	ERTR
Coastal Zone Management Act (CZMA)/ Coastal Area Management Act (CAMA)	No	N/A	N/A
FEMA Floodplain Compliance	Yes	Yes	Yes
Essential Fisheries Habitat	No	N/A	N/A

^ Based on actual thalweg calculations from the as-built survey, accounts for breaks in conservation easement and utility right-of-ways.

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Appendix B
Visual Assessment Data

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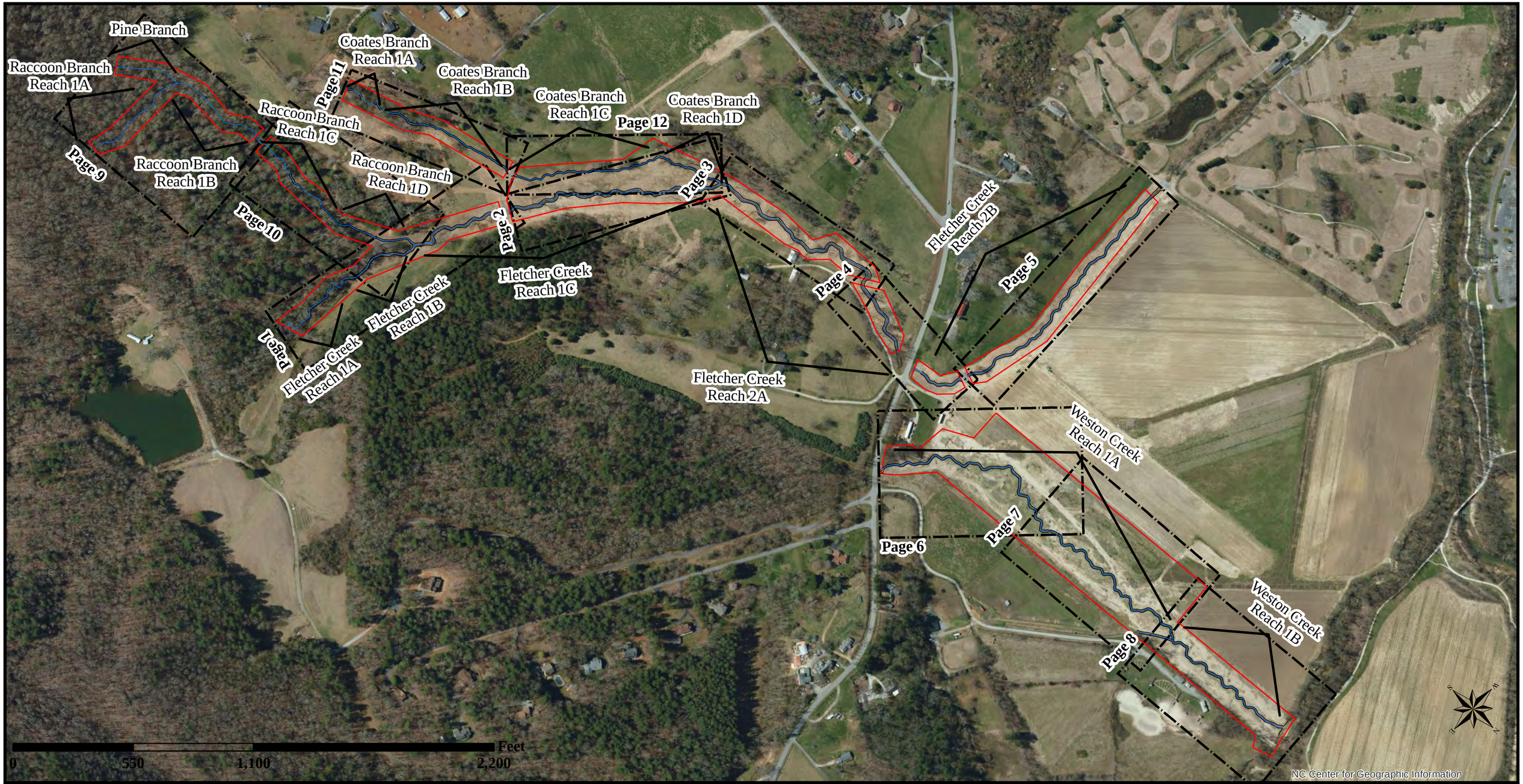

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Mitigation Services
ENVIRONMENTAL QUALITY

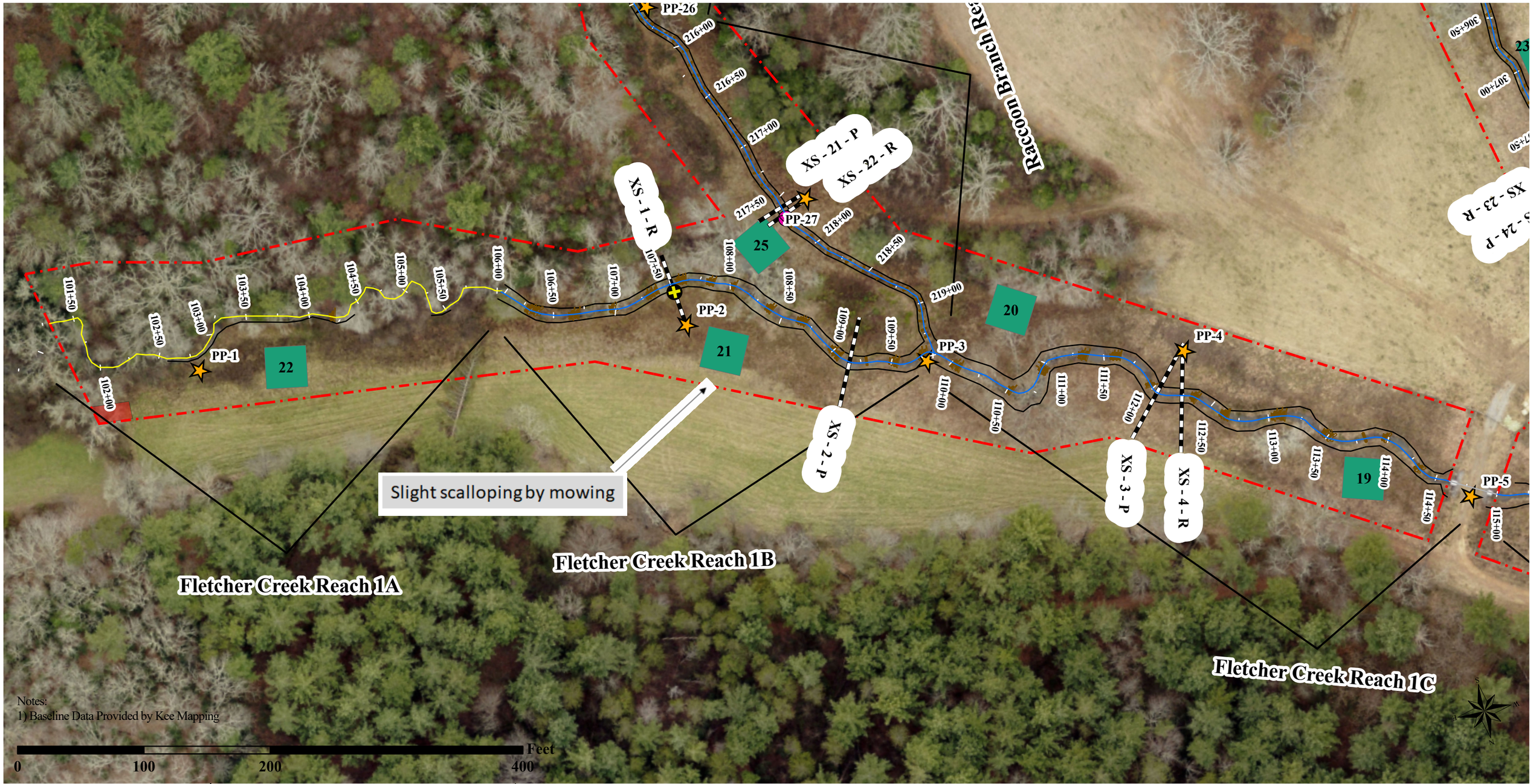
Current Condition Plan View
Fletcher Mitigation Site
Monitoring Year 3
Henderson County, NC
NCDMS Contract No.: 006997
NCDMS Project No.: 100004
February 2023
Overview

Easement
Map Pages
As-Built Top of Bank
As-Built Thalweg

Notes:
1) Baseline Data Provided by Kee Mapping

Prepared by

EQUINOX



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ENVIRONMENTAL QUALITY

Current Condition Plan View
Fletcher Mitigation Site
Monitoring Year 3
Henderson County, NC
NCDMS Contract No.: 006997
NCDMS Project No.: 100004
February 2023
Sheet 1 of 12

Encroachment

Streams

Enhancement II

No Credit

Restoration

Continuous Stage Recorder

Crest Gauge

Photo Point

Cross-Section

As-Built Top of Bank

Vegetation Plot

Meeting

Conservation Easement

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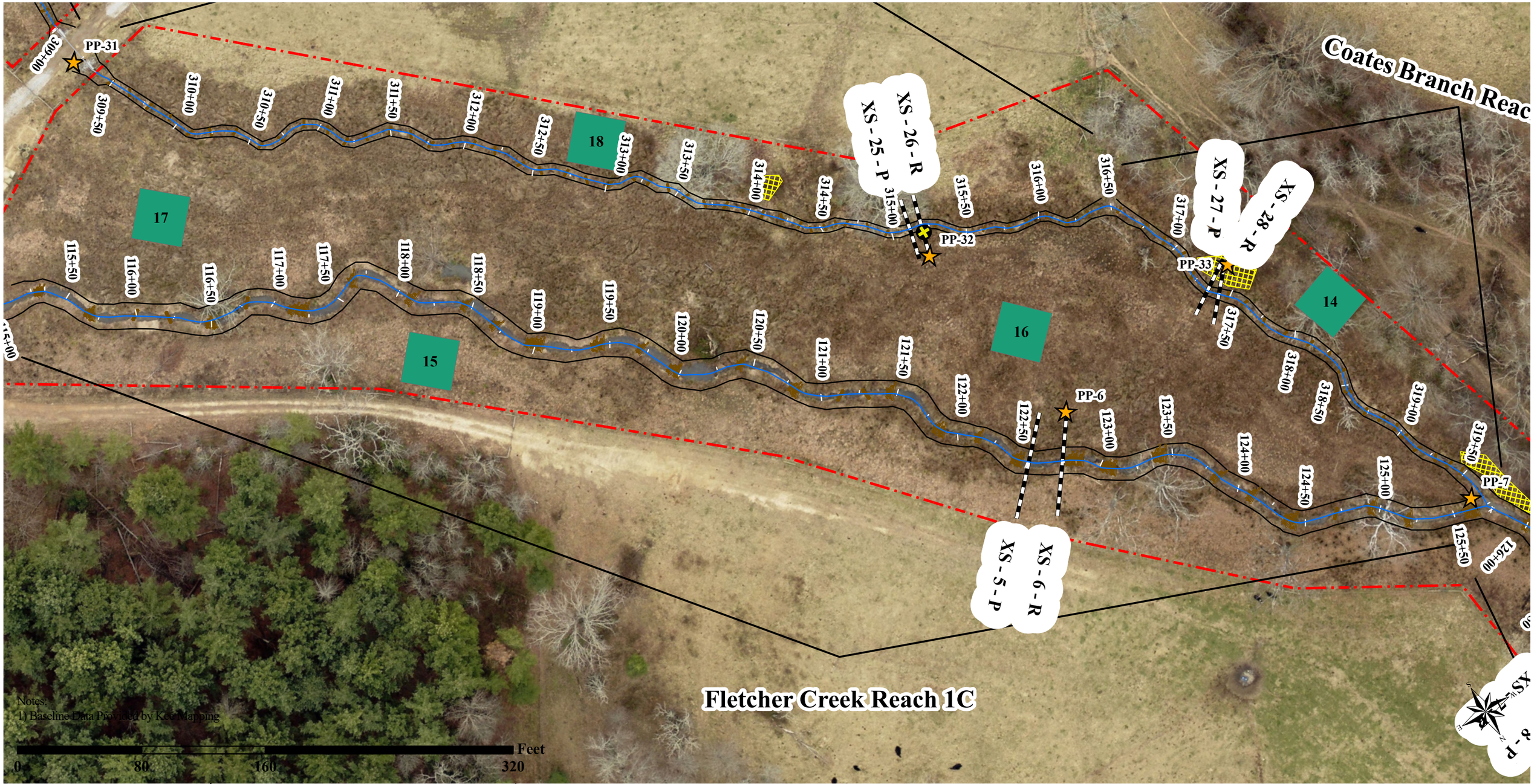

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ENVIRONMENTAL QUALITY

Current Condition Plan View
Fletcher Mitigation Site
Monitoring Year 3
Henderson County, NC
NCDMS Contract No.: 006997
NCDMS Project No.: 100004
February 2023
Sheet 2 of 12

Invasive Vegetation
- Invasive Vegetation

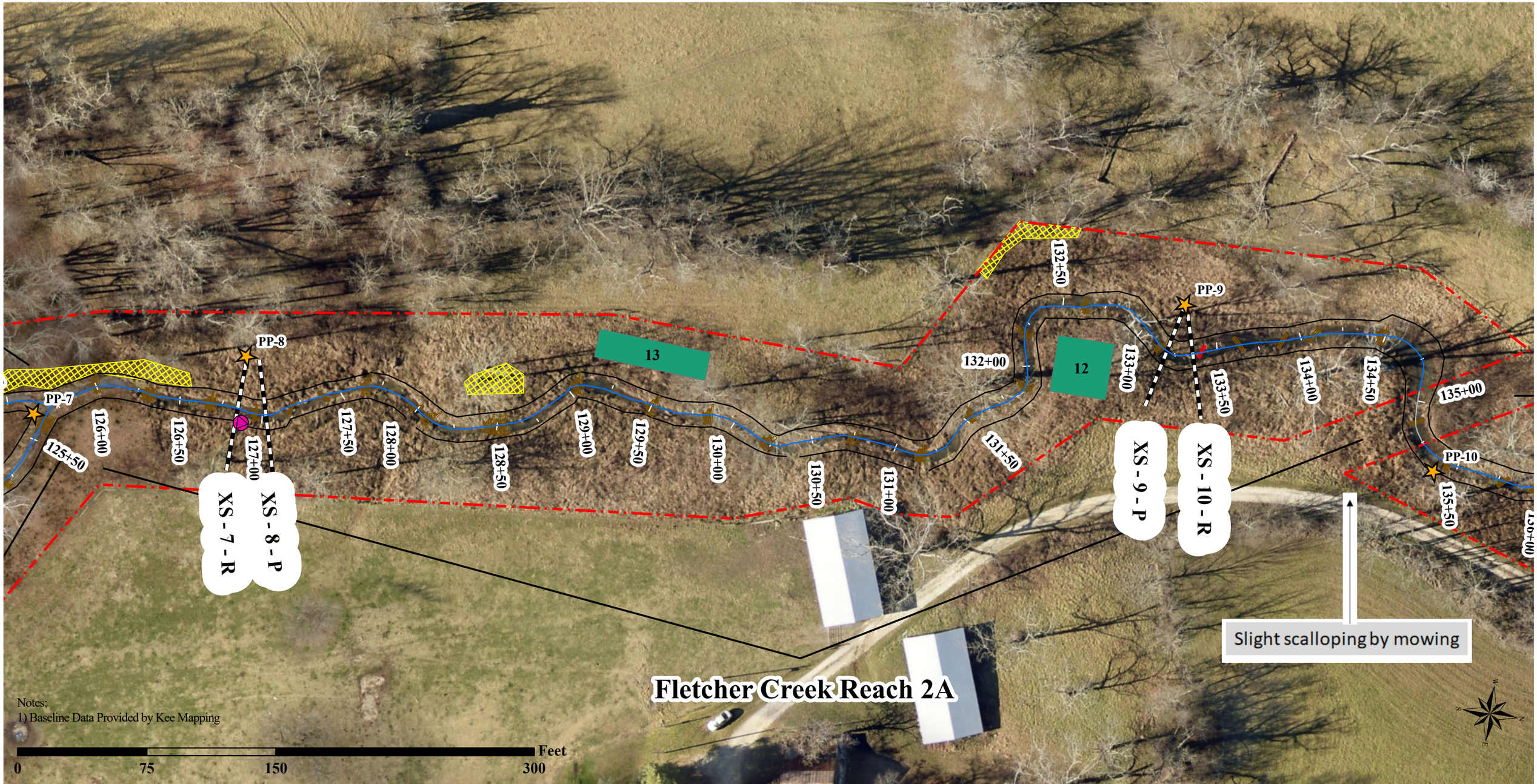
Streams
- No Credit
- Restoration

- Crest Gauge
- Photo Point
- Cross-Section
- As-Built Top of Bank

Vegetation Plot
- Meeting
- Conservation Easement

Prepared by

EQUINOX



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Current Condition Plan View
Fletcher Mitigation Site
Monitoring Year 3
Henderson County, NC
NCDMS Contract No.: 006997
NCDMS Project No.: 100004
February 2023
Sheet 3 of 12

Invasive Vegetation
- Invasive Vegetation

Streams
- No Credit
- Restoration

- Continuous Stage Recorder
- Photo Point
- Cross-Section
- As-Built Top of Bank

Vegetation Plot
- Meeting
- Conservation Easement

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Fletcher Creek Reach 2A

Fletcher Creek Reach 2B

134+50
135+00
135+50
136+00
136+50
137+00
137+50
138+00
138+50
139+00
140+50
141+00
141+50
142+00
142+50
143+00
143+50
144+00
11
PP-10
PP-11
PP-12
PP-13

Notes:
1) Baseline Data Provided by Kee Mapping

0 62.5 125 250 Feet

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Current Condition Plan View
Fletcher Mitigation Site
Monitoring Year 3
Henderson County, NC
NCDMS Contract No.: 006997
NCDMS Project No.: 100004
February 2023
Sheet 4 of 12

Invasive Vegetation
- Invasive Vegetation
- Bank Erosion
- Encroachment

Streams
- No Credit
- Restoration
- Photo Point

- As-Built Top of Bank

Vegetation Plot
- Meeting
- Conservation Easement

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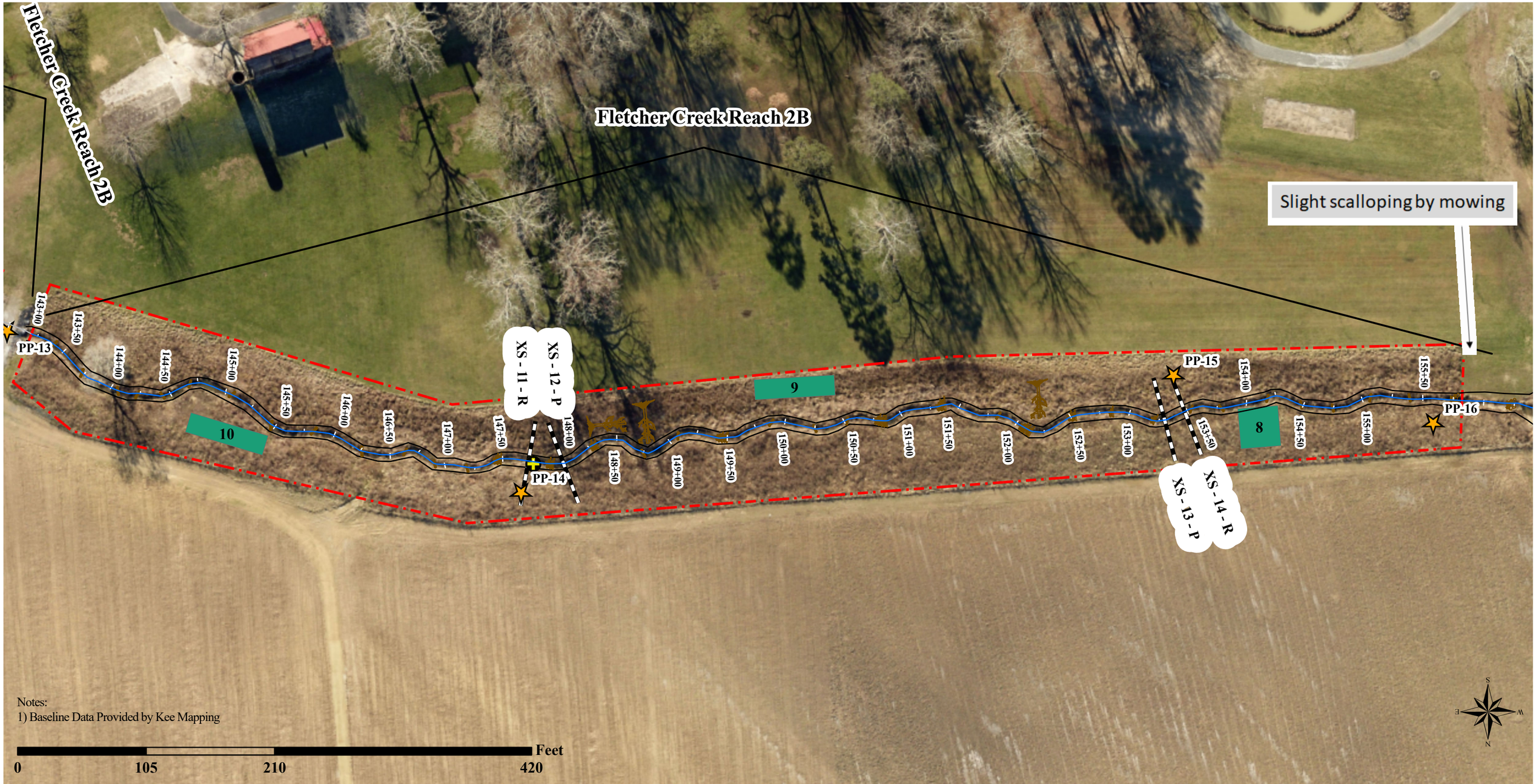

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Current Condition Plan View
Fletcher Mitigation Site
Monitoring Year 3
Henderson County, NC
NCDMS Contract No.: 006997
NCDMS Project No.: 100004
February 2023
Sheet 5 of 12

Streams
- No Credit
- Restoration
- Crest Gauge
- Photo Point
- Cross-Section
- As-Built Top of Bank

Vegetation Plot
- Meeting
- Conservation Easement

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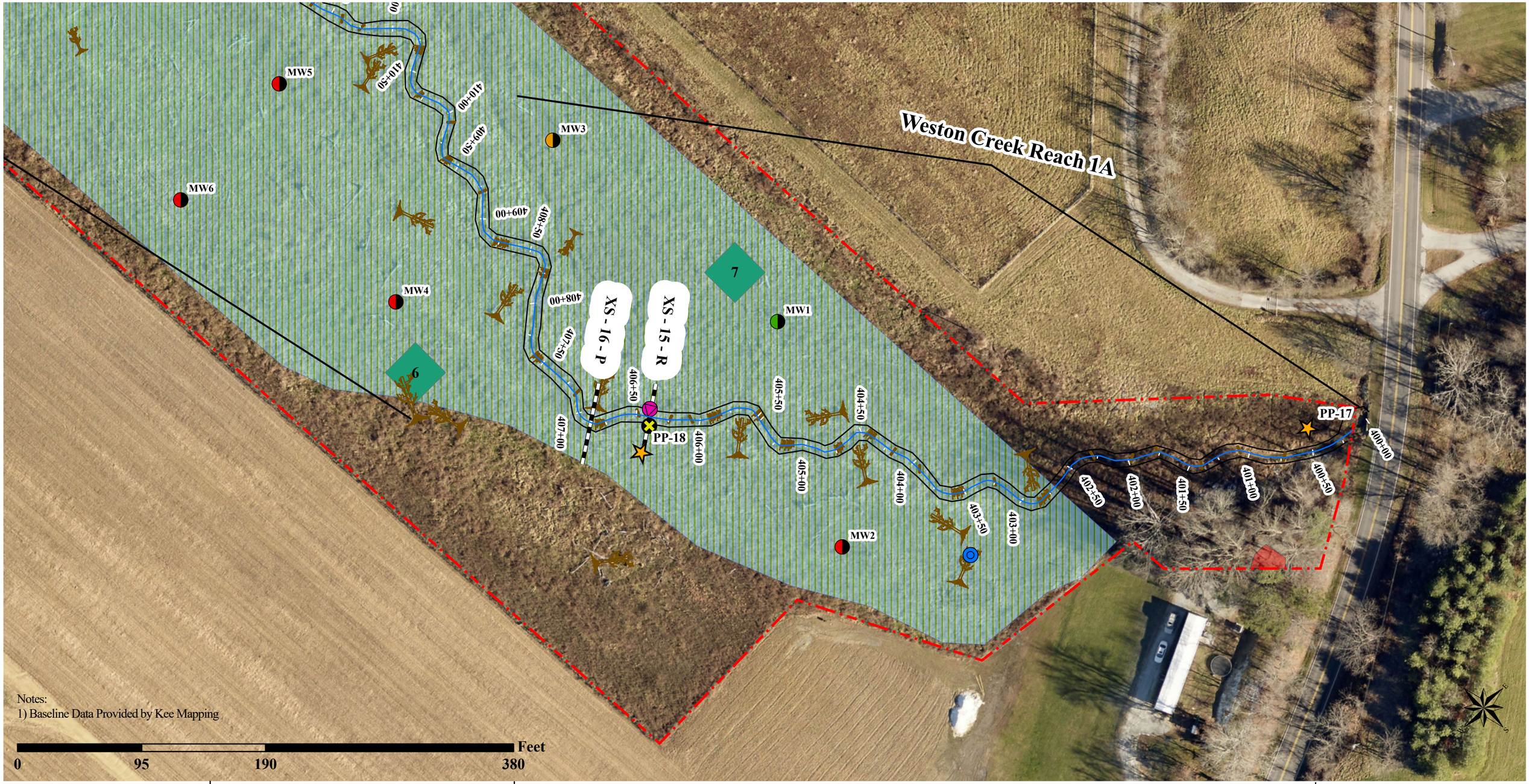

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Current Condition Plan View
Fletcher Mitigation Site
Monitoring Year 3
Henderson County, NC
NCDMS Contract No.: 006997
NCDMS Project No.: 100004
February 2023
Sheet 6 of 12

Encroachment

Streams

Restoration

Continuous Stage Recorder

Crest Gauge

Groundwater Gauge

Meeting > 10%

Failing < 10%

Failing > 10%

Photo Point

Rain Gauge

Cross-Section

As-Built Top of Bank

Vegetation Plot

Meeting

Wetland Re-Establishment

Conservation Easement

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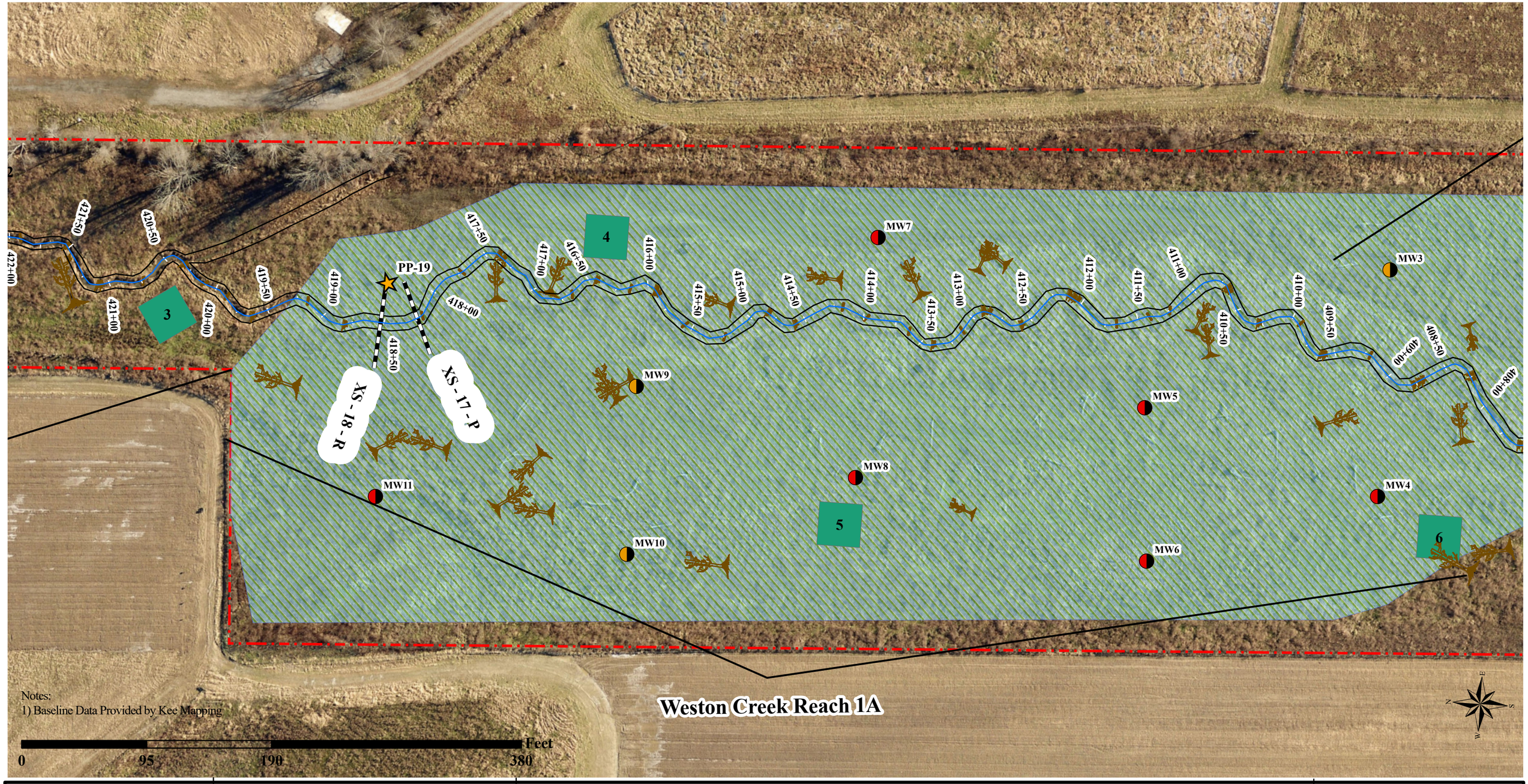

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ENVIRONMENTAL QUALITY

Current Condition Plan View
Fletcher Mitigation Site
Monitoring Year 3
Henderson County, NC
NCDMS Contract No.: 006997
NCDMS Project No.: 100004
February 2023
Sheet 7 of 12

Invasive Vegetation
- Invasive Vegetation

Streams
- Restoration

Groundwater Gauge
- Failing < 10%
- Failing > 10%

- Photo Point
- Cross-Section
- As-Built Top of Bank

Vegetation Plot
- Meeting
- Wetland Re-Establishment
- Conservation Easement

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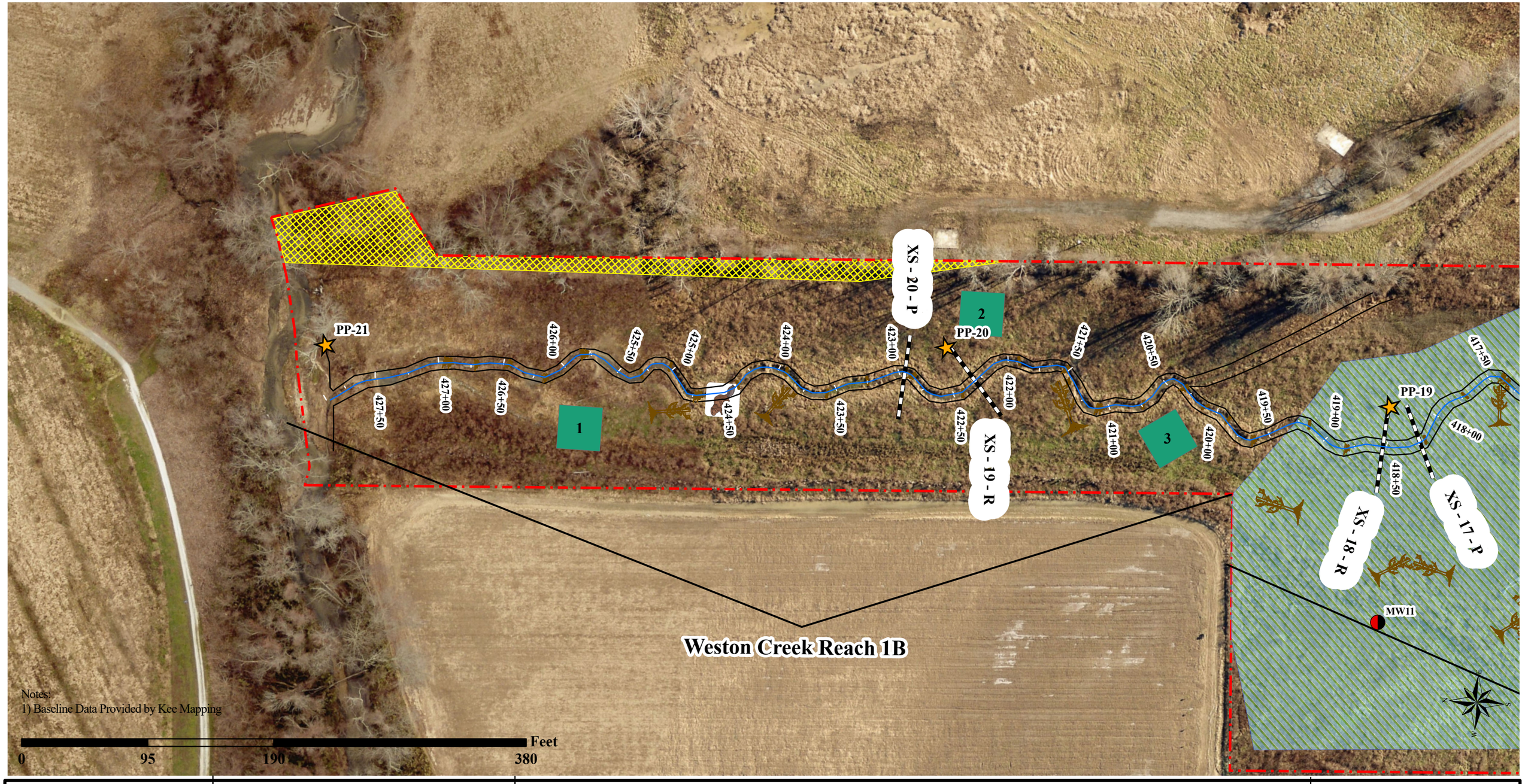

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Current Condition Plan View
Fletcher Mitigation Site
Monitoring Year 3
Henderson County, NC
NCDMS Contract No.: 006997
NCDMS Project No.: 100004
February 2023
Sheet 8 of 12

Invasive Vegetation
- Invasive Vegetation

Streams
- Restoration

Groundwater Gauge
- Failing > 10%

- Photo Point
- Beaver Dam

- Cross-Section
- As-Built Top of Bank

Vegetation Plot
- Meeting

- Wetland Re-Establishment
- Conservation Easement

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ENVIRONMENTAL QUALITY

Current Condition Plan View
Fletcher Mitigation Site
Monitoring Year 3
Henderson County, NC
NCDMS Contract No.: 006997
NCDMS Project No.: 100004
February 2023
Sheet 9 of 12

Invasive Vegetation
- Invasive Vegetation

Streams
- Enhancement II
- No Credit
- Preservation
- Photo Point
- As-Built Top of Bank

Vegetation Plot
- Not Meeting
- Wetlands Enhancement
- Conservation Easement

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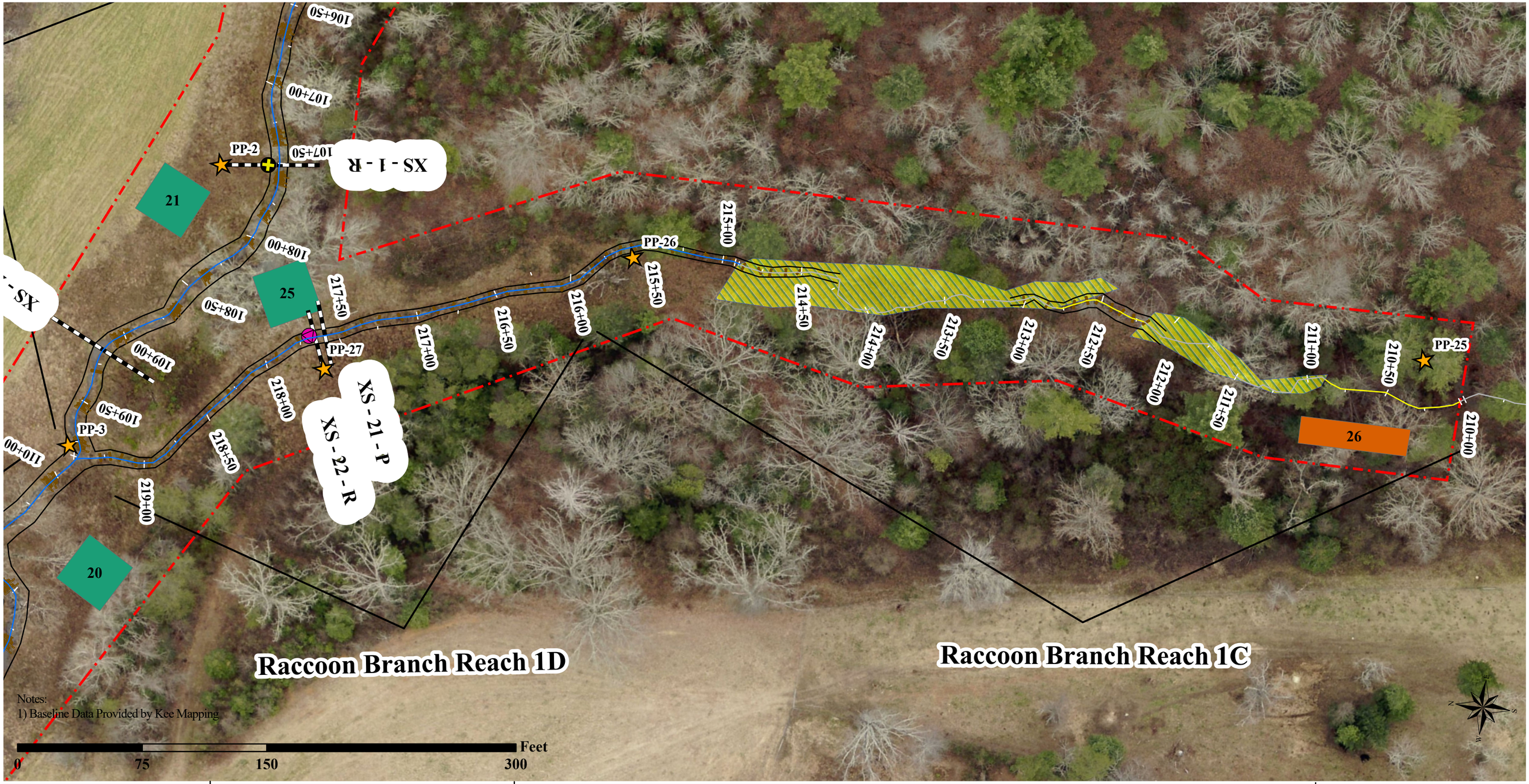

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ENVIRONMENTAL QUALITY

Current Condition Plan View
Fletcher Mitigation Site
Monitoring Year 3
Henderson County, NC
NCDMS Contract No.: 006997
NCDMS Project No.: 100004
February 2023
Sheet 10 of 12

Streams
- Enhancement II
- No Credit
- Restoration

Continuous Stage Recorder
Crest Gauge
Photo Point

Cross-Section
As-Built Top of Bank

Vegetation Plot
- Meeting
- Not Meeting
- Wetlands Enhancement
- Conservation Easement

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Coates Branch Reach 1A

Coates Branch Reach 1B

300+00
PP-28
300+50
301+00
301+50
24
302+00
302+50
303+00
PP-29
303+50
304+00
304+50
305+00
305+50
306+00
306+50
23
307+00
307+50
PP-30
308+00
308+50
309+00
PP-31
XS - 24 - P
XS - 23 - R

Notes:
1) Baseline Data Provided by Kee Mapping

0 70 140 280 Feet

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ENVIRONMENTAL QUALITY

Current Condition Plan View
Fletcher Mitigation Site
Monitoring Year 3
Henderson County, NC
NCDMS Contract No.: 006997
NCDMS Project No.: 100004
February 2023
Sheet 11 of 12

Invasive Vegetation
- Invasive Vegetation

Streams
- Enhancement II
- No Credit
- Restoration

- Continuous Stage Recorder
- Photo Point
- Cross-Section
- As-Built Top of Bank

Vegetation Plot
- Meeting
- Wetlands Enhancement
- Conservation Easement

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Coates Branch Reach 1C

Coates Branch Reach 1D

PP-31 PP-32 PP-33 PP-7 PP-6 PP-5

XS - 26 - R
XS - 25 - P
XS - 27 - P
XS - 28 - R
XS - 6 - R
XS - 5 - P

18 17 16 15 14

309+50 310+00 310+50 311+00 311+50 312+00 312+50 313+00 313+50 314+00 314+50 315+00 315+50 316+00 316+50 317+00 317+50 318+00 318+50 319+00 319+50 115+50 116+00 116+50 117+00 117+50 118+00 118+50 119+00 119+50 120+00 120+50 121+00 121+50 122+00 122+50 123+00 123+50 124+00 124+50 125+00 125+50

Notes:
1) Baseline Data Provided by Kee Mapping

0 80 160 320 Feet

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ENVIRONMENTAL QUALITY

Current Condition Plan View
Fletcher Mitigation Site
Monitoring Year 3
Henderson County, NC
NCDMS Contract No.: 006997
NCDMS Project No.: 100004
February 2023
Sheet 12 of 12

Invasive Vegetation
- Invasive Vegetation

Streams
- No Credit
- Restoration

- Crest Gauge
- Photo Point
- Cross-Section
- As-Built Top of Bank

Vegetation Plot
- Meeting
- Conservation Easement

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Table 5. Visual Stream Morphology Stability Assessment
Fletcher Mitigation Site - Fletcher Creek Reach 1A - Enhancement II
Assessed Length 457 feet (April 6-7 and September 14-15, 2022)

Major Channel Category	Channel Sub-Category	Metric	Number Stable, Performing as Intended	Total Number in As-built	Number of Unstable Segments	Amount of Unstable Footage	% Stable, Performing as Intended	Number with Stabilizing Woody Vegetation	Footage with Stabilizing Woody Vegetation	Adjusted % for Stabilizing Woody Vegetation
1. Bank	1. Scoured / Eroding	Bank lacking vegetative cover resulting simply from poor growth and/or scour and erosion.			0	0	100%	0	0	100%
	2. Undercut	Banks undercut/overhanging to the extent that mass wasting appears likely. Does NOT include undercuts that are modest, appear sustainable and are providing habitat.			0	0	100%	N/A	N/A	N/A
	3. Mass Wasting	Bank slumping, calving, or collapse.			0	0	100%	N/A	N/A	N/A
				Totals	0	0	100%	N/A	N/A	N/A
3. Engineered Structures	1. Overall Integrity	Structures physically intact with no dislodged boulders or logs.	N/A	N/A			N/A			
	2. Grade Control	Grade control structures exhibiting maintenance of grade across the sill.	N/A	N/A			N/A			
	2a. Piping	Structures lacking any substantial flow underneath sills or arms.	N/A	N/A			N/A			
	3. Bank Protection	Bank erosion within the structures extent of influence does NOT exceed 15%.	N/A	N/A			N/A			
	4. Habitat	Pool forming structures maintaining ~ Max Pool Depth : Mean Bankfull Depth Ratio ≥ 1.6. Rootwads/logs providing some cover at base-flow.	N/A	N/A			N/A			

- Information Unavailable
N/A - Item does not apply.

Table 5 cont'd. Visual Stream Morphology Stability Assessment
Fletcher Mitigation Site - Fletcher Creek Reach 1B - Restoration
Assessed Length 380 feet (April 6-7 and September 14-15, 2022)

Major Channel Category	Channel Sub-Category	Metric	Number Stable, Performing as Intended	Total Number in As-built	Number of Unstable Segments	Amount of Unstable Footage	% Stable, Performing as Intended	Number with Stabilizing Woody Vegetation	Footage with Stabilizing Woody Vegetation	Adjusted % for Stabilizing Woody Vegetation
1. Bank	1. Scoured / Eroding	Bank lacking vegetative cover resulting simply from poor growth and/or scour and erosion.			0	0	100%	0	0	100%
	2. Undercut	Banks undercut/overhanging to the extent that mass wasting appears likely. Does NOT include undercuts that are modest, appear sustainable and are providing habitat.			0	0	100%	0	0	100%
	3. Mass Wasting	Bank slumping, calving, or collapse.			0	0	100%	0	0	100%
				Totals	0	0	100%	0	0	100%
2. Engineered Structures	1. Overall Integrity	Structures physically intact with no dislodged boulders or logs.	1	1			100%			
	2. Grade Control	Grade control structures exhibiting maintenance of grade across the sill.	1	1			100%			
	2a. Piping	Structures lacking any substantial flow underneath sills or arms.	1	1			100%			
	3. Bank Protection	Bank erosion within the structures extent of influence does NOT exceed 15%.	1	1			100%			
	4. Habitat	Pool forming structures maintaining ~ Max Pool Depth : Mean Bankfull Depth Ratio ≥ 1.6. Rootwads/logs providing some cover at base-flow.	1	1			100%			

- Information Unavailable
N/A - Item does not apply.

Table 5 cont'd. Visual Stream Morphology Stability Assessment
Fletcher Mitigation Site - Fletcher Creek Reach 1C - Restoration
Assessed Length 1,514 feet (April 6-7 and September 14-15, 2022)

Major Channel Category	Channel Sub-Category	Metric	Number Stable, Performing as Intended	Total Number in As-built	Number of Unstable Segments	Amount of Unstable Footage	% Stable, Performing as Intended	Number with Stabilizing Woody Vegetation	Footage with Stabilizing Woody Vegetation	Adjusted % for Stabilizing Woody Vegetation
1. Bank	**1. Scoured / Eroding**	Bank lacking vegetative cover resulting simply from poor growth and/or scour and erosion.			0	0	100%	0	0	100%
	2. Undercut	Banks undercut/overhanging to the extent that mass wasting appears likely. Does NOT include undercuts that are modest, appear sustainable and are providing habitat.			0	0	100%	0	0	100%
	3. Mass Wasting	Bank slumping, calving, or collapse.			0	0	100%	0	0	100%
				Totals	0	0	100%	0	0	100%
2. Engineered Structures	**1. Overall Integrity**	Structures physically intact with no dislodged boulders or logs.	6	6			100%			
	2. Grade Control	Grade control structures exhibiting maintenance of grade across the sill.	6	6			100%			
	2a. Piping	Structures lacking any substantial flow underneath sills or arms.	6	6			100%			
	3. Bank Protection	Bank erosion within the structures extent of influence does NOT exceed 15%.	6	6			100%			
	4. Habitat	Pool forming structures maintaining ~ Max Pool Depth : Mean Bankfull Depth Ratio ≥ 1.6. Rootwads/logs providing some cover at base-flow.	6	6			100%			

- Information Unavailable

N/A - Item does not apply.

Table 5 cont'd. Visual Stream Morphology Stability Assessment
Fletcher Mitigation Site - Fletcher Creek Reach 2A - Restoration
Assessed Length 1,299 feet (April 6-7 and September 14-15, 2022)

Major Channel Category	Channel Sub-Category	Metric	Number Stable, Performing as Intended	Total Number in As-built	Number of Unstable Segments	Amount of Unstable Footage	% Stable, Performing as Intended	Number with Stabilizing Woody Vegetation	Footage with Stabilizing Woody Vegetation	Adjusted % for Stabilizing Woody Vegetation
1. Bank	**1. Scoured / Eroding**	Bank lacking vegetative cover resulting simply from poor growth and/or scour and erosion.			0	0	100%	0	0	100%
	2. Undercut	Banks undercut/overhanging to the extent that mass wasting appears likely. Does NOT include undercuts that are modest, appear sustainable and are providing habitat.			0	0	100%	0	0	100%
	3. Mass Wasting	Bank slumping, calving, or collapse.			0	0	100%	0	0	100%
				Totals	0	0	100%	0	0	100%
2. Engineered Structures	**1. Overall Integrity**	Structures physically intact with no dislodged boulders or logs.	13	14			93%			
	2. Grade Control	Grade control structures exhibiting maintenance of grade across the sill.	14	14			100%			
	2a. Piping	Structures lacking any substantial flow underneath sills or arms.	14	14			100%			
	3. Bank Protection	Bank erosion within the structures extent of influence does NOT exceed 15%.	14	14			100%			
	4. Habitat	Pool forming structures maintaining ~ Max Pool Depth : Mean Bankfull Depth Ratio ≥ 1.6. Rootwads/logs providing some cover at base-flow.	14	14			100%			

- Information Unavailable

N/A - Item does not apply.

Table 5 cont'd. Visual Stream Morphology Stability Assessment
Fletcher Mitigation Site - Fletcher Creek Reach 2B - Restoration
Assessed Length 1,511 feet (April 6-7 and September 14-15, 2022)

Major Channel Category	Channel Sub-Category	Metric	Number Stable, Performing as Intended	Total Number in As-built	Number of Unstable Segments	Amount of Unstable Footage	% Stable, Performing as Intended	Number with Stabilizing Woody Vegetation	Footage with Stabilizing Woody Vegetation	Adjusted % for Stabilizing Woody Vegetation
1. Bank	**1. Scoured / Eroding**	Bank lacking vegetative cover resulting simply from poor growth and/or scour and erosion.			1	14	99%	0	0	100%
	2. Undercut	Banks undercut/overhanging to the extent that mass wasting appears likely. Does NOT include undercuts that are modest, appear sustainable and are providing habitat.			0	0	100%	0	0	100%
	3. Mass Wasting	Bank slumping, calving, or collapse.			0	0	100%	0	0	100%
				Totals	1	14	100%	0	0	100%
2. Engineered Structures	**1. Overall Integrity**	Structures physically intact with no dislodged boulders or logs.	27	27			100%			
	2. Grade Control	Grade control structures exhibiting maintenance of grade across the sill.	27	27			100%			
	2a. Piping	Structures lacking any substantial flow underneath sills or arms.	27	27			100%			
	3. Bank Protection	Bank erosion within the structures extent of influence does NOT exceed 15%.	27	27			100%			
	4. Habitat	Pool forming structures maintaining ~ Max Pool Depth : Mean Bankfull Depth Ratio ≥ 1.6. Rootwads/logs providing some cover at base-flow.	27	27			100%			

- Information Unavailable
N/A - Item does not apply.

Table 5 cont'd. Visual Stream Morphology Stability Assessment
Fletcher Mitigation Site - Raccoon Branch Reach 1C - Enhancement II
Assessed Length 153 feet (April 6-7 and September 14-15, 2022)

Major Channel Category	Channel Sub-Category	Metric	Number Stable, Performing as Intended	Total Number in As-built	Number of Unstable Segments	Amount of Unstable Footage	% Stable, Performing as Intended	Number with Stabilizing Woody Vegetation	Footage with Stabilizing Woody Vegetation	Adjusted % for Stabilizing Woody Vegetation
1. Bank	**1. Scoured / Eroding**	Bank lacking vegetative cover resulting simply from poor growth and/or scour and erosion.			0	0	100%	0	0	100%
	2. Undercut	Banks undercut/overhanging to the extent that mass wasting appears likely. Does NOT include undercuts that are modest, appear sustainable and are providing habitat.			0	0	100%	0	0	100%
	3. Mass Wasting	Bank slumping, calving, or collapse.			0	0	100%	0	0	100%
				Totals	0	0	100%	0	0	100%
2. Engineered Structures	**1. Overall Integrity**	Structures physically intact with no dislodged boulders or logs.	N/A	N/A			N/A			
	2. Grade Control	Grade control structures exhibiting maintenance of grade across the sill.	N/A	N/A			N/A			
	2a. Piping	Structures lacking any substantial flow underneath sills or arms.	N/A	N/A			N/A			
	3. Bank Protection	Bank erosion within the structures extent of influence does NOT exceed 15%.	N/A	N/A			N/A			
	4. Habitat	Pool forming structures maintaining ~ Max Pool Depth : Mean Bankfull Depth Ratio ≥ 1.6. Rootwads/logs providing some cover at base-flow.	N/A	N/A			N/A			

- Information Unavailable
N/A - Item does not apply.

Table 5 cont'd. Visual Stream Morphology Stability Assessment
Fletcher Mitigation Site - Raccoon Branch Reach 1D - Restoration
Assessed Length 440 feet (April 6-7 and September 14-15, 2022)

Major Channel Category	Channel Sub-Category	Metric	Number Stable, Performing as Intended	Total Number in As-built	Number of Unstable Segments	Amount of Unstable Footage	% Stable, Performing as Intended	Number with Stabilizing Woody Vegetation	Footage with Stabilizing Woody Vegetation	Adjusted % for Stabilizing Woody Vegetation
1. Bank	1. Scoured / Eroding	Bank lacking vegetative cover resulting simply from poor growth and/or scour and erosion.			0	0	100%	0	0	100%
	2. Undercut	Banks undercut/overhanging to the extent that mass wasting appears likely. Does NOT include undercuts that are modest, appear sustainable and are providing habitat.			0	0	100%	0	0	100%
	3. Mass Wasting	Bank slumping, calving, or collapse.			0	0	100%	0	0	100%
				Totals	0	0	100%	0	0	100%
2. Engineered Structures	1. Overall Integrity	Structures physically intact with no dislodged boulders or logs.	N/A	N/A			N/A			
	2. Grade Control	Grade control structures exhibiting maintenance of grade across the sill.	N/A	N/A			N/A			
	2a. Piping	Structures lacking any substantial flow underneath sills or arms.	N/A	N/A			N/A			
	3. Bank Protection	Bank erosion within the structures extent of influence does NOT exceed 15%.	N/A	N/A			N/A			
	4. Habitat	Pool forming structures maintaining ~ Max Pool Depth : Mean Bankfull Depth Ratio ≥ 1.6. Rootwads/logs providing some cover at base-flow.	N/A	N/A			N/A			

- Information Unavailable

N/A - Item does not apply.

Table 5 cont'd. Visual Stream Morphology Stability Assessment
Fletcher Mitigation Site - Coates Branch Reach 1A - Enhancement II
Assessed Length 284 feet (April 6-7 and September 14-15, 2022)

Major Channel Category	Channel Sub-Category	Metric	Number Stable, Performing as Intended	Total Number in As-built	Number of Unstable Segments	Amount of Unstable Footage	% Stable, Performing as Intended	Number with Stabilizing Woody Vegetation	Footage with Stabilizing Woody Vegetation	Adjusted % for Stabilizing Woody Vegetation
1. Bank	1. Scoured / Eroding	Bank lacking vegetative cover resulting simply from poor growth and/or scour and erosion.			0	0	100%	0	0	100%
	2. Undercut	Banks undercut/overhanging to the extent that mass wasting appears likely. Does NOT include undercuts that are modest, appear sustainable and are providing habitat.			0	0	100%	0	0	100%
	3. Mass Wasting	Bank slumping, calving, or collapse.			0	0	100%	0	0	100%
				Totals	0	0	100%	0	0	100%
2. Engineered Structures	1. Overall Integrity	Structures physically intact with no dislodged boulders or logs.	N/A	N/A			N/A			
	2. Grade Control	Grade control structures exhibiting maintenance of grade across the sill.	N/A	N/A			N/A			
	2a. Piping	Structures lacking any substantial flow underneath sills or arms.	N/A	N/A			N/A			
	3. Bank Protection	Bank erosion within the structures extent of influence does NOT exceed 15%.	N/A	N/A			N/A			
	4. Habitat	Pool forming structures maintaining ~ Max Pool Depth : Mean Bankfull Depth Ratio ≥ 1.6. Rootwads/logs providing some cover at base-flow.	N/A	N/A			N/A			

- Information Unavailable

N/A - Item does not apply.

Table 5 cont'd. Visual Stream Morphology Stability Assessment
Fletcher Mitigation Site - Coates Branch Reach 1B - Restoration
Assessed Length 601 feet (April 6-7 and September 14-15, 2022)

Major Channel Category	Channel Sub-Category	Metric	Number Stable, Performing as Intended	Total Number in As-built	Number of Unstable Segments	Amount of Unstable Footage	% Stable, Performing as Intended	Number with Stabilizing Woody Vegetation	Footage with Stabilizing Woody Vegetation	Adjusted % for Stabilizing Woody Vegetation
1. Bank	**1. Scoured / Eroding**	Bank lacking vegetative cover resulting simply from poor growth and/or scour and erosion.			0	0	100%	0	0	100%
	2. Undercut	Banks undercut/overhanging to the extent that mass wasting appears likely. Does NOT include undercuts that are modest, appear sustainable and are providing habitat.			0	0	100%	0	0	100%
	3. Mass Wasting	Bank slumping, calving, or collapse.			0	0	100%	0	0	100%
				Totals	0	0	100%	0	0	100%
2. Engineered Structures	**1. Overall Integrity**	Structures physically intact with no dislodged boulders or logs.	N/A	N/A			N/A			
	2. Grade Control	Grade control structures exhibiting maintenance of grade across the sill.	N/A	N/A			N/A			
	2a. Piping	Structures lacking any substantial flow underneath sills or arms.	N/A	N/A			N/A			
	3. Bank Protection	Bank erosion within the structures extent of influence does NOT exceed 15%.	N/A	N/A			N/A			
	4. Habitat	Pool forming structures maintaining ~ Max Pool Depth : Mean Bankfull Depth Ratio ≥ 1.6. Rootwads/logs providing some cover at base-flow.	N/A	N/A			N/A			

- Information Unavailable

N/A - Item does not apply.

Table 5 cont'd. Visual Stream Morphology Stability Assessment
Fletcher Mitigation Site - Coates Branch Reach 1C - Restoration
Assessed Length 708 feet (April 6-7 and September 14-15, 2022)

Major Channel Category	Channel Sub-Category	Metric	Number Stable, Performing as Intended	Total Number in As-built	Number of Unstable Segments	Amount of Unstable Footage	% Stable, Performing as Intended	Number with Stabilizing Woody Vegetation	Footage with Stabilizing Woody Vegetation	Adjusted % for Stabilizing Woody Vegetation
1. Bank	**1. Scoured / Eroding**	Bank lacking vegetative cover resulting simply from poor growth and/or scour and erosion.			0	0	100%	0	0	100%
	2. Undercut	Banks undercut/overhanging to the extent that mass wasting appears likely. Does NOT include undercuts that are modest, appear sustainable and are providing habitat.			0	0	100%	0	0	100%
	3. Mass Wasting	Bank slumping, calving, or collapse.			0	0	100%	0	0	100%
				Totals	0	0	100%	0	0	100%
2. Engineered Structures	**1. Overall Integrity**	Structures physically intact with no dislodged boulders or logs.	N/A	N/A			N/A			
	2. Grade Control	Grade control structures exhibiting maintenance of grade across the sill.	N/A	N/A			N/A			
	2a. Piping	Structures lacking any substantial flow underneath sills or arms.	N/A	N/A			N/A			
	3. Bank Protection	Bank erosion within the structures extent of influence does NOT exceed 15%.	N/A	N/A			N/A			
	4. Habitat	Pool forming structures maintaining ~ Max Pool Depth : Mean Bankfull Depth Ratio ≥ 1.6. Rootwads/logs providing some cover at base-flow.	N/A	N/A			N/A			

- Information Unavailable

N/A - Item does not apply.

Table 5 cont'd. Visual Stream Morphology Stability Assessment
Fletcher Mitigation Site - Coates Branch Reach 1D - Restoration
Assessed Length 325 feet (April 6-7 and September 14-15, 2022)

Major Channel Category	Channel Sub-Category	Metric	Number Stable, Performing as Intended	Total Number in As-built	Number of Unstable Segments	Amount of Unstable Footage	% Stable, Performing as Intended	Number with Stabilizing Woody Vegetation	Footage with Stabilizing Woody Vegetation	Adjusted % for Stabilizing Woody Vegetation
1. Bank	**1. Scoured / Eroding**	Bank lacking vegetative cover resulting simply from poor growth and/or scour and erosion.			0	0	100%	0	0	100%
	2. Undercut	Banks undercut/overhanging to the extent that mass wasting appears likely. Does NOT include undercuts that are modest, appear sustainable and are providing habitat.			0	0	100%	0	0	100%
	3. Mass Wasting	Bank slumping, calving, or collapse.			0	0	100%	0	0	100%
				Totals	0	0	100%	0	0	100%
2. Engineered Structures	**1. Overall Integrity**	Structures physically intact with no dislodged boulders or logs.	N/A	N/A			N/A			
	2. Grade Control	Grade control structures exhibiting maintenance of grade across the sill.	N/A	N/A			N/A			
	2a. Piping	Structures lacking any substantial flow underneath sills or arms.	N/A	N/A			N/A			
	3. Bank Protection	Bank erosion within the structures extent of influence does NOT exceed 15%.	N/A	N/A			N/A			
	4. Habitat	Pool forming structures maintaining ~ Max Pool Depth : Mean Bankfull Depth Ratio ≥ 1.6. Rootwads/logs providing some cover at base-flow.	N/A	N/A			N/A			

- Information Unavailable

N/A - Item does not apply.

Table 5 cont'd. Visual Stream Morphology Stability Assessment
Fletcher Mitigation Site - Weston Creek Reach 1A - Restoration
Assessed Length 1,982 feet (April 6-7 and September 14-15, 2022)

Major Channel Category	Channel Sub-Category	Metric	Number Stable, Performing as Intended	Total Number in As-built	Number of Unstable Segments	Amount of Unstable Footage	% Stable, Performing as Intended	Number with Stabilizing Woody Vegetation	Footage with Stabilizing Woody Vegetation	Adjusted % for Stabilizing Woody Vegetation
1. Bank	**1. Scoured / Eroding**	Bank lacking vegetative cover resulting simply from poor growth and/or scour and erosion.			0	0	100%	0	0	100%
	2. Undercut	Banks undercut/overhanging to the extent that mass wasting appears likely. Does NOT include undercuts that are modest, appear sustainable and are providing habitat.			0	0	100%	0	0	100%
	3. Mass Wasting	Bank slumping, calving, or collapse.			0	0	100%	0	0	100%
				Totals	0	0	100%	0	0	100%
2. Engineered Structures	**1. Overall Integrity**	Structures physically intact with no dislodged boulders or logs.	30	30			100%			
	2. Grade Control	Grade control structures exhibiting maintenance of grade across the sill.	30	30			100%			
	2a. Piping	Structures lacking any substantial flow underneath sills or arms.	30	30			100%			
	3. Bank Protection	Bank erosion within the structures extent of influence does NOT exceed 15%.	30	30			100%			
	4. Habitat	Pool forming structures maintaining ~ Max Pool Depth : Mean Bankfull Depth Ratio ≥ 1.6. Rootwads/logs providing some cover at base-flow.	30	30			100%			

- Information Unavailable

N/A - Item does not apply.

Table 5 cont'd. Visual Stream Morphology Stability Assessment
Fletcher Mitigation Site - Weston Creek Reach 1B - Restoration
Assessed Length 825 feet (April 6-7 and September 14-15, 2022)

Major Channel Category	Channel Sub-Category	Metric	Number Stable, Performing as Intended	Total Number in As-built	Number of Unstable Segments	Amount of Unstable Footage	% Stable, Performing as Intended	Number with Stabilizing Woody Vegetation	Footage with Stabilizing Woody Vegetation	Adjusted % for Stabilizing Woody Vegetation
1. Bank	1. Scoured / Eroding	Bank lacking vegetative cover resulting simply from poor growth and/or scour and erosion.			0	0	100%	0	0	100%
	2. Undercut	Banks undercut/overhanging to the extent that mass wasting appears likely. Does NOT include undercuts that are modest, appear sustainable and are providing habitat.			0	0	100%	0	0	100%
	3. Mass Wasting	Bank slumping, calving, or collapse.			0	0	100%	0	0	100%
				Totals	0	0	100%	0	0	100%
2. Engineered Structures	1. Overall Integrity	Structures physically intact with no dislodged boulders or logs.	10	10			100%			
	2. Grade Control	Grade control structures exhibiting maintenance of grade across the sill.	10	10			100%			
	2a. Piping	Structures lacking any substantial flow underneath sills or arms.	10	10			100%			
	3. Bank Protection	Bank erosion within the structures extent of influence does NOT exceed 15%.	10	10			100%			
	4. Habitat	Pool forming structures maintaining ~ Max Pool Depth : Mean Bankfull Depth Ratio ≥ 1.6. Rootwads/logs providing some cover at base-flow.	10	10			100%			

- Information Unavailable
N/A - Item does not apply.

Table 6. Vegetation Condition Assessment
Fletcher Creek Restoration Site
Assessed April 6-7 and September 14-15, 2022

Planted Acreage : 32.3

Vegetation Category	Definitions	CCPV Depiction	Number of Polygons	Combined Acreage	% of Planted Acreage
1. Bare Areas	Very limited cover of both woody and herbaceous material.	Brown Stipple	0	0.00	0%
2. Low Stem Density Areas	Woody stem densities clearly below target levels based on MY3, 4, or 5 stem count criteria.	Red Stipple	0	0.00	0%
		Totals	0	0.00	0%
3. Areas of Poor Growth Rates or Vigor	Areas with woody stems of a size class that are obviously small given the monitoring year.	N/A	0	0.00	0%
		Cumulative Totals	0	0.00	0%

Easement Acreage : 34.8

Vegetation Category	Definitions	CCPV Depiction	Number of Polygons/Points	Combined Acreage	% of Easement Acreage
4. Invasive Areas of Concern	Areas or points (if too small to render as polygons at map scale).	Cross Hatch (Yellow - Present)	14	0.64	2%
5. Easement Encroachment Areas	Areas or points (if too small to render as polygons at map scale).	Red	6	0.02	0.1%

N/A - Item does not apply.

Permanent Photo Stations

Fletcher Creek 1A – Permanent Photo Station 1
Looking Upstream

Fletcher Creek 1A – Permanent Photo Station 1
Looking Downstream

Fletcher 1B, Cross section 1 Crest Gauge.

Fletcher Creek 1B – Permanent Photo Station 2
Looking Upstream

Fletcher Creek 1B – Permanent Photo Station 2
Looking Downstream

Fletcher Creek 1B – Permanent Photo Station 3
Looking Upstream

Fletcher Creek 1C – Permanent Photo Station 3
Looking Downstream

Fletcher Creek 1C – Permanent Photo Station 4
Looking Upstream

Fletcher Creek 1C – Permanent Photo Station 4
Looking Downstream

Fletcher Creek 1C – Permanent Photo Station 5
Looking Upstream from Crossing

Fletcher Creek 1C – Permanent Photo Station 5
Looking Downstream from Crossing

Fletcher Creek 1C – Permanent Photo Station 6
Looking Upstream

Fletcher Creek 1C – Permanent Photo Station 6
Looking Downstream

Fletcher Creek 1C – Permanent Photo Station 7
Looking Upstream

Fletcher Creek 2A - Permanent Photo Station 7
Looking Downstream

Coates Branch 1D – Permanent Photo Station 7
Looking Upstream

Fletcher Creek 2A – Permanent Photo Station 8
Looking Upstream

Fletcher Creek 2A – Permanent Photo Station 8
Looking Downstream

Fletcher Creek 2A – Permanent Photo Station 9
Looking Upstream

Fletcher Creek 2A – Permanent Photo Station 9
Looking Downstream

Fletcher Creek 2A – Permanent Photo Station 10
Looking Upstream

Fletcher Creek 2A – Permanent Photo Station 10
Looking Downstream

Fletcher Creek 2A – Permanent Photo Station 11
Looking Upstream

Fletcher Creek 2B – Permanent Photo Station 12
Looking Downstream

Fletcher Creek 2B – Permanent Photo Station 13
Looking Upstream from Crossing

Fletcher Creek 2B – Permanent Photo Station 13
Looking Downstream from Crossing

Fletcher Reach 2B. Cross-section 11 Crest Gauge.

Fletcher Creek 2B – Permanent Photo Station 14
Looking Upstream

Fletcher Creek 2B – Permanent Photo Station 14
Looking Downstream

Fletcher Creek 2B – Permanent Photo Station 15
Looking Upstream

Fletcher Creek 2B – Permanent Photo Station 15
Looking Downstream

Fletcher Creek 2B – Permanent Photo Station 16
Looking Upstream

Weston Creek 1A – Permanent Photo Station 17
Looking Downstream

Weston Reach 1A, Cross-section 15 Crest Gauge.

Weston Creek 1A – Permanent Photo Station 18
Looking Upstream

Weston Creek 1A – Permanent Photo Station 18
Looking Downstream

Weston Creek 1A – Permanent Photo Station 19
Looking Upstream

Weston Creek 1A – Permanent Photo Station 19
Looking Downstream

Weston Creek 1B – Permanent Photo Station 20
Looking Upstream

Weston Creek 1B – Permanent Photo Station 20
Looking Downstream

Weston Creek 1D – Permanent Photo Station 21
Looking Upstream

Raccoon Branch 1A – Permanent Photo Station 22
Looking Downstream

Pine Branch – Permanent Photo Station 23
Looking Downstream

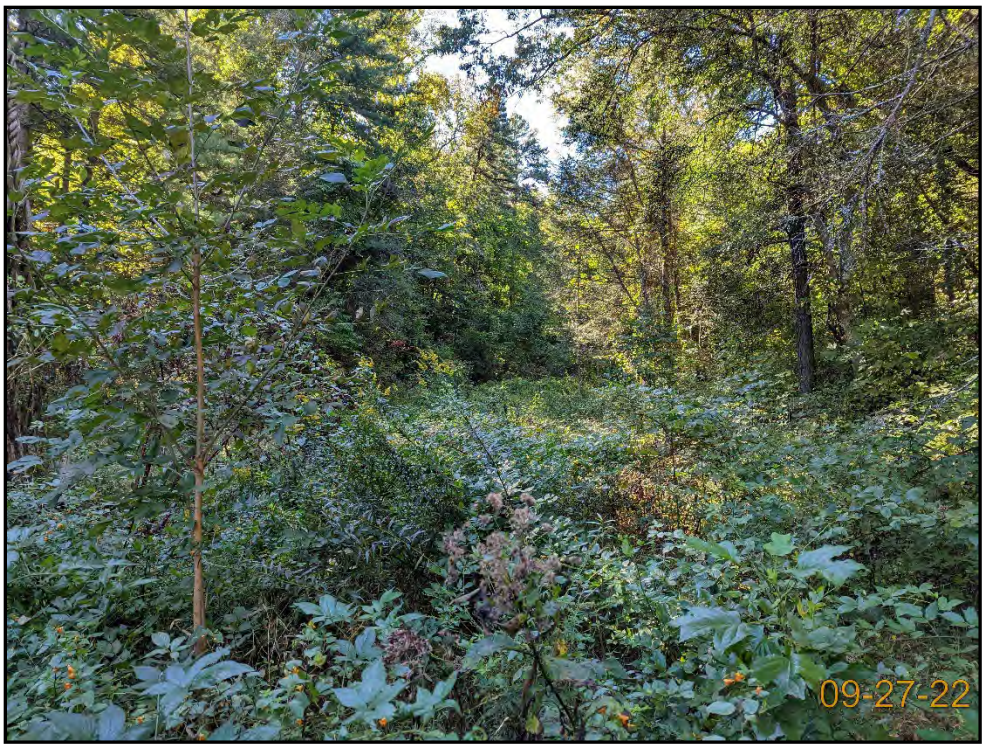
Raccoon Branch 1A – Permanent Photo Station 24
Looking Upstream

Raccoon Branch 1B – Permanent Photo Station 24
Looking Downstream

Pine Branch – Permanent Photo Station 24
Looking Upstream

Raccoon Branch 1B – Permanent Photo Station 25
Looking Upstream

Raccoon Branch 1C – Permanent Photo Station 25
Looking Downstream



Raccoon Branch 1C – Permanent Photo Station 26
Looking Upstream

Raccoon Branch 1D – Permanent Photo Station 26
Looking Downstream

Raccoon Branch 1D – Permanent Photo Station 27
Looking Upstream

Raccoon Branch 1D – Permanent Photo Station 27
Looking Downstream

Coates Branch 1A – Permanent Photo Station 28
Looking Downstream

Coates Branch 1B – Permanent Photo Station 29
Looking Downstream

Coates Branch 1B – Permanent Photo Station 30
Looking Upstream

Coates Branch 1B – Permanent Photo Station 30
Looking Downstream

Coates Branch 1B – Permanent Photo Station 31
Looking Upstream from Crossing

+

Coates Branch 1C – Permanent Photo Station 31
Looking Downstream from Crossing

Cross-section 26 Crest Gauge.

Coates Branch 1C – Permanent Photo Station 32
Looking Upstream

Coates Branch 1C – Permanent Photo Station 32
Looking Downstream

Coates Branch 1D – Permanent Photo Station 33
Looking Upstream

Coates Branch 1D – Permanent Photo Station 33
Looking Downstream

Vegetation Plot Photos

Vegetation Monitoring Plot 1

Vegetation Monitoring Plot 2

Vegetation Monitoring Plot 3

Vegetation Monitoring Plot 4

Vegetation Monitoring Plot 5

Vegetation Monitoring Plot 6

Vegetation Monitoring Plot 7

Vegetation Monitoring Plot 8

Vegetation Monitoring Plot 9

Vegetation Monitoring Plot 10

Vegetation Monitoring Plot 11

Vegetation Monitoring Plot 12

Vegetation Monitoring Plot 13

Vegetation Monitoring Plot 14

Vegetation Monitoring Plot 15

Vegetation Monitoring Plot 16

Vegetation Monitoring Plot 17

Vegetation Monitoring Plot 18

Vegetation Monitoring Plot 19

Vegetation Monitoring Plot 20

Vegetation Monitoring Plot 21

Vegetation Monitoring Plot 22

Vegetation Monitoring Plot 23

Vegetation Monitoring Plot 24

Vegetation Monitoring Plot 25

Vegetation Monitoring Plot 26

Problem Areas

Beaver Dam Weston Reach 1B, Station 424+50

Breached Beaver Dam Weston Reach 1B, Station 424+50

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Appendix C
Vegetation Plot Data

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Planted Acreage	32.3
Date of Initial Plant	2019-03-29
	2020-01-31 2021-02-26 2022-
Date(s) of Supplemental Plant(s)	03-31
Date(s) Mowing	2022-11-17
Date of Current Survey	2022-11-17
Plot size (ACRES)	0.0247

Table 7a, Current Plot Data MY3 (2022) Fletcher Mitigation Site.

	Scientific Name	Common Name	Tree/Shrub	Indicator Status	Veg Plot 1 F		Veg Plot 2 F		Veg Plot 3 F		Veg Plot 4 F		Veg Plot 5 F		Veg Plot 6 F		Veg Plot 7 F		Veg Plot 8 F		Veg Plot 9 F		Veg Plot 10 F		Veg Plot 11 F		Veg Plot 12 F		Veg Plot 13 F	
					Planted	Total	Planted	Total	Planted	Total	Planted	Total	Planted	Total	Planted	Total	Planted	Total	Planted	Total	Planted	Total	Planted	Total	Planted	Total	Planted	Total	Planted	Total	Planted	Total
Species Included in Approved Mitigation Plan	Acer negundo	boxelder	Tree	FAC	1	1	3	3	1	2	3	3		3	3	4	4	7	3	3			6	7	1	1	3	3	2	2
	Alnus serrulata	hazel alder	Tree	OBL					1	2																				
	Aronia arbutifolia	red chokeberry	Shrub	FACW																										
	Aronia melanocarpa	black chokeberry	Shrub	FAC																										
	Asimina triloba	pawpaw	Tree	FAC																										
	Betula nigra	river birch	Tree	FACW	1	1	4	4	3	3	2	2							1	1	2	2	1	1	3	4	5	5	5	5
	Carpinus caroliniana	American hornbeam	Tree	FAC					1	1			1	1					1	1	4	4					1	1		
	Cephalanthus occidentalis	common buttonbush	Shrub	OBL	2	2			1	1	6	6	2	2	4	4	1	1												
	Cornus amomum	silky dogwood	Shrub	FACW	2	2	1	1	4	4	3	3	5	5	5	5	2	2	1	1					2	2				
	Fraxinus pennsylvanica	green ash	Tree	FACW	3	3	3	3	3	3			1	1					6	6	2	2	3	3	1	1			2	2
	Hamamelis virginiana	American witchhazel	Tree	FACU	1	1																	1	1						
	Lindera benzoin	northern spicebush	Tree	FAC																										
	Liriodendron tulipifera	tuliptree	Tree	FACU			3	3									1	1	1	1	3	3			1	1			1	1
	Platanus occidentalis	American sycamore	Tree	FACW			4	4		2			1	1					3	3	5	5	6	6	4	4			3	3
	Salix nigra	black willow	Tree	OBL						1																				
	Salix sericea	silky willow	Shrub	OBL																								3	1	1
Sum	Performance Standard				10	10	18	18	14	19	14	14	10	13	12	13	8	11	16	16	16	16	17	18	12	13	9	12	14	14
Post Mitigation Plan Species	*Acer rubrum*	*red maple*	*Tree*	*FAC*																										
	Ilex opaca	*American holly*	*Tree*	*FACU*																										
	Juglans nigra	*black walnut*	*Tree*	*FACU*																						*1*				
	Liquidambar styraciflua	*sweetgum*	*Tree*	*FAC*							*1*	*1*	*2*	*2*																
	Oxydendrum arboreum	*sourwood*	*Shrub*	*UPL*																										
	Pinus virginiana	*Virginia pine*	*Tree*																											
	Prunus serotina	*black cherry*	*Tree*	*FACU*																										
	Quercus falcata	*southern red oak*	*Tree*	*FACU*																										
	Quercus sp.																													
	Robinia pseudoacacia	*black locust*	*Tree*	*FACU*																										
Sum	Proposed Standard				10	10	18	18	14	19	14	14	10	13	12	13	8	11	16	16	16	16	17	18	12	13	9	12	14	14
Invasives	*Rosa multiflora*	*multiflora rose*	*Shrub*	*FACU*														*1*												
Mitigation Plan Performance Standard	Current Year Stem Count					10		18		19		14		13		13		11		16		16		18		13		12		14
	Stems/Acre					405		729		769		567		526		526		405		648		648		729		526		486		567
	Species Count					6		6		9		4		6		3		4		7		5		5		6		4		6
	Dominant Species Composition (%)					30		22		21		40		33		38		58		38		31		39		29		42		36
	Average Plot Height (ft.)					5		10		5		3		3		4		4		3		7		6		8		3		113
	% Invasives					0		0		0		0		0		0		8		0		0		0		0		0		0
Post Mitigation Plan Performance Standard	Current Year Stem Count					10		18		19		14		13		13		11		16		16		18		13		12		14
	Stems/Acre					405		729		769		567		526		526		405		648		648		729		526		486		567
	Species Count					6		6		9		4		6		3		4		7		5		5		6		4		6
	Dominant Species Composition (%)					30		22		21		40		33		38		58		38		31		39		29		42		36
	Average Plot Height (ft.)					5		10		5		3		3		4		4		3		7		6		8		3		113
	% Invasives					0		0		0		0		0		0		8		0		0		0		0		0		0

1). Bolded species are proposed for the current monitoring year, italicized species are not approved, and a regular font indicates that the species has been approved.
2). The "Species Included in Approved Mitigation Plan" section contains only those species that were included in the original approved mitigation plan. The "Post Mitigation Plan Species" section includes species that are being proposed through a mitigation plan addendum for the current monitoring year (bolded) , species that have been approved in prior monitoring years through a mitigation plan addendum (regular font), and species that are not approved (italicized).
3). The "Mitigation Plan Performance Standard" section is derived only from stems included in the original mitigation plan, whereas the "Post Mitigation Plan Performance Standard" includes data from mitigation plan approved, post mitigation plan approved, and proposed stems.

Planted Acreage	32.3
Date of Initial Plant	2019-03-29
	2020-01-31 2021-02-26 2022-
Date(s) of Supplemental Plant(s)	03-31
Date(s) Mowing	2022-11-17
Date of Current Survey	2022-11-17
Plot size (ACRES)	0.0247

Table 7a cont., Current Plot Data MY3 (2022) Fletcher Mitigation Site.

	Scientific Name	Common Name	Tree/Shrub	Indicator Status	Veg Plot 14 F		Veg Plot 15 F		Veg Plot 16 F		Veg Plot 17 F		Veg Plot 18 F		Veg Plot 19 F		Veg Plot 20 F		Veg Plot 21 F		Veg Plot 22 F		Veg Plot 23 F		Veg Plot 24 F		Veg Plot 25 F		Veg Plot 26 F	
					Planted	Total	Planted	Total	Planted	Total	Planted	Total	Planted	Total	Planted	Total	Planted	Total	Planted	Total	Planted	Total	Planted	Total	Planted	Total	Planted	Total	Planted	Total
Species Included in Approved Mitigation Plan	Acer negundo	boxelder	Tree	FAC	2	2	1	1	1	1	2	2	5	5	1	1			2	2	3	3	1	1						
	Alnus serrulata	hazel alder	Tree	OBL																										
	Aronia arbutifolia	red chokeberry	Shrub	FACW															1	1										
	Aronia melanocarpa	black chokeberry	Shrub	FAC																					1	1				
	Asimina triloba	pawpaw	Tree	FAC											1	1			2	2					2	2	2	2	5	5
	Betula nigra	river birch	Tree	FACW	4	4	6	6	1	1	1	1	2	2			3	3	4	4	1	1								
	Carpinus caroliniana	American hornbeam	Tree	FAC	2	2	4	4			1	1	3	4	4	4							12	12						
	Cephalanthus occidentalis	common buttonbush	Shrub	OBL					1	1					2	2			1	1			1	1			1	1		
	Cornus amomum	silky dogwood	Shrub	FACW			2	2	1	1									1	1			1	2	1	1	4	4		
	Fraxinus pennsylvanica	green ash	Tree	FACW	1	1	4	4	2	2	4	4	1	1	1	1	2	2	2	2	2	2			3	3				
	Hamamelis virginiana	American witchhazel	Tree	FACU																										
	Lindera benzoin	northern spicebush	Tree	FAC											1	1			2	2	1	1			3	3	1	1	1	1
	Liriodendron tulipifera	tuliptree	Tree	FACU			2	2							2	2	3	3			1	1								
	Platanus occidentalis	American sycamore	Tree	FACW	6	6			2	2	3	3	1	3	4	4			1	1	7	7								
	Salix nigra	black willow	Tree	OBL										2							1	1								
	Salix sericea	silky willow	Shrub	OBL					2	4	1	1			2	5	1	1											1	1
Sum	Performance Standard				15	15	19	19	10	12	12	12	12	17	18	21	9	9	16	16	16	16	15	16	10	10	8	8	7	7
Post Mitigation Plan Species	*Acer rubrum*	*red maple*	*Tree*	*FAC*								*1*		*1*										*2*						
	Ilex opaca	*American holly*	*Tree*	*FACU*																						*1*		*1*		
	Juglans nigra	*black walnut*	*Tree*	*FACU*																										
	Liquidambar styraciflua	*sweetgum*	*Tree*	*FAC*																										
	Oxydendrum arboreum	*sourwood*	*Shrub*	*UPL*																								*3*		
	Pinus virginiana	*Virginia pine*	*Tree*															*2*										*3*		
	Prunus serotina	*black cherry*	*Tree*	*FACU*																						*1*				
	Quercus falcata	*southern red oak*	*Tree*	*FACU*																								*4*		
	Quercus sp.					*1*																								
	Robinia pseudoacacia	*black locust*	*Tree*	*FACU*																						*1*				
Sum	Proposed Standard				15	15	19	19	10	12	12	12	12	17	18	21	9	9	16	16	16	16	15	16	10	10	8	8	7	7
Invasives	*Rosa multiflora*	*multiflora rose*	*Shrub*	*FACU*																										
Mitigation Plan Performance Standard	Current Year Stem Count					15		19		12		12		17		21		9		16		16		16		10		8		7
	Stems/Acre					607		769		486		486		688		850		364		648		648		526		405		324		202
	Species Count					5		6		7		6		6		9		4		9		7		4		5		4		3
	Dominant Species Composition (%)					38		32		33		31		28		24		27		25		44		67		23		21		71
	Average Plot Height (ft.)					96		4		3		6		5		6		8		3		6		6		3		2		4
	% Invasives					0		0		0		0		0		0		0		0		0		0		0		0		0
Post Mitigation Plan Performance Standard	Current Year Stem Count					15		19		12		12		17		21		9		16		16		16		10		8		7
	Stems/Acre					607		769		486		486		688		850		364		648		648		526		405		324		202
	Species Count					5		6		7		6		6		9		4		9		7		4		5		4		3
	Dominant Species Composition (%)					38		32		33		31		28		24		27		25		44		67		23		21		71
	Average Plot Height (ft.)					96		4		3		6		5		6		8		3		6		6		3		2		4
	% Invasives					0		0		0		0		0		0		0		0		0		0		0		0		0

1). Bolded species are proposed for the current monitoring year, italicized species are not approved, and a regular font indicates that the species has been approved.
2). The "Species Included in Approved Mitigation Plan" section contains only those species that were included in the original approved mitigation plan. The "Post Mitigation Plan Species" section includes species that are being proposed through a mitigation plan addendum for the current monitoring year (bolded) , species that have been approved in prior monitoring years through a mitigation plan addendum (regular font), and species that are not approved (italicized).
3). The "Mitigation Plan Performance Standard" section is derived only from stems included in the original mitigation plan, whereas the "Post Mitigation Plan Performance Standard" includes data from mitigation plan approved, post mitigation plan approved, and proposed stems.

Table 7b, Vegetation Performance Standards Summary Table, MY3 (2022) Fletcher Mitigation Site.

	Veg Plot 1 F				Veg Plot 2 F				Veg Plot 3 F			
	Stems/Ac.	Av. Ht. (ft)	# Species	% Invasives	Stems/Ac.	Av. Ht. (ft)	# Species	% Invasives	Stems/Ac.	Av. Ht. (ft)	# Species	% Invasives
Monitoring Year 7												
Monitoring Year 5												
Monitoring Year 3	405	5	6	0	729	10	6	0	769	5	9	0
Monitoring Year 2	445	4	6	0	729	7	6	0	526	4	6	0
Monitoring Year 1	526	2	6	0	688	4	5	0	526	2	6	0
Monitoring Year 0	526	1	6	0	769	2	5	0	729	2	6	0
	Veg Plot 4 F				Veg Plot 5 F				Veg Plot 6 F			
	Stems/Ac.	Av. Ht. (ft)	# Species	% Invasives	Stems/Ac.	Av. Ht. (ft)	# Species	% Invasives	Stems/Ac.	Av. Ht. (ft)	# Species	% Invasives
Monitoring Year 7												
Monitoring Year 5												
Monitoring Year 3	567	3	4	0	526	3	6	0	526	4	3	0
Monitoring Year 2	567	2	4	0	405	3	5	0	486	2	3	0
Monitoring Year 1	526	1	4	0	364	2	4	0	324	22	2	0
Monitoring Year 0	648	1	7	0	202	1	3	0	324	2	2	0
	Veg Plot 7 F				Veg Plot 8 F				Veg Plot 9 F			
	Stems/Ac.	Av. Ht. (ft)	# Species	% Invasives	Stems/Ac.	Av. Ht. (ft)	# Species	% Invasives	Stems/Ac.	Av. Ht. (ft)	# Species	% Invasives
Monitoring Year 7												
Monitoring Year 5												
Monitoring Year 3	405	4	4	8	648	3	7	0	648	7	5	0
Monitoring Year 2	324	3	4	0	648	2	7	0	648	5	5	0
Monitoring Year 1	243	2	3	0	688	2	7	0	648	3	5	0
Monitoring Year 0	324	1	4	0	850	1	7	0	972	1	6	0
	Veg Plot 10 F				Veg Plot 11 F				Veg Plot 12 F			
	Stems/Ac.	Av. Ht. (ft)	# Species	% Invasives	Stems/Ac.	Av. Ht. (ft)	# Species	% Invasives	Stems/Ac.	Av. Ht. (ft)	# Species	% Invasives
Monitoring Year 7												
Monitoring Year 5												
Monitoring Year 3	729	6	5	0	526	8	6	0	486	3	4	0
Monitoring Year 2	688	5	5	0	445	8	5	0	405	2	4	0
Monitoring Year 1	688	3	5	0	567	5	6	0	405	2	4	0
Monitoring Year 0	769	2	5	0	688	2	6	0	445	2	4	0
	Veg Plot 13 F				Veg Plot 14 F				Veg Plot 15 F			
	Stems/Ac.	Av. Ht. (ft)	# Species	% Invasives	Stems/Ac.	Av. Ht. (ft)	# Species	% Invasives	Stems/Ac.	Av. Ht. (ft)	# Species	% Invasives
Monitoring Year 7												
Monitoring Year 5												
Monitoring Year 3	567	113	6	0	607	96	5	0	769	4	6	0
Monitoring Year 2	526	6	6	0	607	8	5	0	729	3	6	0
Monitoring Year 1	567	4	6	0	648	4	5	0	769	3	6	0
Monitoring Year 0	567	1	6	0	688	2	5	0	891	1	6	0
	Veg Plot 16 F				Veg Plot 17 F				Veg Plot 18 F			
	Stems/Ac.	Av. Ht. (ft)	# Species	% Invasives	Stems/Ac.	Av. Ht. (ft)	# Species	% Invasives	Stems/Ac.	Av. Ht. (ft)	# Species	% Invasives
Monitoring Year 7												
Monitoring Year 5												
Monitoring Year 3	486	3	7	0	486	6	6	0	688	5	6	0
Monitoring Year 2	486	2	7	0	526	4	6	0	486	4	5	0
Monitoring Year 1	567	1	9	0	526	3	6	0	526	2	5	0
Monitoring Year 0	972	1	9	0	607	1	7	0	810	2	6	0
	Veg Plot 19 F				Veg Plot 20 F				Veg Plot 21 F			
	Stems/Ac.	Av. Ht. (ft)	# Species	% Invasives	Stems/Ac.	Av. Ht. (ft)	# Species	% Invasives	Stems/Ac.	Av. Ht. (ft)	# Species	% Invasives
Monitoring Year 7												
Monitoring Year 5												
Monitoring Year 3	850	6	9	0	364	8	4	0	648	3	9	0
Monitoring Year 2	729	4	9	0	445	5	5	0	688	2	9	0
Monitoring Year 1	769	3	9	0	567	3	5	0	729	2	9	0
Monitoring Year 0	810	1	9	0	729	1	6	0	891	1	10	0
	Veg Plot 22 F				Veg Plot 23 F				Veg Plot 24 F			
	Stems/Ac.	Av. Ht. (ft)	# Species	% Invasives	Stems/Ac.	Av. Ht. (ft)	# Species	% Invasives	Stems/Ac.	Av. Ht. (ft)	# Species	% Invasives
Monitoring Year 7												
Monitoring Year 5												
Monitoring Year 3	648	6	7	0	526	6	4	0	405	3	5	0
Monitoring Year 2	688	4	7	0	405	5	4	0	364	2	5	0
Monitoring Year 1	688	3	7	0	405	3	4	0	405	2	5	0
Monitoring Year 0	729	2	7	0	486	2	4	0	567	1	5	0
	Veg Plot 25 F				Veg Plot 26 F							
	Stems/Ac.	Av. Ht. (ft)	# Species	% Invasives	Stems/Ac.	Av. Ht. (ft)	# Species	% Invasives				
Monitoring Year 7												
Monitoring Year 5												
Monitoring Year 3	324	2	4	0	202	4	3	0				
Monitoring Year 2	324	1	4	0	283	4	3	0				
Monitoring Year 1	243	2	4	0	243	3	2	0				
Monitoring Year 0	445	1	5	0	729	3	6	0				

*Each monitoring year represents a different plot for the random vegetation plot "groups". Random plots are denoted with an R, and fixed plots with an F.

Table 9. Vegetation Plot Criteria Attainment MY3 (2022) Fletcher Creek Restoration Project		
Vegetation Plot ID	Vegetation Survival Threshold Met?	Tract Mean
1	Yes	96.2%
2	Yes	
3	Yes	
4	Yes	
5	Yes	
6	Yes	
7	Yes	
8	Yes	
9	Yes	
10	Yes	
11	Yes	
12	Yes	
13	Yes	
14	Yes	
15	Yes	
16	Yes	
17	Yes	
18	Yes	
19	Yes	
20	Yes	
21	Yes	
22	Yes	
23	Yes	
24	Yes	
25	Yes	
26	No	

Appendix D
Stream Measurement and Geomorphology Data

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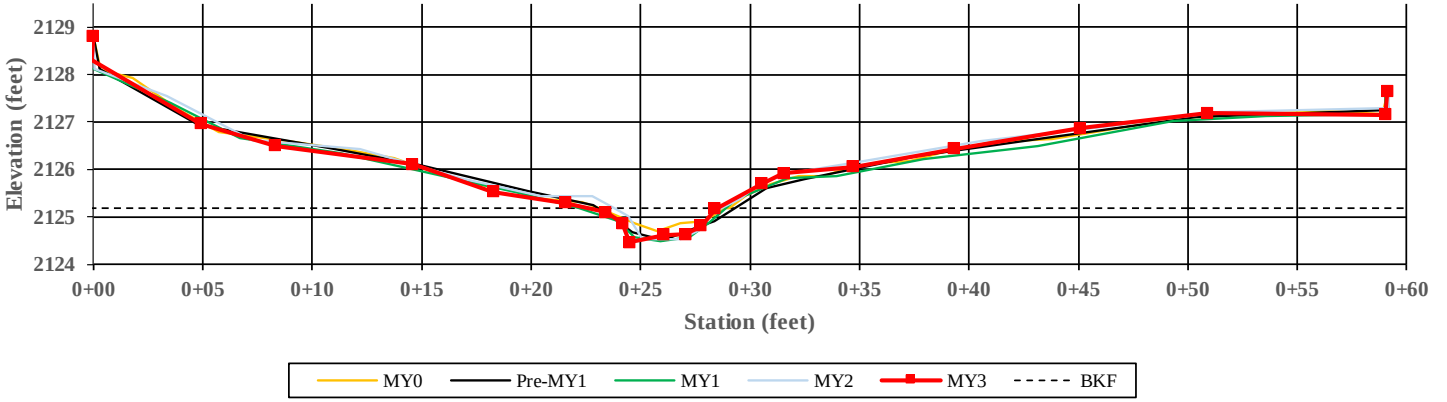
Project Name: Fletcher Mitigation site **XS Number:** 1 **Station:** 107+51

Reach Name: Fletcher Creek Reach 1B **XS Type:** Riffle



CHANNEL DIMENSIONS SUMMARY	MY0	*Pre-MY1	MY1	MY2	MY3	MY4	MY5	MY6
Bankful Width (ft)	7.1	6.1	6.1	4.5	5.0	-	-	-
Floodprone Width (ft)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Bankfull Mean Depth (ft)	0.3	0.4	0.4	0.5	0.5	-	-	-
Bankfull Max Depth (ft)	0.6	0.6	0.6	0.7	0.7	-	-	-
Bankfull Cross-Sectional Area (ft^2)	2.3	2.3	2.3	2.3	2.3	-	-	-
Width/Depth Ratio	21.4	16.4	15.9	8.8	10.6	-	-	-
Entrenchment Ratio	2.8	3.3	3.3	4.4	4.0	-	-	-
Bank Height Ratio	1.0	1.0	1.1	0.9	1.2	-	-	-

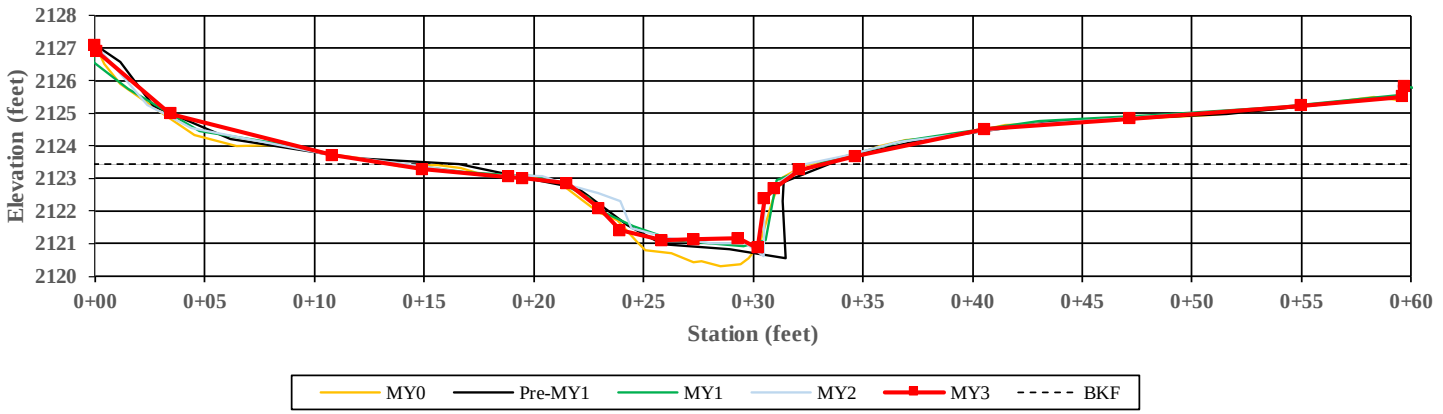
Left Descending Bank

Right Descending Bank

*** Data collected as part of 2019 monitoring year during adaptive management on Weston Reach 1A and 1B**

Project Name: Fletcher Mitigation site **XS Number:** 2 **Station:** 109+16

Reach Name: Fletcher Creek Reach 1B **XS Type:** Pool



CHANNEL DIMENSIONS SUMMARY	MY0	Pre-MY1	MY1	MY2	MY3	MY4	MY5	MY6
Bankful Width (ft)	10.9	11.9	12.2	10.8	9.5	-	-	-
Floodprone Width (ft)	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
Bankfull Mean Depth (ft)	1.7	1.5	1.5	1.7	1.9	-	-	-
Bankfull Max Depth (ft)	2.7	2.5	5.7	2.8	2.6	-	-	-
Bankfull Cross-Sectional Area (ft^2)	18.3	18.3	18.3	18.3	18.3	-	-	-
Width/Depth Ratio	6.5	7.8	8.1	6.4	4.9	-	-	-
Entrenchment Ratio	5.5	5.0	4.9	5.5	6.3	-	-	-
Bank Height Ratio	1.0	1.1	0.9	0.9	0.8	-	-	-

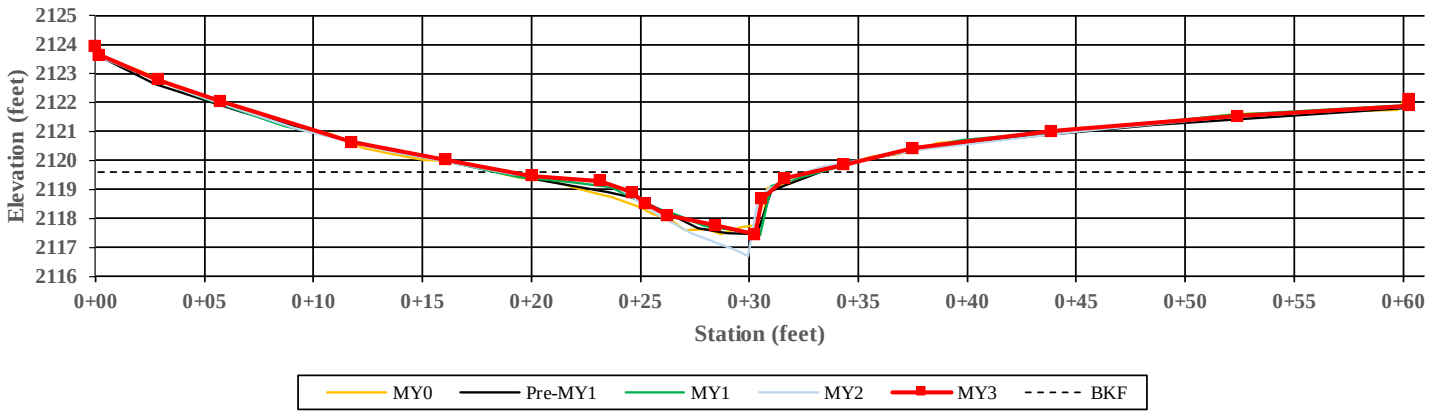
Left Descending Bank

Right Descending Bank

*** Data collected as part of 2019 monitoring year during adaptive management on Weston Reach 1A and 1B**

Project Name: Fletcher Mitigation site **XS Number:** 3 **Station:** 112+04

Reach Name: Fletcher Creek Reach 1C **XS Type:** P



CHANNEL DIMENSIONS SUMMARY	MY0	*Pre-MY1	MY1	MY2	MY3	MY4	MY5	MY6
Bankful Width (ft)	10.9	7.5	12.2	6.9	7.4	-	-	-
Floodprone Width (ft)	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
Bankfull Mean Depth (ft)	0.9	1.4	0.8	1.5	1.4	-	-	-
Bankfull Max Depth (ft)	1.8	2.0	2.0	2.6	2.1	-	-	-
Bankfull Cross-Sectional Area (ft^2)	10.3	10.3	10.3	10.3	10.3	-	-	-
Width/Depth Ratio	11.5	5.5	14.5	4.7	5.3	-	-	-
Entrenchment Ratio	3.7	5.3	3.3	5.8	5.4	-	-	-
Bank Height Ratio	1.0	0.8	0.8	0.9	0.9	-	-	-

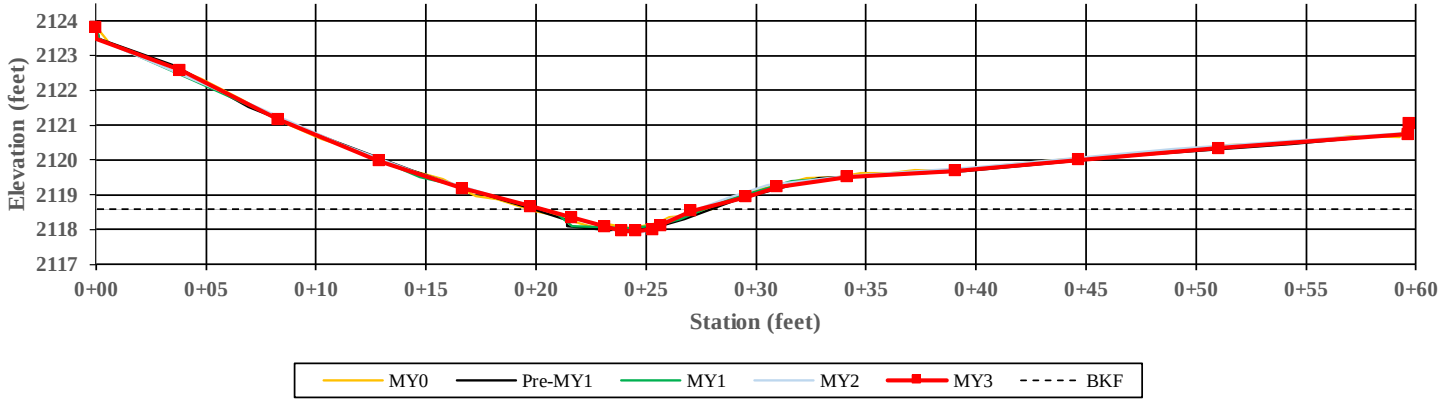
Left Descending Bank

Right Descending Bank

*** Data collected as part of 2019 monitoring year during adaptive management on Weston Reach 1A and 1B**

Project Name: Fletcher Mitigation site **XS Number:** 4 **Station:** 112+24

Reach Name: Fletcher Creek Reach 1C **XS Type:** Riffle



CHANNEL DIMENSIONS SUMMARY	MY0	*Pre-MY1	MY1	MY2	MY3	MY4	MY5	MY6
Bankful Width (ft)	7.6	6.1	6.5	5.4	4.0	-	-	-
Floodprone Width (ft)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Bankfull Mean Depth (ft)	0.3	0.3	0.3	0.4	0.5	-	-	-
Bankfull Max Depth (ft)	0.5	0.5	0.4	0.6	0.6	-	-	-
Bankfull Cross-Sectional Area (ft^2)	2.1	2.1	2.1	2.1	2.1	-	-	-
Width/Depth Ratio	27.6	18.2	19.8	14.0	7.9	-	-	-
Entrenchment Ratio	1.3	1.6	1.5	1.8	2.5	-	-	-
Bank Height Ratio	1.0	1.4	1.3	1.0	0.9	-	-	-

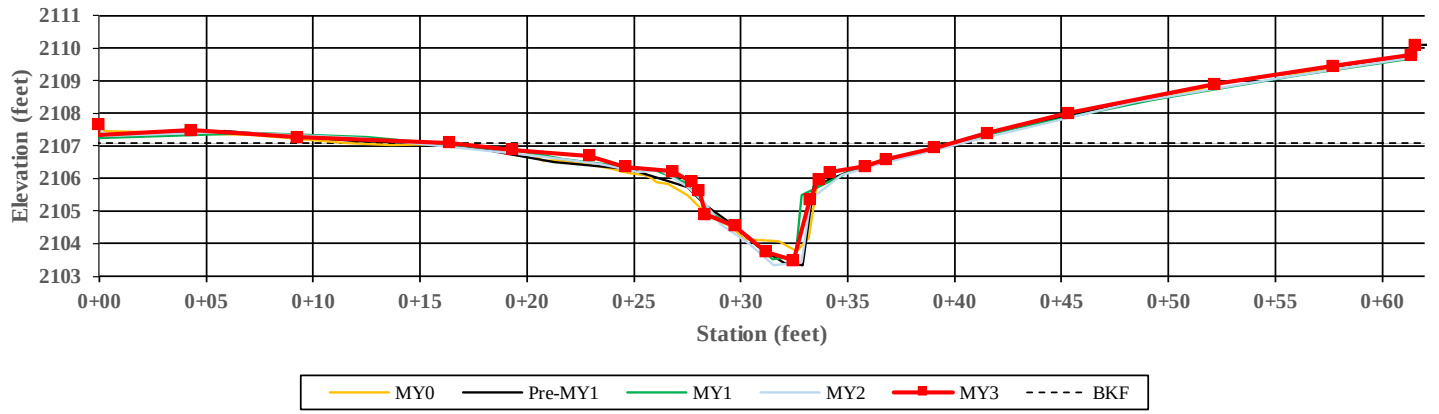
Left Descending Bank

Right Descending Bank

*** Data collected as part of 2019 monitoring year during adaptive management on Weston Reach 1A and 1B**

Project Name: Fletcher Mitigation site **XS Number:** 5 **Station:** 122+51

Reach Name: Fletcher Creek Reach 1C **XS Type:** Pool



CHANNEL DIMENSIONS SUMMARY	MY0	*Pre-MY1	MY1	MY2	MY3	MY4	MY5	MY6
Bankful Width (ft)	16.6	14.0	18.7	8.5	11.2	-	-	-
Floodprone Width (ft)	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
Bankfull Mean Depth (ft)	1.2	1.5	1.1	2.4	1.8	-	-	-
Bankfull Max Depth (ft)	3.0	3.5	3.4	3.8	3.6	-	-	-
Bankfull Cross-Sectional Area (ft^2)	20.3	20.3	20.3	20.3	20.3	-	-	-
Width/Depth Ratio	13.7	9.6	17.2	3.5	6.2	-	-	-
Entrenchment Ratio	3.6	4.3	3.2	7.1	5.3	-	-	-
Bank Height Ratio	1.0	0.8	0.8	0.8	0.9	-	-	-

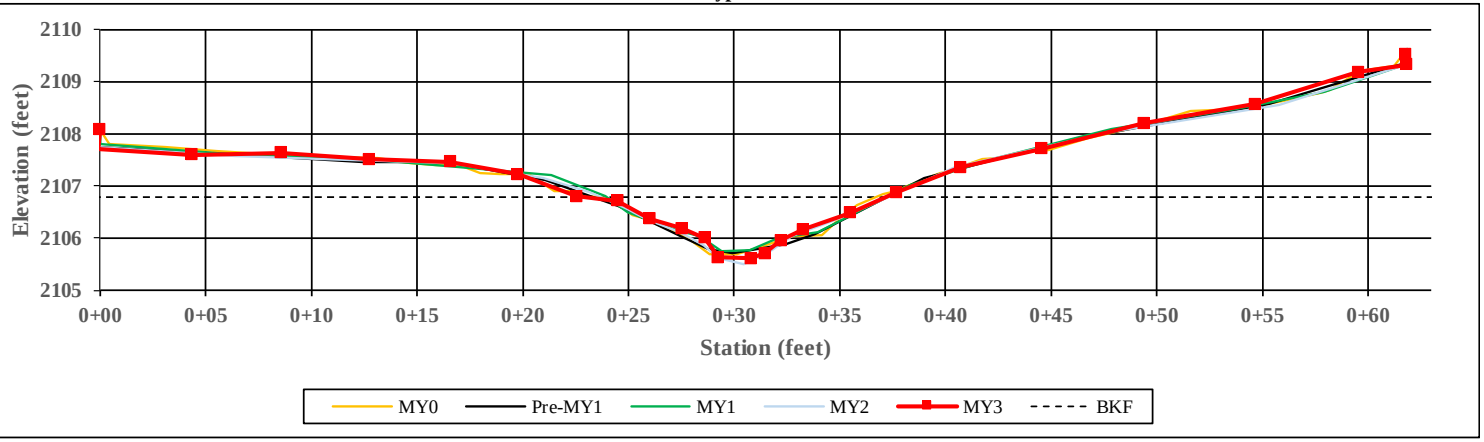
Left Descending Bank

Right Descending Bank

*** Data collected as part of 2019 monitoring year during adaptive management on Weston Reach 1A and 1B**

Project Name: Fletcher Mitigation site **XS Number:** 6 **Station:** 122+74

Reach Name: Fletcher Creek Reach 1C **XS Type:** Riffle



CHANNEL DIMENSIONS SUMMARY	MY0	*Pre-MY1	MY1	MY2	MY3	MY4	MY5	MY6
Bankful Width (ft)	12.0	12.9	13.0	12.8	11.0	-	-	-
Floodprone Width (ft)	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
Bankfull Mean Depth (ft)	0.6	0.6	0.6	0.6	0.7	-	-	-
Bankfull Max Depth (ft)	1.0	1.0	1.0	1.2	1.2	-	-	-
Bankfull Cross-Sectional Area (ft^2)	7.5	7.5	7.5	7.5	7.5	-	-	-
Width/Depth Ratio	19.2	22.4	22.4	21.8	16.2	-	-	-
Entrenchment Ratio	4.2	3.9	3.9	3.9	4.5	-	-	-
Bank Height Ratio	1.0	1.4	1.4	1.1	1.0	-	-	-

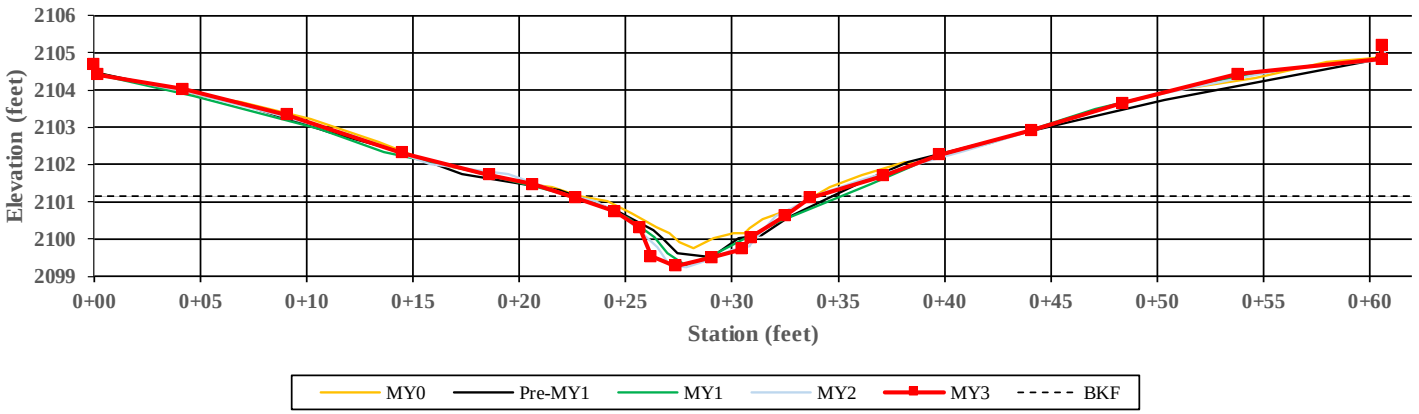
Left Descending Bank

Right Descending Bank

*** Data collected as part of 2019 monitoring year during adaptive management on Weston Reach 1A and 1B**

Project Name: Fletcher Mitigation site **XS Number:** 7 **Station:** 127+03

Reach Name: Fletcher Creek Reach 2A **XS Type:** Riffle



CHANNEL DIMENSIONS SUMMARY	MY0	*Pre-MY1	MY1	MY2	MY3	MY4	MY5	MY6
Bankful Width (ft)	13.1	10.6	11.7	8.5	8.0	-	-	-
Floodprone Width (ft)	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0
Bankfull Mean Depth (ft)	0.8	1.0	0.9	1.2	1.3	-	-	-
Bankfull Max Depth (ft)	1.6	1.7	1.8	1.9	1.9	-	-	-
Bankfull Cross-Sectional Area (ft^2)	10.4	10.4	10.4	10.4	10.4	-	-	-
Width/Depth Ratio	16.5	10.7	13.2	6.9	6.2	-	-	-
Entrenchment Ratio	2.7	3.3	3.0	4.1	4.4	-	-	-
Bank Height Ratio	1.0	1.0	0.9	0.9	1.0	-	-	-

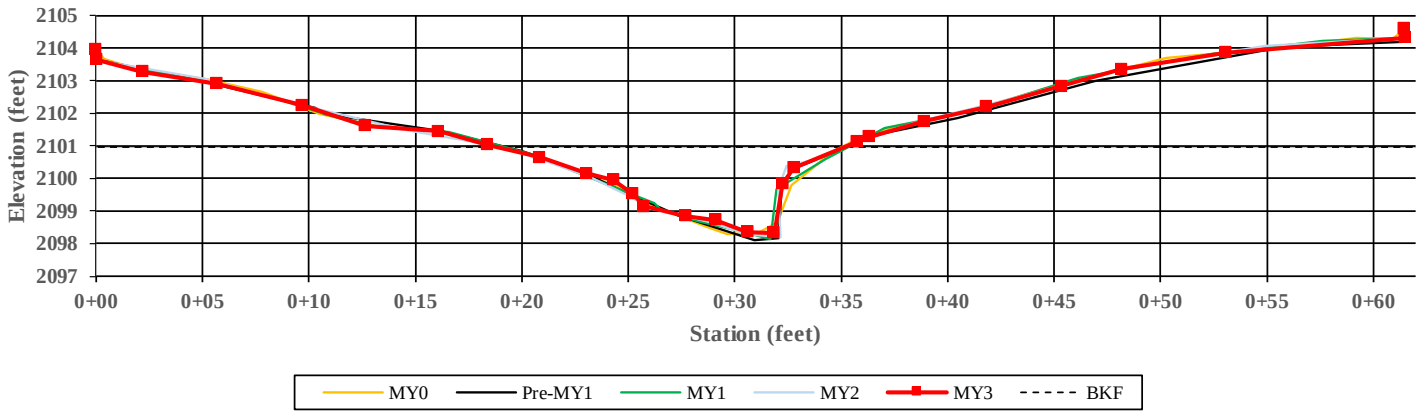
Left Descending Bank

Right Descending Bank

*** Data collected as part of 2019 monitoring year during adaptive management on Weston Reach 1A and 1B**

Project Name: Fletcher Mitigation site **XS Number:** 8 **Station:** 133+19

Reach Name: Fletcher Creek Reach 2A **XS Type:** Pool



CHANNEL DIMENSIONS SUMMARY	MY0	*Pre-MY1	MY1	MY2	MY3	MY4	MY5	MY6
Bankful Width (ft)	15.3	15.0	15.7	12.5	16.3	-	-	-
Floodprone Width (ft)	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
Bankfull Mean Depth (ft)	1.3	1.4	1.3	1.6	1.3	-	-	-
Bankfull Max Depth (ft)	2.6	2.8	2.8	2.8	2.6	-	-	-
Bankfull Cross-Sectional Area (ft^2)	20.5	20.5	20.5	20.5	20.5	-	-	-
Width/Depth Ratio	11.4	11.0	12.0	7.7	13.0	-	-	-
Entrenchment Ratio	3.3	3.3	3.2	4.0	3.1	-	-	-
Bank Height Ratio	1.0	0.8	0.9	0.9	0.9	-	-	-

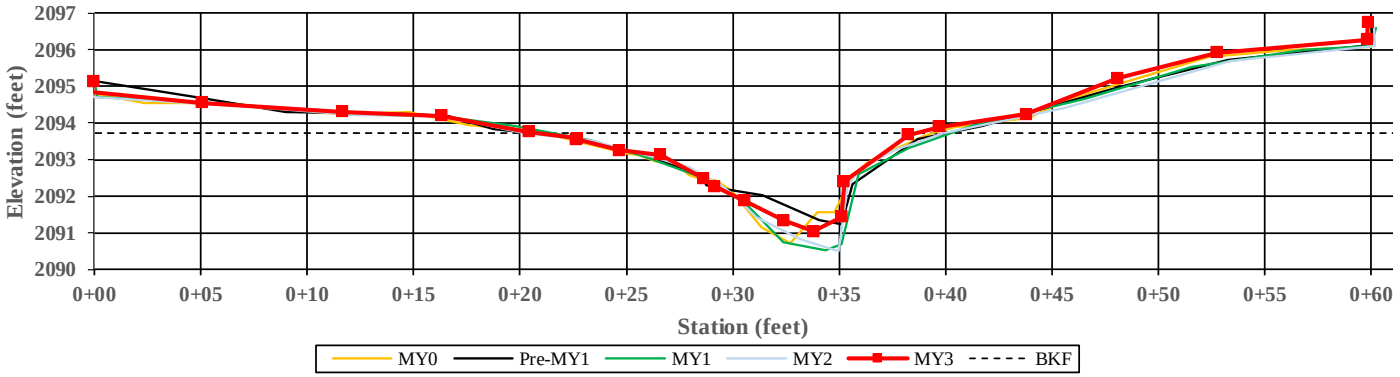
Left Descending Bank

Right Descending Bank

*** Data collected as part of 2019 monitoring year during adaptive management on Weston Reach 1A and 1B**

Project Name: Fletcher Mitigation site **XS Number:** 9 **Station:** 133+19

Reach Name: Fletcher Creek Reach 2A **XS Type:** Pool



CHANNEL DIMENSIONS SUMMARY	MY0	*Pre-MY1	MY1	MY2	MY3	MY4	MY5	MY6
Bankful Width (ft)	15.5	16.1	13.6	11.2	10.6	-	-	-
Floodprone Width (ft)	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
Bankfull Mean Depth (ft)	1.1	1.0	1.2	1.5	1.6	-	-	-
Bankfull Max Depth (ft)	2.8	2.3	2.8	3.0	2.7	-	-	-
Bankfull Cross-Sectional Area (ft^2)	16.9	16.9	16.9	16.9	16.9	-	-	-
Width/Depth Ratio	14.2	15.4	10.9	7.4	6.6	-	-	-
Entrenchment Ratio	3.9	3.7	4.4	5.4	5.7	-	-	-
Bank Height Ratio	1.0	1.0	0.7	0.9	0.9	-	-	-

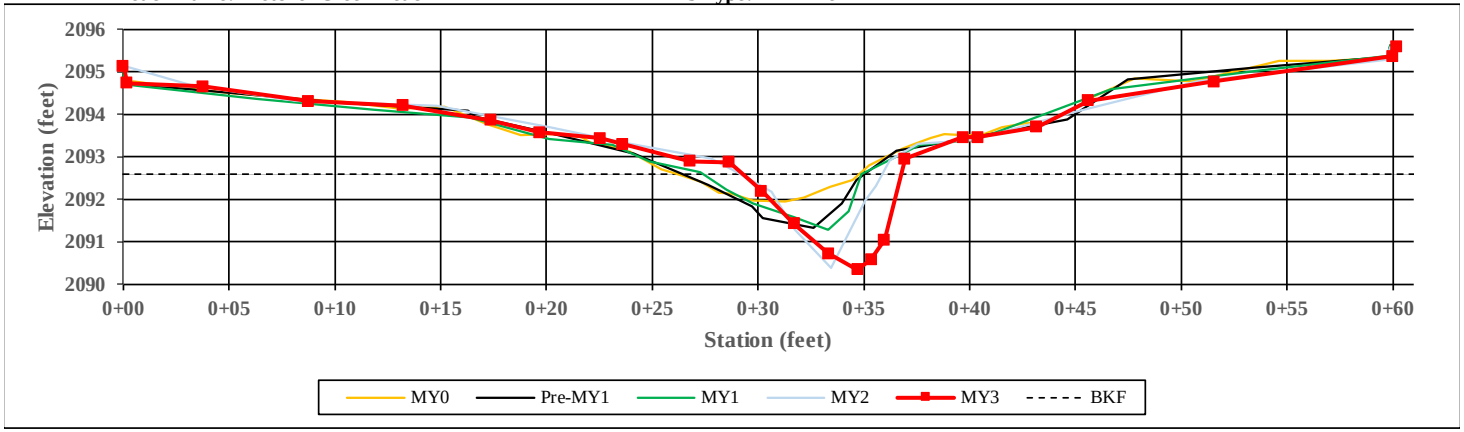
Left Descending Bank

Right Descending Bank

*** Data collected as part of 2019 monitoring year during adaptive management on Weston Reach 1A and 1B**

Project Name: Fletcher Mitigation site **XS Number:** 10 **Station:** 133+36

Reach Name: Fletcher Creek Reach 2A **XS Type:** Riffle



CHANNEL DIMENSIONS SUMMARY	MY0	*Pre-MY1	MY1	MY2	MY3	MY4	MY5	MY6
Bankful Width (ft)	12.6	11.0	11.8	8.2	6.7	-	-	-
Floodprone Width (ft)	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
Bankfull Mean Depth (ft)	0.7	0.8	0.8	1.1	1.4	-	-	-
Bankfull Max Depth (ft)	1.2	1.6	1.7	2.5	2.3	-	-	-
Bankfull Cross-Sectional Area (ft^2)	9.2	9.2	9.2	9.2	9.2	-	-	-
Width/Depth Ratio	17.4	13.2	15.0	7.3	4.9	-	-	-
Entrenchment Ratio	4.0	4.6	4.3	6.1	7.4	-	-	-
Bank Height Ratio	1.0	1.1	1.2	1.0	1.2	-	-	-

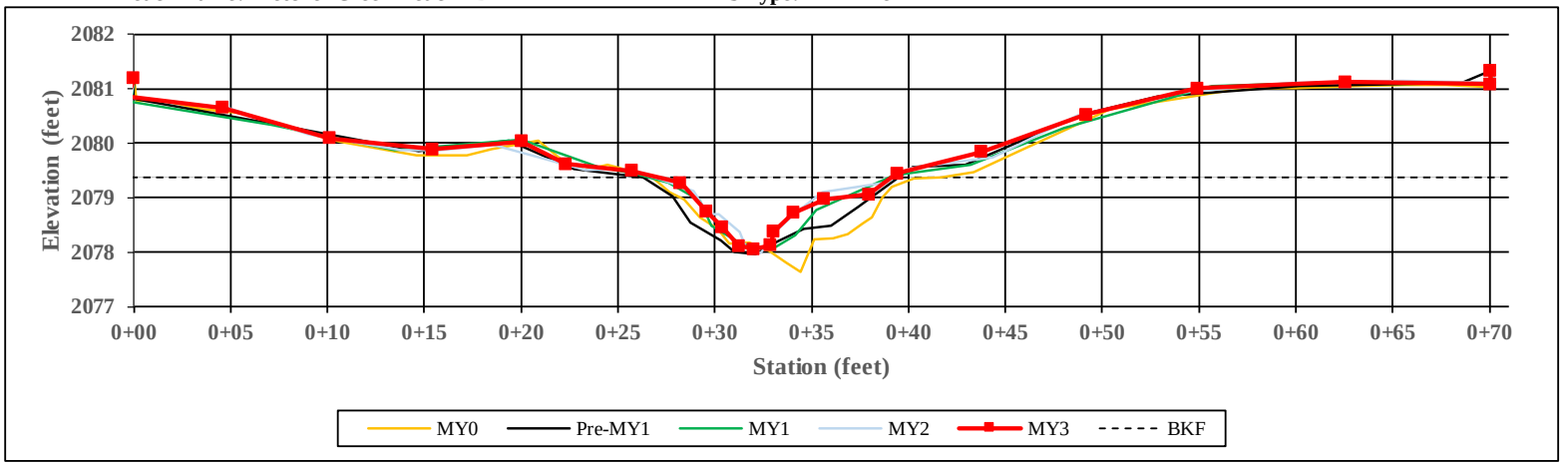
Left Descending Bank

Right Descending Bank

*** Data collected as part of 2019 monitoring year during adaptive management on Weston Reach 1A and 1B**

Project Name: Fletcher Mitigation site **XS Number:** 11 **Station:** 147+71

Reach Name: Fletcher Creek Reach 2B **XS Type:** Riffle



CHANNEL DIMENSIONS SUMMARY	MY0	*Pre-MY1	MY1	MY2	MY3	MY4	MY5	MY6
Bankful Width (ft)	10.2	9.6	11.2	12.6	11.0	-	-	-
Floodprone Width (ft)	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
Bankfull Mean Depth (ft)	0.7	0.7	0.6	0.6	0.6	-	-	-
Bankfull Max Depth (ft)	1.3	1.1	1.2	1.4	1.3	-	-	-
Bankfull Cross-Sectional Area (ft^2)	7.1	7.1	7.1	7.1	7.1	-	-	-
Width/Depth Ratio	14.6	13.0	17.7	22.4	16.9	-	-	-
Entrenchment Ratio	3.9	4.2	3.6	3.2	3.7	-	-	-
Bank Height Ratio	1.0	1.1	1.0	1.1	1.1	-	-	-

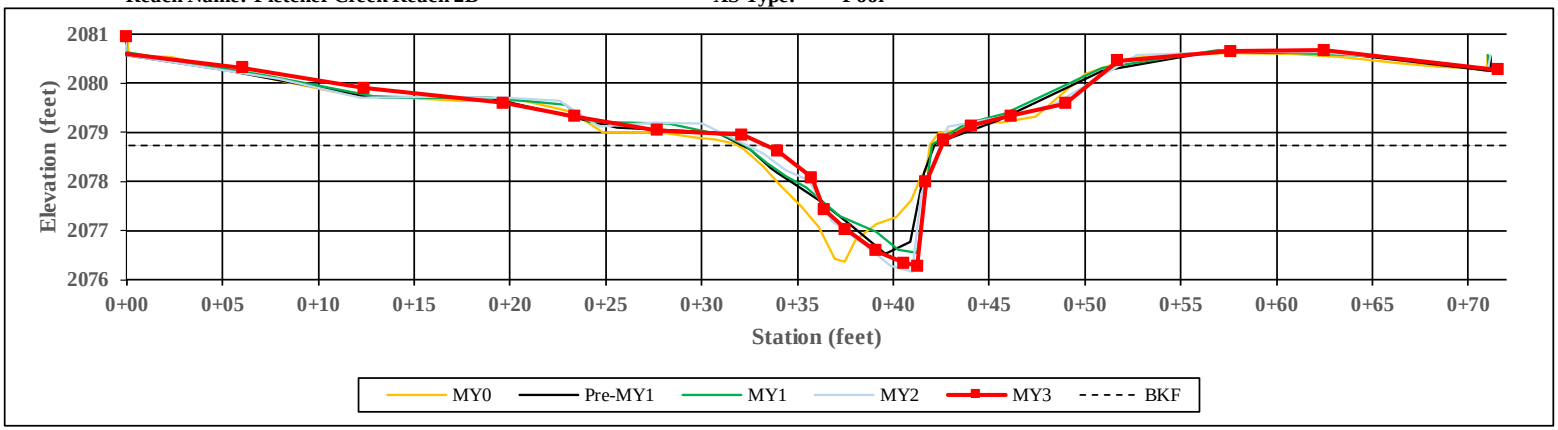
Left Descending Bank

Right Descending Bank

*** Data collected as part of 2019 monitoring year during adaptive management on Weston Reach 1A and 1B**

Project Name: Fletcher Mitigation site **XS Number:** 12 **Station:** 148+00

Reach Name: Fletcher Creek Reach 2B **XS Type:** Pool



CHANNEL DIMENSIONS SUMMARY	MY0	*Pre-MY1	MY1	MY2	MY3	MY4	MY5	MY6
Bankful Width (ft)	9.7	10.0	9.7	9.4	7.8	-	-	-
Floodprone Width (ft)	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
Bankfull Mean Depth (ft)	1.2	1.2	1.2	1.2	1.5	-	-	-
Bankfull Max Depth (ft)	2.3	2.2	2.2	2.4	2.4	-	-	-
Bankfull Cross-Sectional Area (ft^2)	11.7	11.7	11.7	11.7	11.7	-	-	-
Width/Depth Ratio	8.1	8.5	8.1	7.6	5.2	-	-	-
Entrenchment Ratio	7.2	7.0	7.2	7.5	9.0	-	-	-
Bank Height Ratio	1.0	1.0	1.0	1.2	1.0	-	-	-

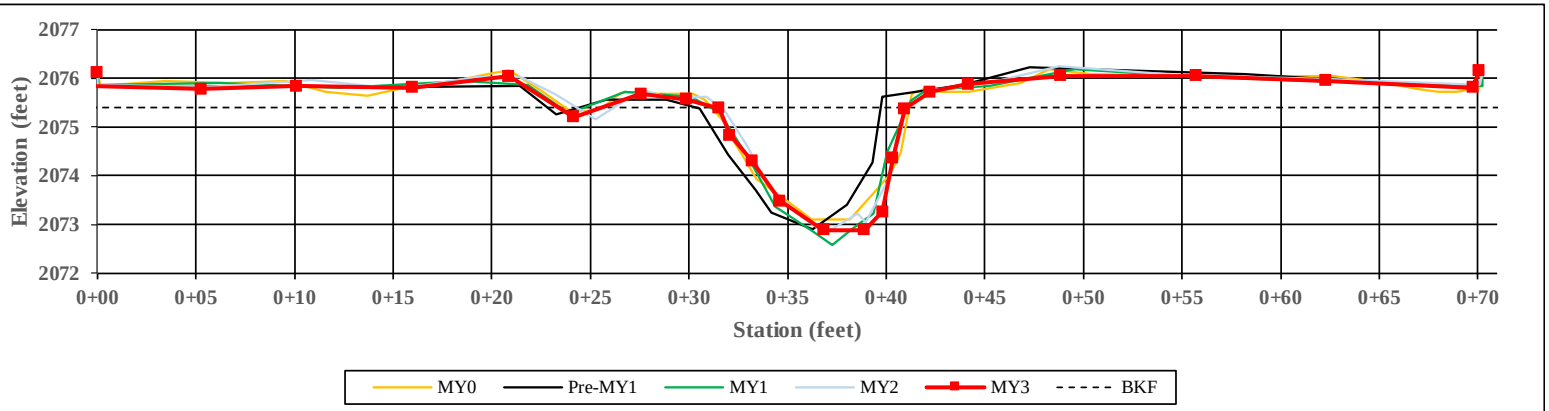
Left Descending Bank

Upstream

*** Data collected as part of 2019 monitoring year during adaptive management on Weston Reach 1A and 1B**

Project Name: Fletcher Mitigation site **XS Number:** 13 **Station:** 153+30

Reach Name: Fletcher Creek Reach 2B **XS Type:** Pool



CHANNEL DIMENSIONS SUMMARY	MY0	*Pre-MY1	MY1	MY2	MY3	MY4	MY5	MY6
Bankful Width (ft)	10.1	13.1	8.5	9.7	8.9	-	-	-
Floodprone Width (ft)	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
Bankfull Mean Depth (ft)	1.6	1.2	1.9	1.7	1.8	-	-	-
Bankfull Max Depth (ft)	2.4	2.6	2.8	2.6	2.5	-	-	-
Bankfull Cross-Sectional Area (ft^2)	16.4	16.4	16.4	16.4	16.4	-	-	-
Width/Depth Ratio	6.2	10.5	4.5	5.7	4.8	-	-	-
Entrenchment Ratio	6.9	5.3	8.2	7.2	7.9	-	-	-
Bank Height Ratio	1.0	1.0	1.1	1.1	1.1	-	-	-

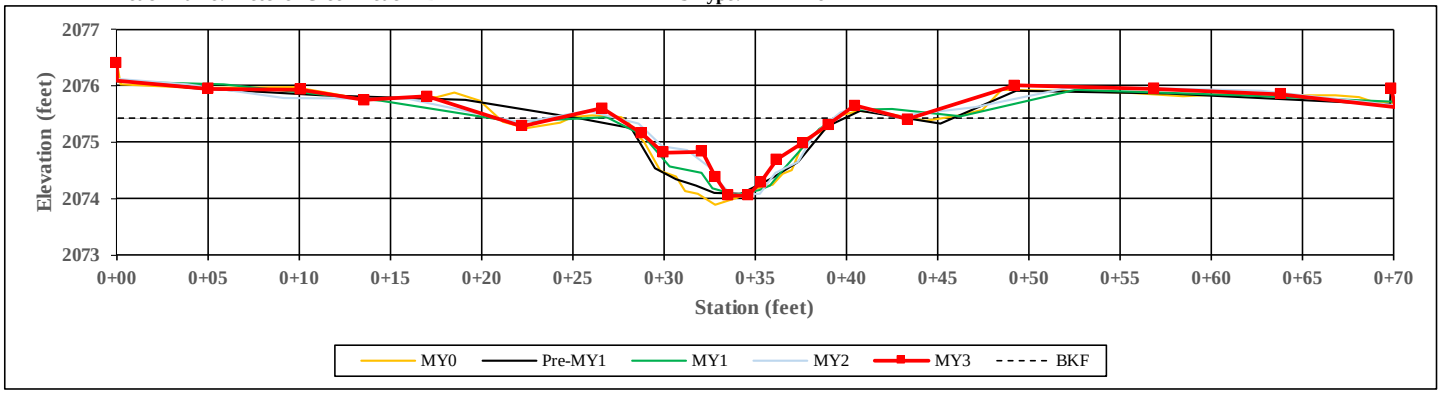
Left Descending Bank

Right Descending Bank

*** Data collected as part of 2019 monitoring year during adaptive management on Weston Reach 1A and 1B**

Project Name: Fletcher Mitigation site **XS Number:** 14 **Station:** 153+48

Reach Name: Fletcher Creek Reach 2B **XS Type:** Riffle



CHANNEL DIMENSIONS SUMMARY	MY0	*Pre-MY1	MY1	MY2	MY3	MY4	MY5	MY6
Bankful Width (ft)	9.8	10.3	9.7	9.6	10.2	-	-	-
Floodprone Width (ft)	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
Bankfull Mean Depth (ft)	0.8	0.7	0.8	0.8	0.7	-	-	-
Bankfull Max Depth (ft)	1.2	1.1	1.2	1.3	1.4	-	-	-
Bankfull Cross-Sectional Area (ft^2)	7.6	7.6	7.6	7.6	7.6	-	-	-
Width/Depth Ratio	12.6	14.0	12.3	12.2	13.8	-	-	-
Entrenchment Ratio	7.1	6.8	7.2	7.3	6.8	-	-	-
Bank Height Ratio	1.0	1.1	1.1	1.0	1.1	-	-	-

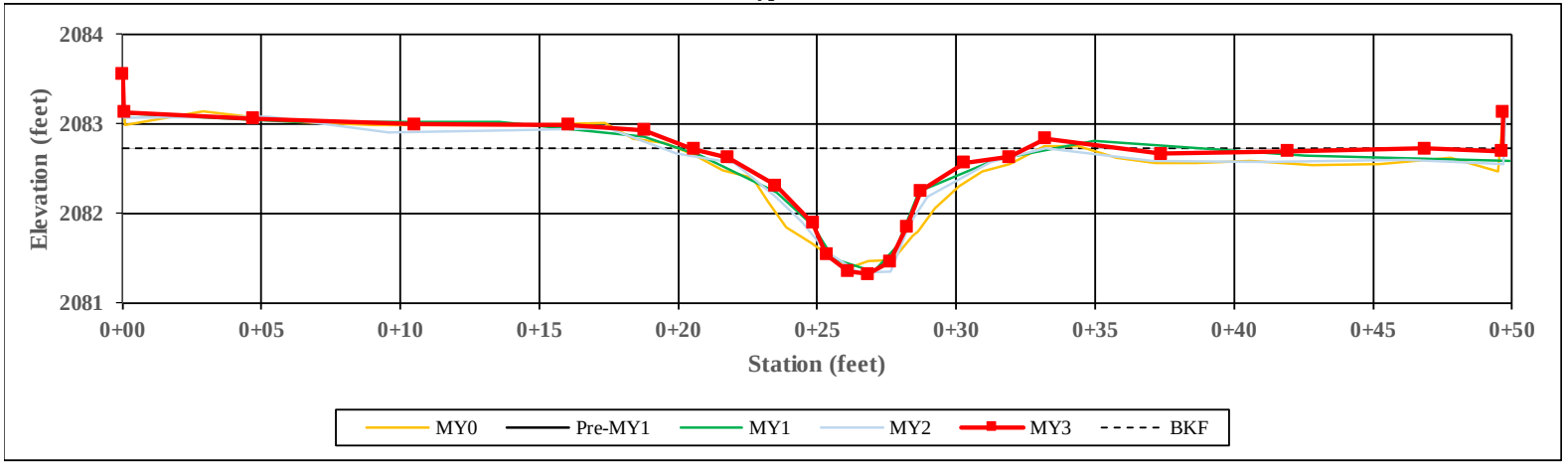
Left Descending Bank

Right Descending Bank

*** Data collected as part of 2019 monitoring year during adaptive management on Weston Reach 1A and 1B**

Project Name: Fletcher Mitigation site **XS Number:** 15 **Station:** 406+40

Reach Name: Weston Creek Reach 1A **XS Type:** Riffle



CHANNEL DIMENSIONS SUMMARY	MY0	*Pre-MY1	MY1	MY2	MY3	MY4	MY5	MY6
Bankful Width (ft)	9.1	-	10.8	9.0	5.2	-	-	-
Floodprone Width (ft)	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
Bankfull Mean Depth (ft)	0.6	-	0.5	0.6	1.0	-	-	-
Bankfull Max Depth (ft)	1.1	-	1.2	1.2	1.4	-	-	-
Bankfull Cross-Sectional Area (ft^2)	5.4	-	5.4	5.4	5.4	-	-	-
Width/Depth Ratio	15.5	-	21.7	15.0	5.1	-	-	-
Entrenchment Ratio	5.5	-	4.6	5.5	9.6	-	-	-
Bank Height Ratio	1.0	-	1.2	1.0	0.9	-	-	-

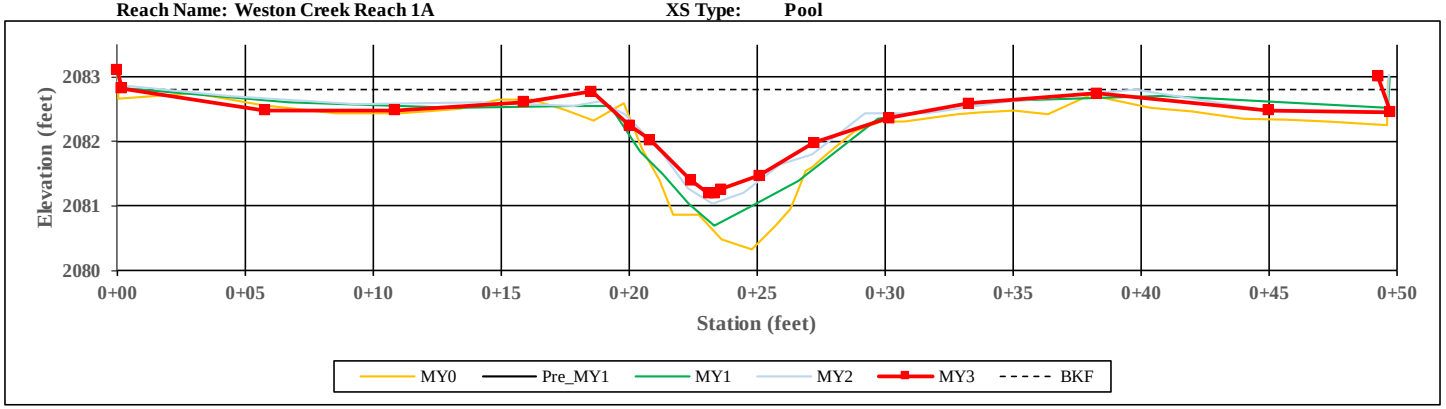
Left Descending Bank

Right Descending Bank

*** Data not collected due to adaptive management on Weston Reach 1A and 1B**

Project Name: Fletcher Mitigation site **XS Number:** 16 **Station:** 406+87

Reach Name: Weston Creek Reach 1A **XS Type:** Pool



CHANNEL DIMENSIONS SUMMARY	MY0	*Pre-MY1	MY1	MY2	MY3	MY4	MY5	MY6
Bankful Width (ft)	9.7	-	9.3	9.4	10.1	-	-	-
Floodprone Width (ft)	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
Bankfull Mean Depth (ft)	1.1	-	1.1	1.1	1.0	-	-	-
Bankfull Max Depth (ft)	2.0	-	1.8	1.8	1.6	-	-	-
Bankfull Cross-Sectional Area (ft^2)	10.4	-	10.4	10.4	10.4	-	-	-
Width/Depth Ratio	9.1	-	8.3	8.5	9.9	-	-	-
Entrenchment Ratio	5.1	-	5.4	5.3	4.9	-	-	-
Bank Height Ratio	1.0	-	0.9	0.8	0.9	-	-	-

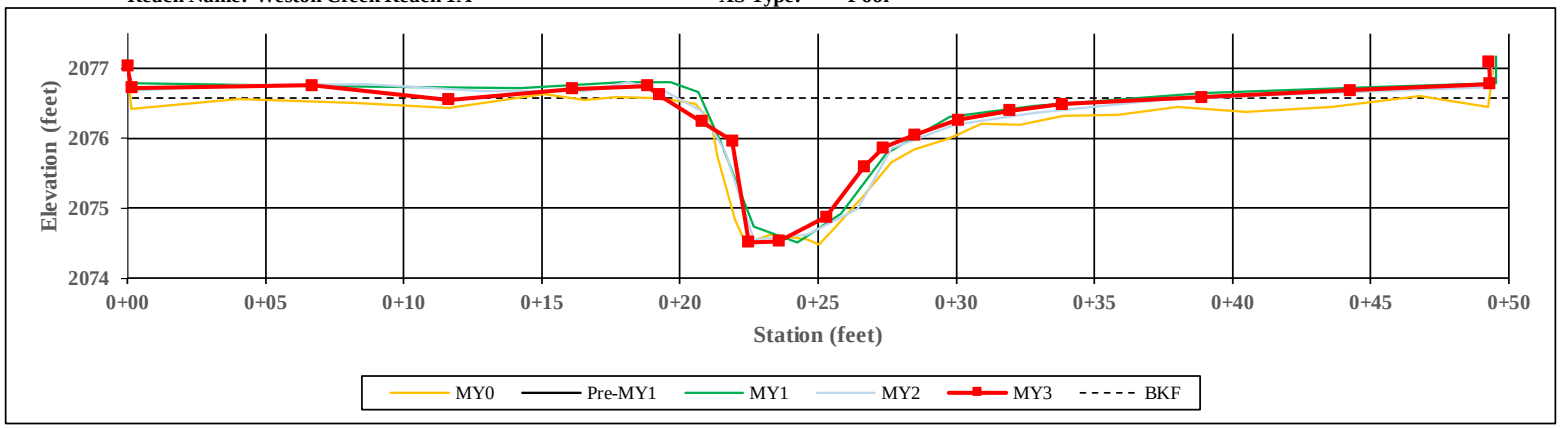
Left Descending Bank

Right Descending Bank

*** Data not collected due to adaptive management on Weston Reach 1A and 1B**

Project Name: Fletcher Mitigation site **XS Number:** 17 **Station:** 418+23

Reach Name: Weston Creek Reach 1A **XS Type:** Pool



CHANNEL DIMENSIONS SUMMARY	MY0	*Pre-MY1	MY1	MY2	MY3	MY4	MY5	MY6
Bankful Width (ft)	9.8	-	8.2	8.3	6.6	-	-	-
Floodprone Width (ft)	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
Bankfull Mean Depth (ft)	1.0	-	1.1	1.1	1.4	-	-	-
Bankfull Max Depth (ft)	1.7	-	1.9	1.8	2.1	-	-	-
Bankfull Cross-Sectional Area (ft^2)	9.4	-	9.4	9.4	9.4	-	-	-
Width/Depth Ratio	10.1	-	7.2	7.4	4.6	-	-	-
Entrenchment Ratio	5.1	-	6.1	6.0	7.6	-	-	-
Bank Height Ratio	1.0	-	0.9	0.9	0.8	-	-	-

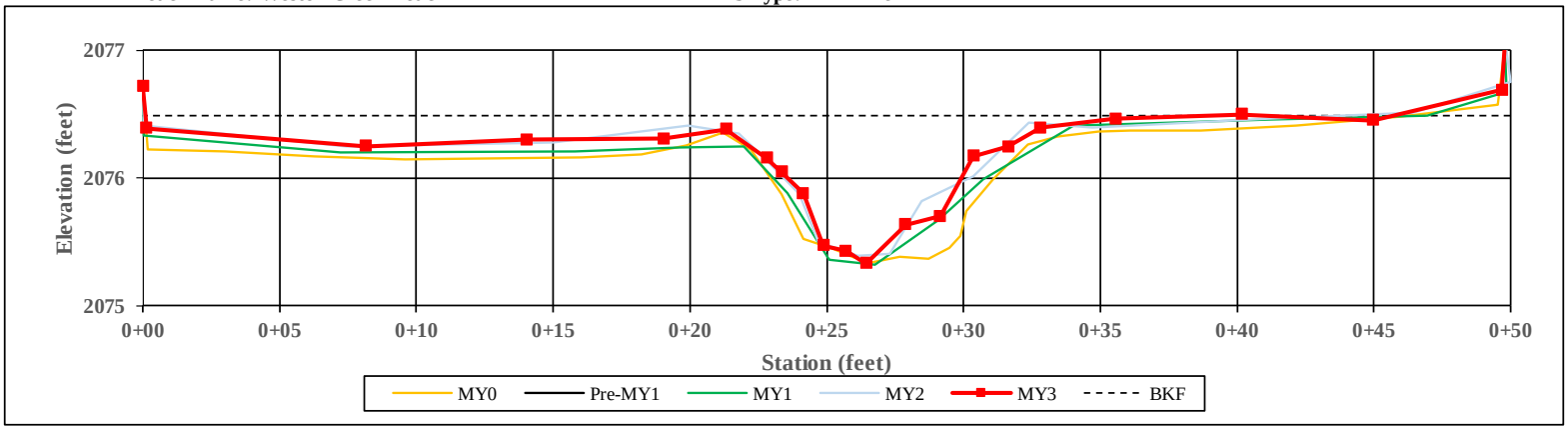
Left Descending Bank

Right Descending Bank

*** Data not collected due to adaptive management on Weston Reach 1A and 1B**

Project Name: Fletcher Mitigation site **XS Number:** 18 **Station:** 418+53

Reach Name: Weston Creek Reach 1A **XS Type:** Riffle



CHANNEL DIMENSIONS SUMMARY	MY0	*Pre-MY1	MY1	MY2	MY3	MY4	MY5	MY6
Bankful Width (ft)	10.4	-	23.5	10.4	8.3	-	-	-
Floodprone Width (ft)	50.0	50.0	50.0	50.0	50.0	-	-	-
Bankfull Mean Depth (ft)	0.6	-	0.3	0.6	0.8	-	-	-
Bankfull Max Depth (ft)	0.9	-	0.9	1.1	1.2	-	-	-
Bankfull Cross-Sectional Area (ft^2)	6.2	-	6.2	6.2	6.2	-	-	-
Width/Depth Ratio	17.4	-	89.4	17.6	11.0	-	-	-
Entrenchment Ratio	4.8	-	2.1	4.8	6.0	-	-	-
Bank Height Ratio	1.0	-	1.0	1.0	0.9	-	-	-

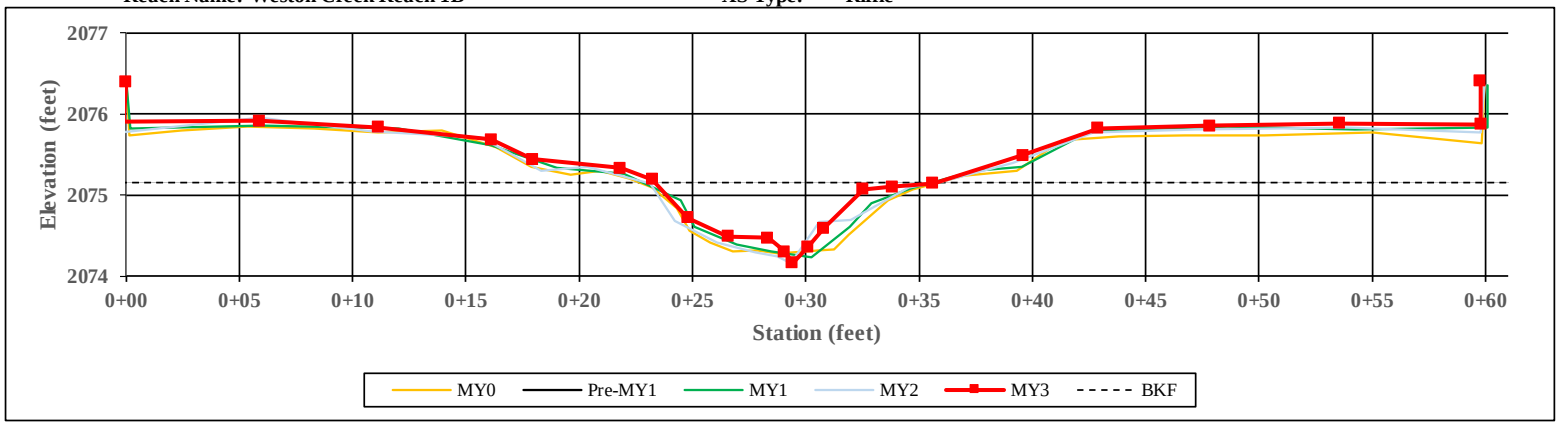
Left Descending Bank

Right Descending Bank

*** Data not collected due to adaptive management on Weston Reach 1A and 1B**

Project Name: Fletcher Mitigation site **XS Number:** 19 **Station:** 422+31

Reach Name: Weston Creek Reach 1B **XS Type:** Riffle



CHANNEL DIMENSIONS SUMMARY	MY0	*Pre-MY1	MY1	MY2	MY3	MY4	MY5	MY6
Bankful Width (ft)	9.7	-	9.4	9.8	7.7	-	-	-
Floodprone Width (ft)	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
Bankfull Mean Depth (ft)	0.5	-	0.5	0.5	0.6	-	-	-
Bankfull Max Depth (ft)	0.7	-	0.8	0.8	1.0	-	-	-
Bankfull Cross-Sectional Area (ft^2)	4.7	-	4.7	4.7	4.7	-	-	-
Width/Depth Ratio	20.4	-	19.0	20.4	12.8	-	-	-
Entrenchment Ratio	4.1	-	4.2	4.1	5.2	-	-	-
Bank Height Ratio	1.0	-	1.3	1.1	0.9	-	-	-

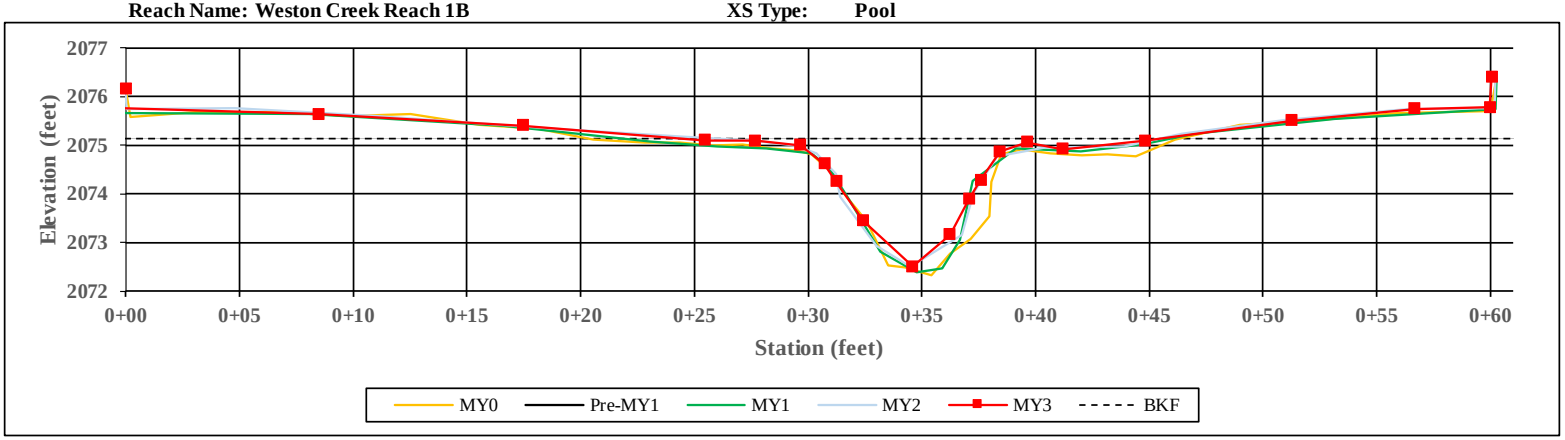
Left Descending Bank

Right Descending Bank

*** Data not collected due to adaptive management on Weston Reach 1A and 1B**

Project Name: Fletcher Mitigation site **XS Number: 20** **Station: 422+95**

Reach Name: Weston Creek Reach 1B **XS Type: Pool**



CHANNEL DIMENSIONS SUMMARY	MY0	*Pre-MY1	MY1	MY2	MY3	MY4	MY5	MY6
Bankful Width (ft)	8.3	-	13.4	10.8	7.7	-	-	-
Floodprone Width (ft)	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
Bankfull Mean Depth (ft)	1.5	-	0.9	1.2	1.6	-	-	-
Bankfull Max Depth (ft)	2.5	-	2.5	2.5	2.6	-	-	-
Bankfull Cross-Sectional Area (ft^2)	12.7	-	12.7	12.7	12.7	-	-	-
Width/Depth Ratio	5.4	-	14.2	9.2	4.7	-	-	-
Entrenchment Ratio	7.2	-	4.5	5.5	7.8	-	-	-
Bank Height Ratio	1.0	-	1.0	1.0	0.9	-	-	-

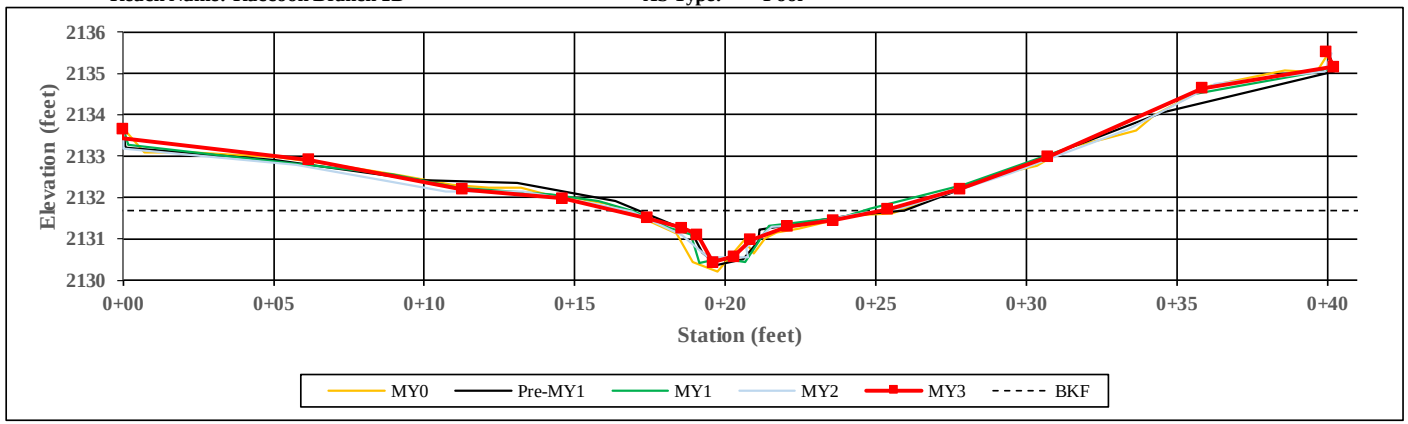
Left Descending Bank

Right Descending Bank

*** Data not collected due to adaptive management on Weston Reach 1A and 1B**

Project Name: Fletcher Mitigation site **XS Number:** 21 **Station:** 217+59

Reach Name: Raccoon Branch 1D **XS Type:** Pool



CHANNEL DIMENSIONS SUMMARY	MY0	*Pre-MY1	MY1	MY2	MY3	MY4	MY5	MY6
Bankful Width (ft)	5.6	6.1	6.1	3.6	3.5	-	-	-
Floodprone Width (ft)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Bankfull Mean Depth (ft)	0.5	0.4	0.4	0.7	0.8	-	-	-
Bankfull Max Depth (ft)	1.2	1.2	1.1	1.0	1.2	-	-	-
Bankfull Cross-Sectional Area (ft^2)	2.7	2.7	2.7	2.7	2.7	-	-	-
Width/Depth Ratio	11.6	13.7	13.8	4.9	4.5	-	-	-
Entrenchment Ratio	3.6	3.3	3.3	5.6	5.7	-	-	-
Bank Height Ratio	1.0	0.7	0.6	0.7	0.8	-	-	-

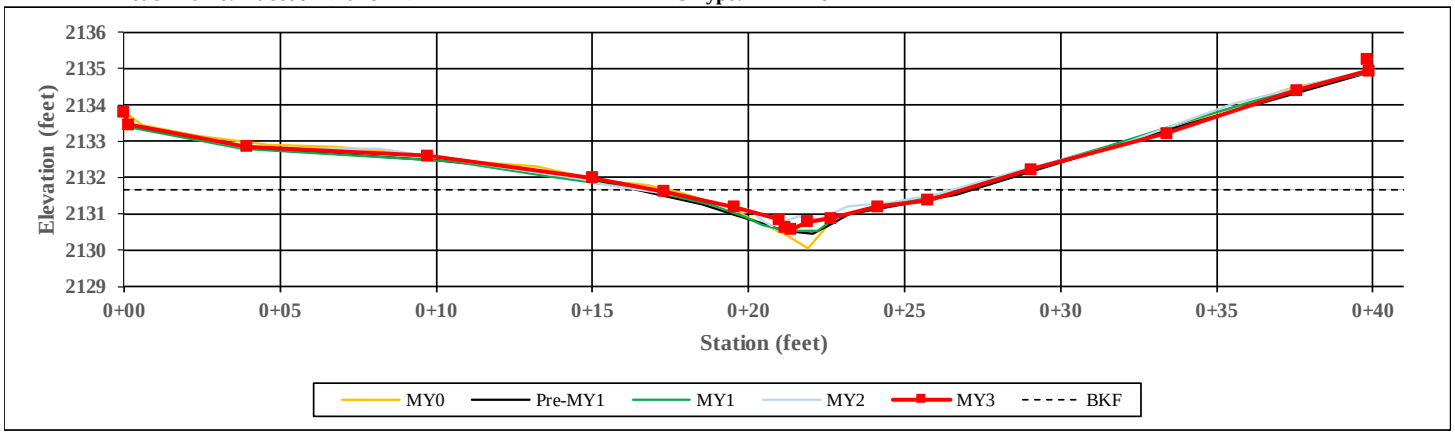
Left Descending Bank

Right Descending Bank

*** Data collected as part of 2019 monitoring year during adaptive management on Weston Reach 1A and 1B**

Project Name: Fletcher Mitigation site **XS Number:** 22 **Station:** 217+65

Reach Name: Raccoon Branch 1D **XS Type:** Riffle



CHANNEL DIMENSIONS SUMMARY	MY0	*Pre-MY1	MY1	MY2	MY3	MY4	MY5	MY6
Bankful Width (ft)	6.8	7.8	6.9	5.7	4.6	-	-	-
Floodprone Width (ft)	20.0	20.0	20.0	20.0	20.0	-	-	-
Bankfull Mean Depth (ft)	0.5	0.4	0.5	0.6	0.7	-	-	-
Bankfull Max Depth (ft)	1.3	0.9	0.9	1.0	1.1	-	-	-
Bankfull Cross-Sectional Area (ft^2)	3.4	3.4	3.4	3.4	3.4	-	-	-
Width/Depth Ratio	13.8	18.1	14.2	9.5	6.2	-	-	-
Entrenchment Ratio	2.9	2.6	2.9	3.5	4.4	-	-	-
Bank Height Ratio	1.0	0.6	0.8	0.7	0.7	-	-	-

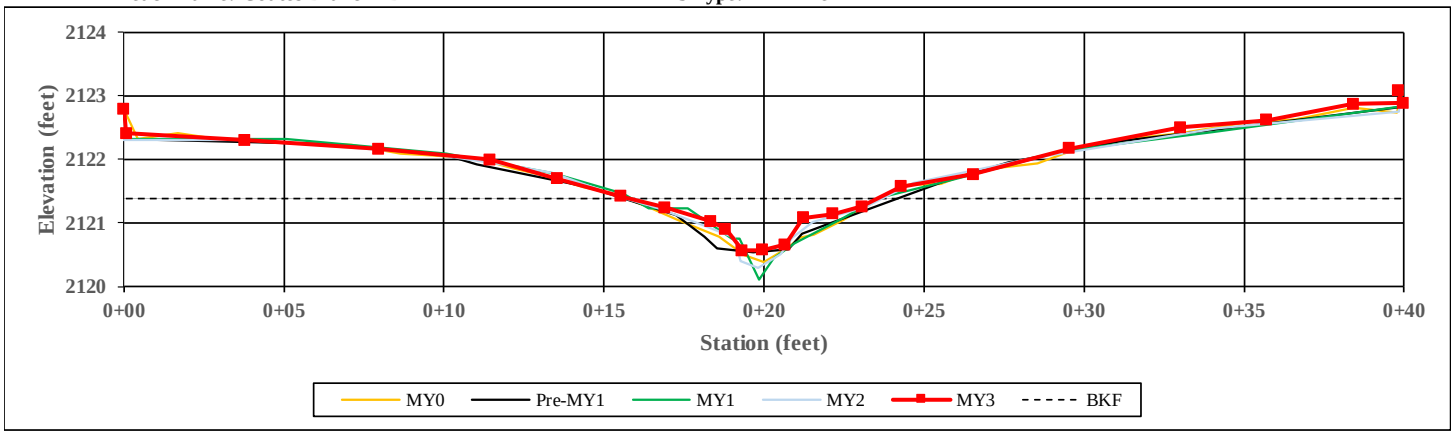
Facing Upstream

Right Descending Bank

*** Data collected as part of 2019 monitoring year during adaptive management on Weston Reach 1A and 1B**

Project Name: Fletcher Mitigation site **XS Number:** 23 **Station:** 307+87

Reach Name: Coates Branch 1B **XS Type:** Riffle



CHANNEL DIMENSIONS SUMMARY	MY0	*Pre-MY1	MY1	MY2	MY3	MY4	MY5	MY6
Bankful Width (ft)	5.2	4.9	3.4	3.5	2.3	-	-	-
Floodprone Width (ft)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Bankfull Mean Depth (ft)	0.3	0.3	0.5	0.5	0.7	-	-	-
Bankfull Max Depth (ft)	0.7	0.5	1.0	0.8	0.8	-	-	-
Bankfull Cross-Sectional Area (ft^2)	1.6	1.6	1.6	1.6	1.6	-	-	-
Width/Depth Ratio	16.5	15.1	7.5	7.6	3.4	-	-	-
Entrenchment Ratio	2.9	3.1	4.4	4.3	6.4	-	-	-
Bank Height Ratio	1.0	1.3	1.1	0.9	0.6	-	-	-

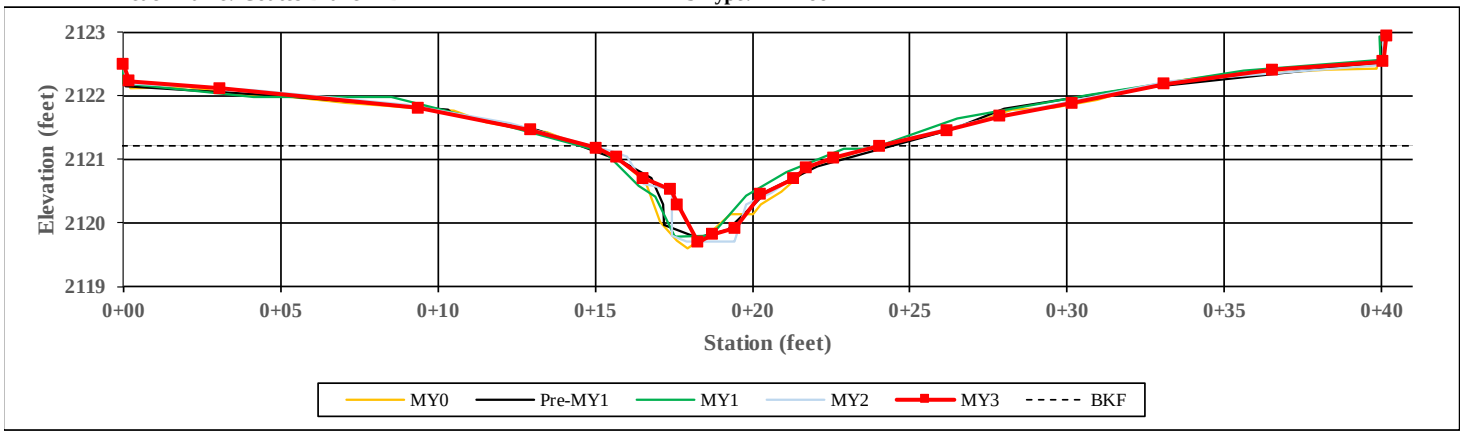
Left Descending Bank

Right Descending Bank

*** Data collected as part of 2019 monitoring year during adaptive management on Weston Reach 1A and 1B**

Project Name: Fletcher Mitigation site **XS Number:** 24 **Station:** 307+95

Reach Name: Coates Branch 1B **XS Type:** Pool



CHANNEL DIMENSIONS SUMMARY	MY0	*Pre-MY1	MY1	MY2	MY3	MY4	MY5	MY6
Bankful Width (ft)	7.4	8.6	7.9	5.7	7.5	-	-	-
Floodprone Width (ft)	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
Bankfull Mean Depth (ft)	0.7	0.6	0.6	0.9	0.7	-	-	-
Bankfull Max Depth (ft)	1.5	1.3	1.4	1.4	1.5	-	-	-
Bankfull Cross-Sectional Area (ft^2)	5.1	5.1	5.1	5.1	5.1	-	-	-
Width/Depth Ratio	10.7	14.5	12.3	6.4	10.9	-	-	-
Entrenchment Ratio	5.4	4.6	5.0	7.0	5.3	-	-	-
Bank Height Ratio	1.0	0.9	0.9	0.9	0.9	-	-	-

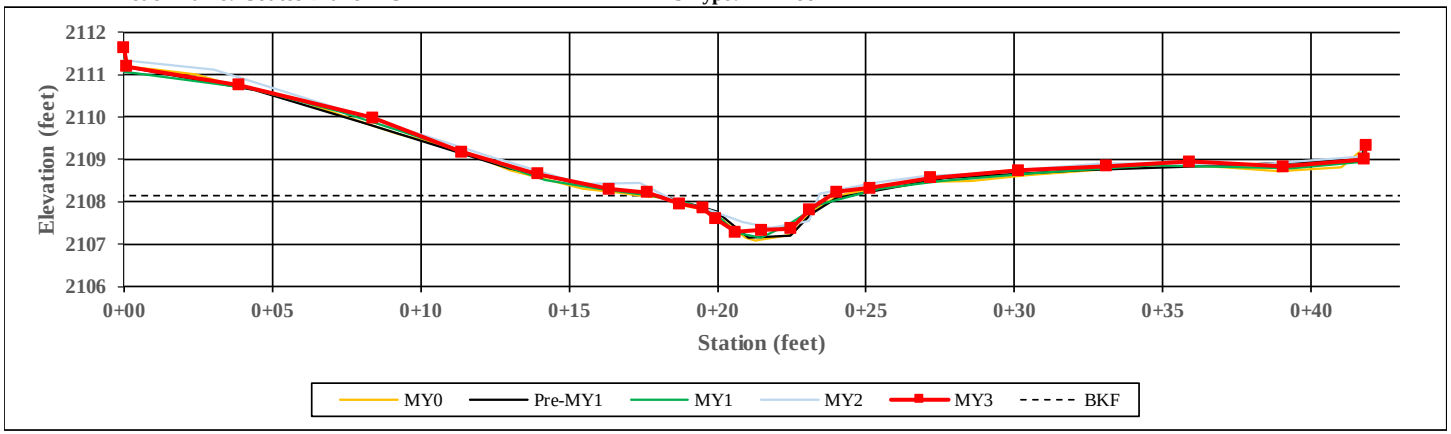
Left Descending Bank

Looking Downstream

*** Data collected as part of 2019 monitoring year during adaptive management on Weston Reach 1A and 1B**

Project Name: Fletcher Mitigation site **XS Number:** 25 **Station:** 315+12

Reach Name: Coates Branch 1C **XS Type:** Pool



CHANNEL DIMENSIONS SUMMARY	MY0	*Pre-MY1	MY1	MY2	MY3	MY4	MY5	MY6
Bankful Width (ft)	5.3	5.6	6.2	4.8	4.4	-	-	-
Floodprone Width (ft)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Bankfull Mean Depth (ft)	0.5	0.5	0.4	0.6	0.6	-	-	-
Bankfull Max Depth (ft)	0.9	0.9	0.9	0.8	0.9	-	-	-
Bankfull Cross-Sectional Area (ft^2)	2.7	2.7	2.7	2.7	2.7	-	-	-
Width/Depth Ratio	10.5	11.3	14.5	8.8	7.0	-	-	-
Entrenchment Ratio	3.8	3.6	3.2	4.1	4.5	-	-	-
Bank Height Ratio	1.0	1.0	0.8	1.0	1.1	-	-	-

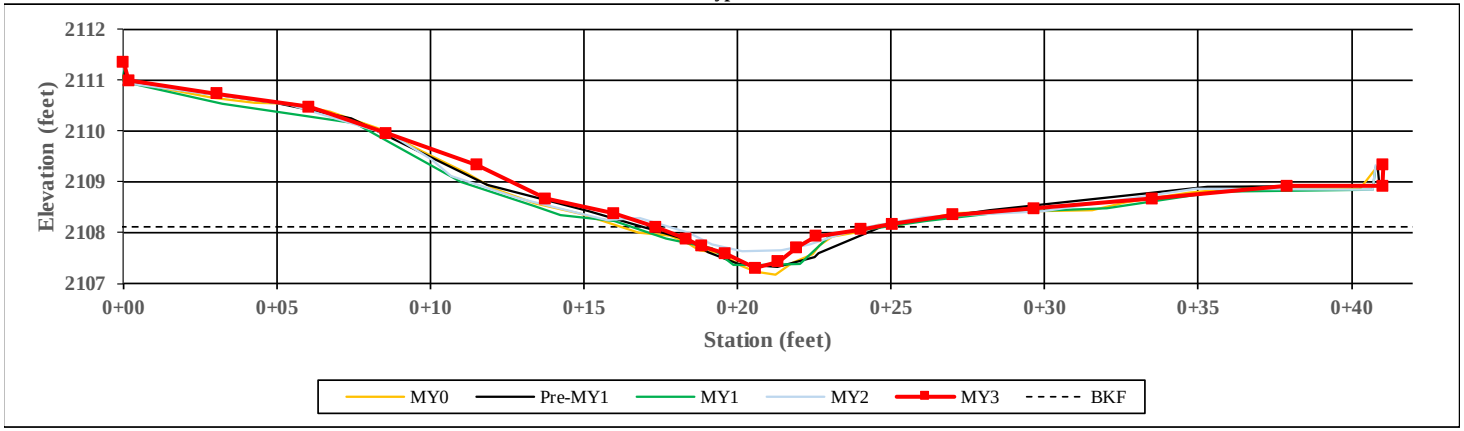
Looking Upstream

Right Descending Bank

*** Data collected as part of 2019 monitoring year during adaptive management on Weston Reach 1A and 1B**

Project Name: Fletcher Mitigation site **XS Number:** 26 **Station:** 315+20

Reach Name: Coates Branch 1C **XS Type:** Riffle



CHANNEL DIMENSIONS SUMMARY	MY0	*Pre-MY1	MY1	MY2	MY3	MY4	MY5	MY6
Bankful Width (ft)	5.4	5.5	5.8	5.8	4.2	-	-	-
Floodprone Width (ft)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Bankfull Mean Depth (ft)	0.4	0.4	0.4	0.4	0.5	-	-	-
Bankfull Max Depth (ft)	0.8	0.6	0.6	0.5	0.8	-	-	-
Bankfull Cross-Sectional Area (ft^2)	2.2	2.2	2.2	2.2	2.2	-	-	-
Width/Depth Ratio	13.5	14.0	15.4	15.5	8.1	-	-	-
Entrenchment Ratio	3.7	3.6	3.4	3.4	4.7	-	-	-
Bank Height Ratio	1.0	0.9	0.8	0.9	0.9	-	-	-

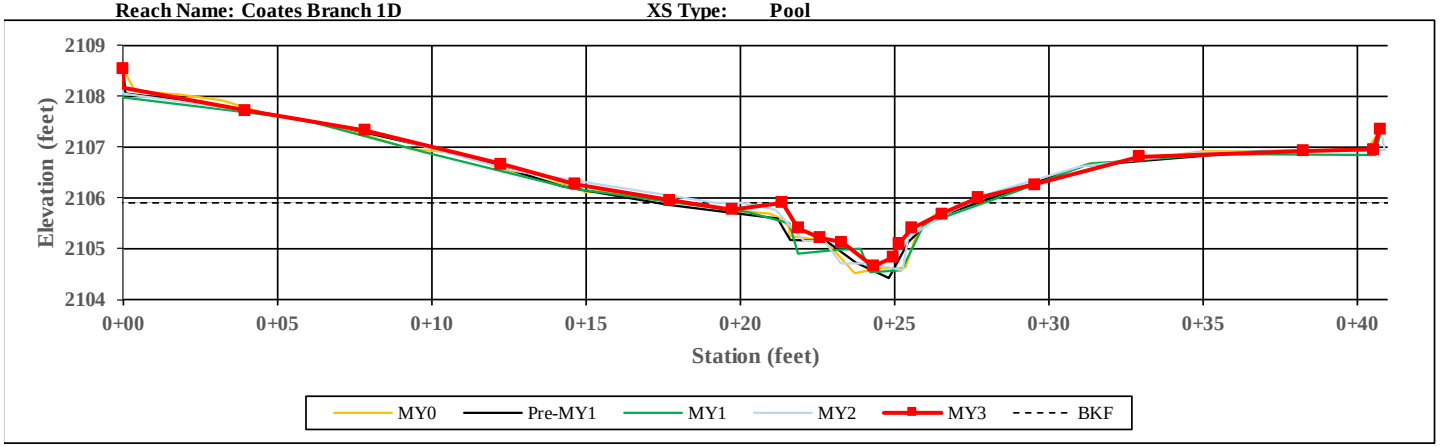
Facing Upstream

Right Descending Bank

*** Data collected as part of 2019 monitoring year during adaptive management on Weston Reach 1A and 1B**

Project Name: Fletcher Mitigation site **XS Number:** 27 **Station:** 317+35

Reach Name: Coates Branch 1D **XS Type:** Pool



CHANNEL DIMENSIONS SUMMARY	MY0	*Pre-MY1	MY1	MY2	MY3	MY4	MY5	MY6
Bankful Width (ft)	5.9	6.9	6.4	5.6	6.7	-	-	-
Floodprone Width (ft)	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
Bankfull Mean Depth (ft)	0.6	0.5	0.6	0.7	0.6	-	-	-
Bankfull Max Depth (ft)	1.2	1.3	1.1	1.2	1.2	-	-	-
Bankfull Cross-Sectional Area (ft^2)	3.7	3.7	3.7	3.7	3.7	-	-	-
Width/Depth Ratio	9.2	13.2	11.1	8.4	12.2	-	-	-
Entrenchment Ratio	4.3	3.6	3.9	4.5	3.7	-	-	-
Bank Height Ratio	1.0	1.0	0.8	1.0	1.0	-	-	-

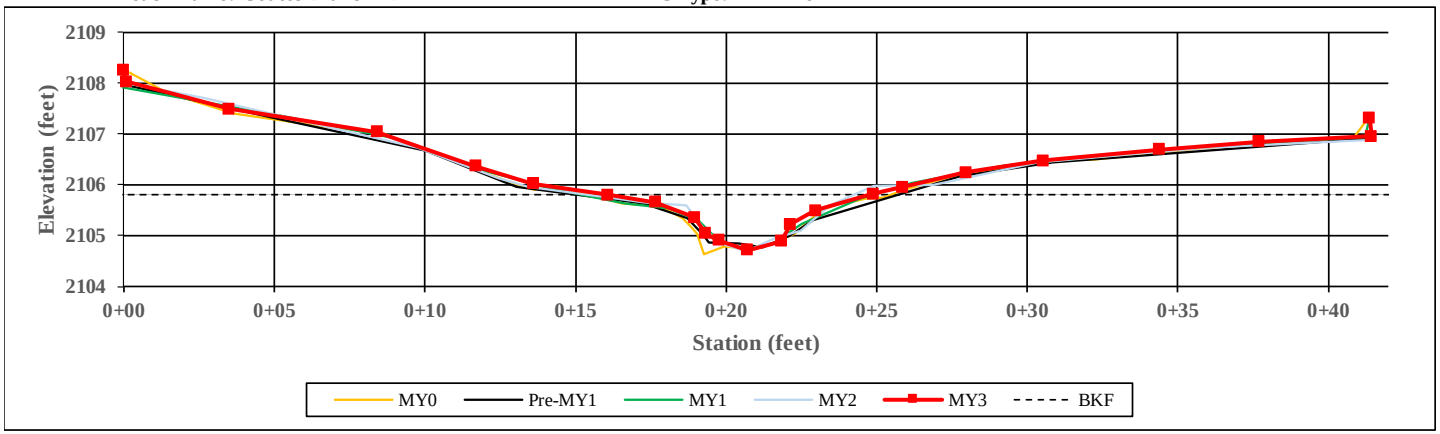
Left Descending Bank

Right Descending Bank

*** Data collected as part of 2019 monitoring year during adaptive management on Weston Reach 1A and 1B**

Project Name: Fletcher Mitigation site **XS Number:** 28 **Station:** 317+42

Reach Name: Coates Branch 1D **XS Type:** Riffle



CHANNEL DIMENSIONS SUMMARY	MY0	*Pre-MY1	MY1	MY2	MY3	MY4	MY5	MY6
Bankful Width (ft)	6.1	7.4	7.5	4.7	4.0	-	-	-
Floodprone Width (ft)	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
Bankfull Mean Depth (ft)	0.5	0.4	0.4	0.7	0.8	-	-	-
Bankfull Max Depth (ft)	1.0	0.9	0.9	1.0	1.1	-	-	-
Bankfull Cross-Sectional Area (ft^2)	3.3	3.3	3.3	3.3	3.3	-	-	-
Width/Depth Ratio	11.4	16.5	17.2	6.9	4.9	-	-	-
Entrenchment Ratio	4.1	3.4	3.3	5.3	6.2	-	-	-
Bank Height Ratio	1.0	1.0	0.9	0.9	0.9	-	-	-

Left Descending Bank

Right Descending Bank

*** Data collected as part of 2019 monitoring year during adaptive management on Weston Reach 1A and 1B**

Table 10. Baseline Stream Data Summary
Fletcher Mitigation Site - Fletcher Creek Reach 1B (380 feet *)

Parameter	Regional Curve			Pre-Existing Condition						Reference Reach Data						Design			As-Built / Baseline					
Dimension & Substrate - Riffle	**LL**	**UL**	**Eq.**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Max**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**
Bankfull Width (ft)	-	-	-	6.1	-	-	8.0	-	-	14.7	-	-	19.5	-	-	-	8.7	-	-	7.1	-	-	-	1
Floodprone Width (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.0	-	-	-	1
Bankfull Mean Depth (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	-	-	0.3	-	-	-	1
Bankfull Max Depth (ft)				0.7	-	-	0.8	-	-	1.2	-	-	1.4	-	-	-	0.9	-	-	0.6	-	-	-	1
Bankfull Cross Sectional Area (ft^2)		-		4.4	-	-	6.2	-	-	18.0	-	-	27.2	-	-	-	5.5	-	-	2.3	-	-	-	1
Width/Depth Ratio				8.5	-	-	10.5	-	-	12.0	-	-	14	-	-	-	13.6	-	-	21.4	-	-	-	1
Entrenchment Ratio				1.1	-	-	2.1	-	-	1.4	-	-	1.5	-	-	-	2.4	-	-	2.8	-	-	-	1
Bank Height Ratio				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	-	-	-	1
d50 (mm)				6.0	-	-	11.0	-	-	60.0	-	-	125	-	-	-	-	-	-	12.0	-	-	-	1
Profile																								
Riffle Length (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.8	8.5	8.0	13.1	2.5	13
Riffle Slope (ft/ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.002	0.018	0.014	0.044	0.013	13
Pool Length (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.1	9.6	9.7	14.4	2.8	12
Pool Max Depth (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	-	1.2	2.0	1.9	2.9	0.5	12
Pool Spacing (ft)				-	-	-	-	-	-	-	-	-	-	-	-	23.4	-	39.0	14.6	27.9	29.4	40.5	8.0	11
Pattern																								
Channel Belt Width (ft)				-	-	-	-	-	-	-	-	-	-	-	-	10.3	13.7	17.2	17.7	18.2	17.8	19.0	0.7	3
Radius of Curvature (ft)				-	-	-	-	-	-	-	-	-	-	-	-	14.0	-	21.0	17.0	22.7	25.0	26.0	4.9	3
Rc: Bankfull Width (ft/ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0	2.6	2.9	3.0	0.6	3
Meander Wavelength (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17.7	18.2	17.8	19.1	0.8	3
Meander Width Ratio				-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	-	2.0	2.1	2.0	2.2	0.1	3
Substrate, Bed and Transport Parameters																								
Reach Shear Stress (Competency) lb/ft^2				-						-						-			-					
Max Part Size (mm) Mobilized at Bankfull				-						-						-			-					
Stream Power (Transport Capacity) W/m^2				-						-						-			-					
Additional Reach Parameters																								
Drainage Area (mi^2)				0.30						2.35						0.30								
Rosgen Classification				G						B4						B4			B4					
Bankfull Velocity (fps)		-		2.3 - 3.6						-						-								
Bankfull Discharge (cfs)		-		22.0						-						15.0								
Valley Length (ft)				-						-						-			337					
* Channel Thalweg Length (ft)				-						-						-			380					
^ Channel Centerline (ft)				-						-									377					
Sinuosity				-						-						1.11			1.12					
Water Surface Slope (ft/ft)				0.008 - 0.018						0.011 - 0.018						0.016			0.015					
Bankfull Slope (ft/ft)				-						-						-			0.016					
Bankfull Floodplain Area (acres)				-						-														
% of Reach with Eroding Banks				-						-														
Channel Stability or Habitat Metric				Unstable						-														
Biological or Other				-						-														

* Channel Thalweg Length (ft): Based on actual thalweg calculations from the as-built survey, accounts for breaks in conservation easement and utility right-of-ways.

^ Channel Centerline (ft): Based on stream centerline stationing from design stream stationing; accounts for breaks in conservation easement and utility right-of-ways.

- Information unavailable.

Non-Applicable.

Table 10. Baseline Stream Data Summary
Fletcher Mitigation Site - Fletcher Creek Reach 1B (380 feet *)

Parameter	Regional Curve			Pre-Existing Condition						Reference Reach Data						Design			As-Built / Baseline					
Dimension & Substrate - Riffle	**LL**	**UL**	**Eq.**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Max**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**
Bankfull Width (ft)	-	-	-	6.1	-	-	8.0	-	-	14.7	-	-	19.5	-	-	-	8.7	-	-	7.1	-	-	-	1
Floodprone Width (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.0	-	-	-	1
Bankfull Mean Depth (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	-	-	0.3	-	-	-	1
Bankfull Max Depth (ft)				0.7	-	-	0.8	-	-	1.2	-	-	1.4	-	-	-	0.9	-	-	0.6	-	-	-	1
Bankfull Cross Sectional Area (ft^2)		-		4.4	-	-	6.2	-	-	18.0	-	-	27.2	-	-	-	5.5	-	-	2.3	-	-	-	1
Width/Depth Ratio				8.5	-	-	10.5	-	-	12.0	-	-	14	-	-	-	13.6	-	-	21.4	-	-	-	1
Entrenchment Ratio				1.1	-	-	2.1	-	-	1.4	-	-	1.5	-	-	-	2.4	-	-	2.8	-	-	-	1
Bank Height Ratio				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	-	-	-	1
d50 (mm)				6.0	-	-	11.0	-	-	60.0	-	-	125	-	-	-	-	-	-	12.0	-	-	-	1
Profile																								
Riffle Length (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.8	8.5	8.0	13.1	2.5	13
Riffle Slope (ft/ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.002	0.018	0.014	0.044	0.013	13
Pool Length (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.1	9.6	9.7	14.4	2.8	12
Pool Max Depth (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	-	1.2	2.0	1.9	2.9	0.5	12
Pool Spacing (ft)				-	-	-	-	-	-	-	-	-	-	-	-	23.4	-	39.0	14.6	27.9	29.4	40.5	8.0	11
Pattern																								
Channel Belt Width (ft)				-	-	-	-	-	-	-	-	-	-	-	-	10.3	13.7	17.2	17.7	18.2	17.8	19.0	0.7	3
Radius of Curvature (ft)				-	-	-	-	-	-	-	-	-	-	-	-	14.0	-	21.0	17.0	22.7	25.0	26.0	4.9	3
Rc: Bankfull Width (ft/ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0	2.6	2.9	3.0	0.6	3
Meander Wavelength (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17.7	18.2	17.8	19.1	0.8	3
Meander Width Ratio				-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	-	2.0	2.1	2.0	2.2	0.1	3
Substrate, Bed and Transport Parameters																								
Reach Shear Stress (Competency) lb/ft^2				-						-						-			-					
Max Part Size (mm) Mobilized at Bankfull				-						-						-			-					
Stream Power (Transport Capacity) W/m^2				-						-						-			-					
Additional Reach Parameters																								
Drainage Area (mi^2)				0.30						2.35						0.30								
Rosgen Classification				G						B4						B4			B4					
Bankfull Velocity (fps)		-		2.3 - 3.6						-						-								
Bankfull Discharge (cfs)		-		22.0						-						15.0								
Valley Length (ft)				-						-						-			337					
* Channel Thalweg Length (ft)				-						-						-			380					
^ Channel Centerline (ft)				-						-									377					
Sinuosity				-						-						1.11			1.12					
Water Surface Slope (ft/ft)				0.008 - 0.018						0.011 - 0.018						0.016			0.015					
Bankfull Slope (ft/ft)				-						-						-			0.016					
Bankfull Floodplain Area (acres)				-						-														
% of Reach with Eroding Banks				-						-														
Channel Stability or Habitat Metric				Unstable						-														
Biological or Other				-						-														

* Channel Thalweg Length (ft): Based on actual thalweg calculations from the as-built survey, accounts for breaks in conservation easement and utility right-of-ways.

^ Channel Centerline (ft): Based on stream centerline stationing from design stream stationing; accounts for breaks in conservation easement and utility right-of-ways.

- Information unavailable.

Non-Applicable.

Table 10 Cont'd. Baseline Stream Data Summary
Fletcher Mitigation Site - Fletcher Creek Reach 1C (1,541 feet *)

Parameter	Regional Curve			Pre-Existing Condition						Reference Reach Data						Design			As-Built / Baseline					
Dimension & Substrate - Riffle	**LL**	**UL**	**Eq.**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Max**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**
Bankfull Width (ft)	-	-	-	6.3	-	-	9.3	-	-	14.7	-	-	19.5	-	-	-	9.4	-	7.6	9.8	9.8	12.0	3.1	2
Floodprone Width (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.0	30.0	30.0	50.0	28.3	2
Bankfull Mean Depth (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	-	0.3	0.5	0.5	0.6	0.2	2
Bankfull Max Depth (ft)				0.6	-	-	0.9	-	-	1.2	-	-	1.4	-	-	-	0.9	-	0.5	0.8	0.8	1.0	0.4	2
Bankfull Cross Sectional Area (ft^2)	-			4.9	-	-	7.5	-	-	18.0	-	-	27.2	-	-	-	6.4	-	2.1	4.8	4.8	7.5	3.8	2
Width/Depth Ratio				8.2	-	-	16.6	-	-	12.0	-	-	14	-	-	-	13.8	-	19.2	23.4	23.4	27.6	6.0	2
Entrenchment Ratio				1.3	-	-	1.7	-	-	1.4	-	-	1.5	-	-	-	2.4	-	1.3	2.7	2.7	4.2	2.0	2
Bank Height Ratio				-	-	-	-	-	-	-	-	-	-	-	-	-		-	1.0	1.0	1.0	1.0	0.0	2
d50 (mm)				5.0	-	-	14.0	-	-	60.0	-	-	125	-	-	-	-	-	18.0	18.5	19.0	19.0	0.71	2
Profile																								
Riffle Length (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.4	10.9	11.1	21.1	4.9	44
Riffle Slope (ft/ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.000	0.009	0.007	0.029	0.008	44
Pool Length (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.3	13.1	12.8	29.0	4.6	44
Pool Max Depth (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	-	1.5	2.8	2.8	4.0	0.6	44
Pool Spacing (ft)				-	-	-	-	-	-	-	-	-	-	-	-	31.0	-	51.7	13.5	35.0	34.4	96.1	13.5	43
Pattern																								
Channel Belt Width (ft)				-	-	-	-	-	-	-	-	-	-	-	-	11.2	15.0	18.7	18.7	20.2	19.7	22.3	1.9	3
Radius of Curvature (ft)				-	-	-	-	-	-	-	-	-	-	-	-	15.0	-	22.0	17.2	21.0	20.6	25.3	4.1	3
Rc: Bankfull Width (ft/ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8	2.2	2.2	2.7	0.5	3
Meander Wavelength (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18.7	20.2	19.7	22.3	1.9	3
Meander Width Ratio				-	-	-	-	-	-	-	-	-	-	-	-	-	2.9	-	2.0	2.1	2.1	2.4	0.2	3
Substrate, Bed and Transport Parameters																								
Reach Shear Stress (Competency) lb/ft^2				-						-						-			-					
Max Part Size (mm) Mobilized at Bankfull				-						-						-			-					
Stream Power (Transport Capacity) W/m^2				-						-						-			-					
Additional Reach Parameters																								
Drainage Area (mi^2)				0.37						2.35						0.37								
Rosgen Classification				B, F, G						B4						B4			B4					
Bankfull Velocity (fps)	-			-						-						-								
Bankfull Discharge (cfs)	-			25.0						-						18.0								
Valley Length (ft)				-						-						-			1,436					
* Channel Thalweg Length (ft)				-						-						-			1,541					
^ Channel Centerline (ft)				-						-						-			1,540					
Sinuosity				1.24						-						1.10			1.10					
Water Surface Slope (ft/ft)				0.009 - 0.015						0.011 - 0.018						0.012			0.012					
Bankfull Slope (ft/ft)				-						-						-			0.012					
Bankfull Floodplain Area (acres)				-						-														
% of Reach with Eroding Banks				-						-														
Channel Stability or Habitat Metric				Unstable						-														
Biological or Other				-						-														

* Channel Thalweg Length (ft): Based on actual thalweg calculations from the as-built survey, accounts for breaks in conservation easement and utility right-of-ways.

^ Channel Centerline (ft): Based on stream centerline stationing from design stream stationing; accounts for breaks in conservation easement and utility right-of-ways.

- Information unavailable.

Non-Applicable.

Table 10 Cont'd. Baseline Stream Data Summary
Fletcher Mitigation Site - Fletcher Creek Reach 2A (1,299 feet *)

Parameter	Regional Curve			Pre-Existing Condition						Reference Reach Data						Design			As-Built / Baseline					
Dimension & Substrate - Riffle	**LL**	**UL**	**Eq.**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Max**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**
Bankfull Width (ft)	-	-	-	4.9	-	-	7.9	-	-	14.7	-	-	19.5	-	-	-	10.4	-	12.6	12.9	12.9	13.1	0.3	2
Floodprone Width (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-		-	35.0	42.5	42.5	50.0	10.6	2
Bankfull Mean Depth (ft)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	-	0.7	0.8	0.8	0.8	0.0	2
Bankfull Max Depth (ft)				0.8	-	-	1.1	-	-	1.2	-	-	1.4	-	-	-	1.0	-	1.2	1.4	1.4	1.6	0.3	2
Bankfull Cross Sectional Area (ft^2)		-		4.8	-	-	7.9	-	-	18.0	-	-	27.2	-	-	-	7.6	-	9.2	9.8	9.8	10.4	0.9	2
Width/Depth Ratio				5.0	-	-	9.1	-	-	12.0	-	-	14	-	-	-	14.2	-	16.5	17.0	17.0	17.4	0.6	2
Entrenchment Ratio				1.4	-	-	1.9	-	-	1.4	-	-	1.5	-	-	-	2.4	-	2.7	3.3	3.3	4.0	0.9	2
Bank Height Ratio				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	1.0	1.0	1.0	0.0	2
d50 (mm)				9.0	-	-	14.0	-	-	60.0	-	-	125.0	-	-	-	-	-	18.0	19.0	20.0	20.0	1.4	2
Profile																								
Riffle Length (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3	16.0	14.6	32.2	6.7	35
Riffle Slope (ft/ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.001	0.010	0.008	0.028	0.007	35
Pool Length (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.58	10.8	10.2	25.3	4.2	34
Pool Max Depth (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	1.5	-	1.2	2.5	2.6	3.7	0.7	34
Pool Spacing (ft)				-	-	-	-	-	-	-	-	-	-	-	-	34.2	-	57.2	9.4	36.8	37.5	52.2	9.4	33
Pattern																								
Channel Belt Width (ft)				-	-	-	-	-	-	-	-	-	-	-	-	12.6	16.8	21.0	23.8	24.5	24.1	25.5	0.9	3
Radius of Curvature (ft)				-	-	-	-	-	-	-	-	-	-	-	-	17.0	-	25.0	16.8	22.1	19.8	29.6	6.7	3
Rc: Bankfull Width (ft/ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.6	2.1	1.9	2.8	0.6	3
Meander Wavelength (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23.8	24.5	24.1	25.5	0.9	3
Meander Width Ratio				-	-	-	-	-	-	-	-	-	-	-	-	-	3.5	-	2.3	2.4	2.3	2.5	0.1	3
Substrate, Bed and Transport Parameters																								
Reach Shear Stress (Competency) lb/ft^2				-						-						-			-					
Max Part Size (mm) Mobilized at Bankfull				-						-						-			-					
Stream Power (Transport Capacity) W/m^2				-						-						-			-					
Additional Reach Parameters																								
Drainage Area (mi^2)				0.49						2.35						0.49								
Rosgen Classification				B, G						B4						B4			B4					
Bankfull Velocity (fps)		-		2.0 - 3.4						-						-								
Bankfull Discharge (cfs)		-		32.0						-						22.0								
Valley Length (ft)				-						-						-			1,158					
* Channel Thalweg Length (ft)				-						-						-			1,299					
^ Channel Centerline (ft)				-						-						-			1,296					
Sinuosity				1.35						-						1.17			1.15					
Water Surface Slope (ft/ft)				0.005 - 0.014						0.011 - 0.018						0.012			0.011					
Bankfull Slope (ft/ft)				-						-						-			0.012					
Bankfull Floodplain Area (acres)				-						-														
% of Reach with Eroding Banks				-						-														
Channel Stability or Habitat Metric				Severe						-														
Biological or Other				-						-														

* Channel Thalweg Length (ft): Based on actual thalweg calculations from the as-built survey, accounts for breaks in conservation easement and utility right-of-ways.

^ Channel Centerline (ft): Based on stream centerline stationing from design stream stationing; accounts for breaks in conservation easement and utility right-of-ways.

- Information unavailable.

Non-Applicable.

Table 10 Cont'd. Baseline Stream Data Summary
Fletcher Mitigation Site - Fletcher Creek Reach 2B (1,510 feet *)

Parameter	Regional Curve			Pre-Existing Condition						Reference Reach Data						Design			As-Built / Baseline					
Dimension & Substrate - Riffle	**LL**	**UL**	**Eq.**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Max**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**
Bankfull Width (ft)	-	-	-	4.4	-	-	10.7	-	-	14.7	-	-	19.5	-	-	-	10.6	-	9.8	10.0	10.0	10.2	0.3	2
Floodprone Width (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40.0	55.0	55.0	70.0	21.2	2
Bankfull Mean Depth (ft)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	-	0.7	0.7	0.7	0.8	0.1	2
Bankfull Max Depth (ft)				0.7	-	-	1.0	-	-	1.2	-	-	1.4	-	-	-	1.0	-	1.2	1.3	1.3	1.3	0.1	2
Bankfull Cross Sectional Area (ft^2)	-			3.3	-	-	7.2	-	-	18.0	-	-	27.2	-	-	-	7.9	-	7.1	7.4	7.4	7.6	0.3	2
Width/Depth Ratio				5.2	-	-	15.7	-	-	12.0	-	-	14	-	-	-	14.3	-	12.6	13.6	13.6	14.6	1.4	2
Entrenchment Ratio				1.4	-	-	5.9	-	-	1.4	-	-	1.5	-	-	-	2.3	-	3.9	5.5	5.5	7.2	2.3	2
Bank Height Ratio				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	1.0	1.0	1.0	0.0	2
d50 (mm)				-	5.0	-	-	-	-	60.0	-	-	125.0	-	-	-	-	-	5.5	11.8	18.0	18.0	8.8	2
Profile																								
Riffle Length (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3	16.0	14.6	32.2	6.7	35
Riffle Slope (ft/ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.001	0.010	0.008	0.028	0.007	35
Pool Length (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.58	10.8	10.2	25.3	4.2	34
Pool Max Depth (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	1.5	-	1.2	2.5	2.6	3.7	0.7	34
Pool Spacing (ft)				-	-	-	-	-	-	-	-	-	-	-	-	35.0	-	58.3	9.4	36.8	37.5	52.2	9.4	33
Pattern																								
Channel Belt Width (ft)				-	-	-	-	-	-	-	-	-	-	-	-	12.9	17.2	21.5	18.0	19.9	19.2	22.6	2.4	3
Radius of Curvature (ft)				-	-	-	-	-	-	-	-	-	-	-	-	17.0	-	26.0	23.5	25.3	24.8	27.5	2.0	3
Rc: Bankfull Width (ft/ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.2	2.4	2.3	2.6	0.2	3
Meander Wavelength (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17.9	19.9	19.2	22.6	2.4	3
Meander Width Ratio				-	-	-	-	-	-	-	-	-	-	-	-	-	2.6	-	1.7	1.9	1.8	2.1	0.2	3
Substrate, Bed and Transport Parameters																								
Reach Shear Stress (Competency) lb/ft^2				-						-														
Max Part Size (mm) Mobilized at Bankfull				-						-														
Stream Power (Transport Capacity) W/m^2				-						-														
Additional Reach Parameters																								
Drainage Area (mi^2)				0.52						2.35						0.52								
Rosgen Classification				B, E, G						B4						B5			B5					
Bankfull Velocity (fps)	-			1.8 - 2.7						-						-								
Bankfull Discharge (cfs)	-			33.0						-						23.0								
Valley Length (ft)				-						-						-			1,467					
* Channel Thalweg Length (ft)				-						-						-			1,510					
^ Channel Centerline (ft)				-						-						-			1,470					
Sinuosity				1.03						-						1.10			1.10					
Water Surface Slope (ft/ft)				0.004 - 0.01						0.011 - 0.018						0.007			0.011					
Bankfull Slope (ft/ft)				-						-						-			0.012					
Bankfull Floodplain Area (acres)				-						-														
% of Reach with Eroding Banks				-						-														
Channel Stability or Habitat Metric				Unstable						-														
Biological or Other				-						-														

* Channel Thalweg Length (ft): Based on actual thalweg calculations from the as-built survey, accounts for breaks in conservation easement and utility right-of-ways.

^ Channel Centerline (ft): Based on stream centerline stationing from design stream stationing; accounts for breaks in conservation easement and utility right-of-ways.

- Information unavailable.

Non-Applicable.

Table 10 Cont'd. Baseline Stream Data Summary
Fletcher Mitigation Site - Weston Creek Reach 1A (1,982 feet *)

Parameter	Regional Curve			Pre-Existing Condition						Reference Reach Data						Design			As-Built / Baseline					
Dimension & Substrate - Riffle	**LL**	**UL**	**Eq.**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Max**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**
Bankfull Width (ft)	-	-	-	4.5	-	-	6.3	-	-	6.3	-	-	10.7	-	-	-	8.6	-	9.1	9.8	9.8	10.4	0.9	2
Floodprone Width (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50.0	50.0	50.0	50.0	0.0	2
Bankfull Mean Depth (ft)	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	0.6	-	0.6	0.6	0.6	0.6	0.0	2
Bankfull Max Depth (ft)				0.6	-	-	0.7	-	-	1.0	-	-	1.2	-	-	-	0.9	-	0.9	1.0	1.0	1.1	0.1	2
Bankfull Cross Sectional Area (ft^2)	-			2.7	-	-	4.6	-	-	7.7	-	-	10.0	-	-	-	5.5	-	5.4	5.8	5.8	6.2	0.6	2
Width/Depth Ratio				7.4	-	-	10.0	-	-	6.0	-	-	11.0	-	-	-	13.6	-	15.5	16.4	16.4	17.4	1.3	2
Entrenchment Ratio				1.6	-	-	2.6	-	-	2.3	-	-	4.8	-	-	-	4.6	-	4.8	5.1	5.1	5.5	0.5	2
Bank Height Ratio				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	1.0	1.0	1.0	0.0	2
d50 (mm)				1.0	-	-	4.0	-	-	13.0	-	-	17.0	-	-	-	-	-	1.5	2.6	3.6	3.6	1.5	2
Profile																								
Riffle Length (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.3	13.3	11.9	38.6	7.8	55
Riffle Slope (ft/ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.000	0.004	0.002	0.017	0.004	55
Pool Length (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.7	13.1	12.8	26.1	4.3	54
Pool Max Depth (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	-	1.1	1.7	1.7	2.6	0.4	54
Pool Spacing (ft)				-	-	-	-	-	-	-	-	-	-	-	-	43.0	-	60.2	8.9	35.7	34.4	72.9	12.0	53
Pattern																								
Channel Belt Width (ft)				-	-	-	-	-	-	-	-	-	-	-	-	13.7	27.4	34.3	24.8	27.0	27.2	29.0	2.1	3
Radius of Curvature (ft)				-	-	-	-	-	-	-	-	-	-	-	-	10.0	-	17.0	11.0	14.3	14.6	17.4	3.2	3
Rc: Bankfull Width (ft/ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3	1.7	1.7	2.0	0.4	3
Meander Wavelength (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24.5	26.9	27.2	29.0	2.3	3
Meander Width Ratio				-	-	-	-	-	-	-	-	-	-	-	-	-	2.9	-	2.9	3.1	3.2	3.4	0.2	3
Substrate, Bed and Transport Parameters																								
Reach Shear Stress (Competency) lb/ft^2				-						-						-			-					
Max Part Size (mm) Mobilized at Bankfull				-						-						-			-					
Stream Power (Transport Capacity) W/m^2				-						-						-			-					
Additional Reach Parameters																								
Drainage Area (mi^2)				0.30						0.25						0.30								
Rosgen Classification				E, G						E4						C5			C5					
Bankfull Velocity (fps)	-			1.8 - 2.2						-						-								
Bankfull Discharge (cfs)	-			21.0						-						15.0								
Valley Length (ft)				-						-						-			1,616					
* Channel Thalweg Length (ft)				-						-						-			1,982					
^ Channel Centerline				-						-						-			1,954					
Sinuosity				1.01						1.60						1.24			1.24					
Water Surface Slope (ft/ft)				0.006 - 0.009						0.008						0.005			0.005					
Bankfull Slope (ft/ft)				-						-						-			0.005					
Bankfull Floodplain Area (acres)				-						-														
% of Reach with Eroding Banks				-						-														
Channel Stability or Habitat Metric				Unstable						-														
Biological or Other				-						-														

* Channel Thalweg Length (ft): Based on actual thalweg calculations from the as-built survey, accounts for breaks in conservation easement and utility right-of-ways.

^ Channel Centerline (ft): Based on stream centerline stationing from design stream stationing; accounts for breaks in conservation easement and utility right-of-ways.

- Information unavailable.

Non-Applicable.

Table 10 Cont'd. Baseline Stream Data Summary
Fletcher Mitigation Site - Weston Creek Reach 1B (825 feet *)

Parameter	Regional Curve			Pre-Existing Condition						Reference Reach Data						Design			As-Built / Baseline					
Dimension & Substrate - Riffle	**LL**	**UL**	**Eq.**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Max**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**
Bankfull Width (ft)	-	-	-	4.5	-	-	9.6	-	-	6.3	-	-	10.7	-	-	-	9.4	-	-	9.7	-	-	-	1
Floodprone Width (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	40.0	-	-	-	1
Bankfull Mean Depth (ft)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	-	-	0.5	-	-	-	1
Bankfull Max Depth (ft)				0.6	-	-	1.0	-	-	1.0	-	-	1.2	-	-	-	0.9	-	-	0.7	-	-	-	1
Bankfull Cross Sectional Area (ft^2)		-		3.8	-	-	7.8	-	-	7.7	-	-	10	-	-	-	6.3	-	-	4.7	-	-	-	1
Width/Depth Ratio				5.3	-	-	11.9	-	-	6.0	-	-	11	-	-	-	3.3	-	-	20.4	-	-	-	1
Entrenchment Ratio				1.3	-	-	2.2	-	-	2.3	-	-	4.8	-	-	-	4.3	-	-	4.1	-	-	-	1
Bank Height Ratio				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	-	-	-	1
d50 (mm)				1.0	-	-	4.0	-	-	13.0	-	-	17.0	-	-	-	-	-	-	1.8	-	-	-	-
Profile																								
Riffle Length (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.5	12.3	12.1	29.1	5.9	21
Riffle Slope (ft/ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.000	0.007	0.002	0.031	0.008	21
Pool Length (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.6	14.8	14.0	26.8	6.9	21
Pool Max Depth (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	-	1.4	2.0	2.0	2.7	0.3	21
Pool Spacing (ft)				-	-	-	-	-	-	-	-	-	-	-	-	47.0	-	65.8	19.7	35.2	34.8	68.4	12.1	20
Pattern																								
Channel Belt Width (ft)				-	-	-	-	-	-	-	-	-	-	-	-	14.9	29.9	37.3	27.3	28.4	28.1	29.9	1.3	3
Radius of Curvature (ft)				-	-	-	-	-	-	-	-	-	-	-	-	11.0	-	19.0	15.8	19.5	18.2	24.5	4.5	3
Rc: Bankfull Width (ft/ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.7	2.1	1.9	2.6	0.5	3
Meander Wavelength (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.3	28.4	28.1	29.9	1.3	3
Meander Width Ratio				-	-	-	-	-	-	-	-	-	-	-	-	-	3.3	-	2.9	3.0	3.0	3.2	0.1	3
Substrate, Bed and Transport Parameters																								
Reach Shear Stress (Competency) lb/ft^2				-						-						-			-					
Max Part Size (mm) Mobilized at Bankfull				-						-						-			-					
Stream Power (Transport Capacity) W/m^2				-						-						-			-					
Additional Reach Parameters																								
Drainage Area (mi^2)				0.37						0.25						0.37								
Rosgen Classification				G, E						E4						C5			C5					
Bankfull Velocity (fps)		-		1.8 - 2.3						-						-								
Bankfull Discharge (cfs)		-		25.0						-						18.0								
Valley Length (ft)				-						-						-			708					
* Channel Thalweg Length (ft)				-						-						-			825					
^ Channel Centerline (ft)				-						-						-			804					
Sinuosity				1.01						1.60						1.20			1.17					
Water Surface Slope (ft/ft)				0.005 - 0.007						0.0080						0.009			0.0024					
Bankfull Slope (ft/ft)				-						-						-			0.0026					
Bankfull Floodplain Area (acres)				-						-														
% of Reach with Eroding Banks				-						-														
Channel Stability or Habitat Metric				Unstable						-														
Biological or Other				-						-														

* Channel Thalweg Length (ft): Based on actual thalweg calculations from the as-built survey, accounts for breaks in conservation easement and utility right-of-ways.

^ Channel Centerline (ft): Based on stream centerline stationing from design stream stationing; accounts for breaks in conservation easement and utility right-of-ways.

- Information unavailable.

Non-Applicable.

Table 10 Cont'd. Baseline Stream Data Summary
Fletcher Mitigation Site - Raccoon Branch Reach 1C (153 feet)

Parameter	Regional Curve			Pre-Existing Condition						Reference Reach Data						Design			As-Built / Baseline					
Dimension & Substrate - Riffle	**LL**	**UL**	**Eq.**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Max**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**
Bankfull Width (ft)	-	-	-	1.8	-	-	3.4	-	-	14.7	-	-	19.5	-	-	-	6.0	-						
Floodprone Width (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Bankfull Mean Depth (ft)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-						
Bankfull Max Depth (ft)				0.1	-	-	0.2	-	-	1.2	-	-	1.4	-	-	-	0.5	-						
Bankfull Cross Sectional Area (ft^2)	-			0.4	-	-	0.6	-	-	18	-	-	27.2	-	-	-	2.0	-						
Width/Depth Ratio				8.0	-	-	25.7	-	-	12	-	-	14.0	-	-	-	17.8	-						
Entrenchment Ratio				1.7	-	-	2.1	-	-	1.4	-	-	1.5	-	-	-	2.3	-						
Bank Height Ratio				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
d50 (mm)				1.0	-	-	2.0	-	-	60.0	-	-	125.0	-	-	-	-	-						
Profile																								
Riffle Length (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Riffle Slope (ft/ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Pool Length (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Pool Max Depth (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	-						
Pool Spacing (ft)				-	-	-	-	-	-	-	-	-	-	-	-	3.3	-	5.5						
Pattern																								
Channel Belt Width (ft)				-	-	-	-	-	-	-	-	-	-	-	-	6.4	8.5	10.7						
Radius of Curvature (ft)				-	-	-	-	-	-	-	-	-	-	-	-	9.0	-	13.0						
Rc: Bankfull Width (ft/ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Meander Wavelength (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Meander Width Ratio				-	-	-	-	-	-	-	-	-	-	-	-	-	1.9	-						
Substrate, Bed and Transport Parameters																								
Reach Shear Stress (Competency) lb/ft^2				-						-						-								
Max Part Size (mm) Mobilized at Bankfull				-						-						-								
Stream Power (Transport Capacity) W/m^2				-						-						-								
Additional Reach Parameters																								
Drainage Area (mi^2)				0.04						2.35						0.04								
Rosgen Classification				B, G						B4						B4								
Bankfull Velocity (fps)	-			2.4 - 3.4						-						-								
Bankfull Discharge (cfs)	-			4.0						-						3.0								
Valley Length (ft)				-						-						-								
Channel Thalweg Length (ft)				-						-						-								
Sinuosity				1.09						-						1.09								
Water Surface Slope (ft/ft)				0.048 - 0.092						0.011 - 0.018						0.040								
Bankfull Slope (ft/ft)				-						-						-								
Bankfull Floodplain Area (acres)				-						-														
% of Reach with Eroding Banks				-						-														
Channel Stability or Habitat Metric				Unstable						-														
Biological or Other				-						-														

- Information unavailable.

Non-Applicable.

Table 10 Cont'd. Baseline Stream Data Summary
Fletcher Mitigation Site - Raccoon Branch Reach 1D (440 feet *)

Parameter	Regional Curve			Pre-Existing Condition						Reference Reach Data						Design			As-Built / Baseline					
Dimension & Substrate - Riffle	**LL**	**UL**	**Eq.**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Max**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**
Bankfull Width (ft)	-	-	-	1.8	-	-	3.4	-	-	14.7	-	-	19.5	-	-	-	6.1	-	-	6.9	-	-	-	1
Floodprone Width (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	20	-	-	-	1
Bankfull Mean Depth (ft)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	0.5	-	-	-	1
Bankfull Max Depth (ft)				0.1	-	-	0.2	-	-	1.2	-	-	1.4	-	-	-	0.5	-	-	1.34	-	-	-	1
Bankfull Cross Sectional Area (ft^2)	-			0.4	-	-	0.6	-	-	18	-	-	27.2	-	-	-	2.1	-	-	3.42	-	-	-	1
Width/Depth Ratio				8.0	-	-	25.7	-	-	12	-	-	14.0	-	-	-	17.8	-	-	13.8	-	-	-	1
Entrenchment Ratio				1.7	-	-	2.1	-	-	1.4	-	-	1.5	-	-	-	2.3	-	-	2.91	-	-	-	1
Bank Height Ratio				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	-	-	-	1
d50 (mm)				1.0	-	-	2.0	-	-	60.0	-	-	125.0	-	-	-	-	-	-	0.062	-	-	-	1
Profile																								
Riffle Length (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5	4.5	4.2	7.9	1.7	38.0
Riffle Slope (ft/ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.003	0.033	0.030	0.085	0.021	38.0
Pool Length (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.7	5.4	5.0	12.7	2.6	37.0
Pool Max Depth (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	-	0.6	1.0	1.1	1.4	0.2	37.0
Pool Spacing (ft)				-	-	-	-	-	-	-	-	-	-	-	-	20.1	-	33.6	4.1	12.1	11.2	28.8	5.5	35.0
Pattern																								
Channel Belt Width (ft)				-	-	-	-	-	-	-	-	-	-	-	-	6.5	8.7	10.9	6.7	7.5	7.0	8.7	1.1	3
Radius of Curvature (ft)				-	-	-	-	-	-	-	-	-	-	-	-	9.0	-	13.0	7.9	10.1	8.5	13.9	3.3	3
Rc: Bankfull Width (ft/ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	1.6	1.3	2.2	0.6	3
Meander Wavelength (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.7	7.5	7.0	8.7	1.1	3
Meander Width Ratio				-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	-	1.1	1.2	1.1	1.4	0.1	3
Substrate, Bed and Transport Parameters																								
Reach Shear Stress (Competency) lb/ft^2				-						-						-			-					
Max Part Size (mm) Mobilized at Bankfull				-						-						-			-					
Stream Power (Transport Capacity) W/m^2				-						-						-			-					
Additional Reach Parameters																								
Drainage Area (mi^2)				0.04						2.35						0.04								
Rosgen Classification				B, G						B4						B4			B4					
Bankfull Velocity (fps)	-			2.4 - 3.4						-						-								
Bankfull Discharge (cfs)	-			4.0						-						3.0								
Valley Length (ft)				-						-						-			413					
* Channel Thalweg Length (ft)				-						-						-			440					
^ Channel Centerline (ft)				-						-						-			448					
Sinuosity				1.09						-						1.05			1.08					
Water Surface Slope (ft/ft)				0.048 - 0.092						0.011 - 0.018						0.048			0.040					
Bankfull Slope (ft/ft)				-						-						-			0.041					
Bankfull Floodplain Area (acres)				-						-														
% of Reach with Eroding Banks				-						-														
Channel Stability or Habitat Metric				Unstable						-														
Biological or Other				-						-														

* Channel Thalweg Length (ft): Based on actual thalweg calculations from the as-built survey, accounts for breaks in conservation easement and utility right-of-ways.

^ Channel Centerline (ft): Based on stream centerline stationing from design stream stationing; accounts for breaks in conservation easement and utility right-of-ways.

- Information unavailable.

Non-Applicable.

Table 10 Cont'd. Baseline Stream Data Summary
Fletcher Mitigation Site - Coates Branch Reach 1A (282 feet)

Parameter	Regional Curve			Pre-Existing Condition						Reference Reach Data						Design			As-Built / Baseline					
Dimension & Substrate - Riffle	**LL**	**UL**	**Eq.**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Max**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**
Bankfull Width (ft)	-	-	-	0.9	-	-	1.3	-	-	14.7	-	-	19.5	-	-	-	5.0	-						
Floodprone Width (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Bankfull Mean Depth (ft)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-						
Bankfull Max Depth (ft)				0.2	-	-	0.3	-	-	1.2	-	-	1.4	-	-	-	0.4	-						
Bankfull Cross Sectional Area (ft^2)	-			0.2	-	-	0.3	-	-	18.0	-	-	27.2	-	-	-	1.4	-						
Width/Depth Ratio				5.1	-	-	5.6	-	-	12.0	-	-	14.0	-	-	-	18.0	-						
Entrenchment Ratio				2.0	-	-	2.8	-	-	1.4	-	-	1.5	-	-	-	2.4	-						
Bank Height Ratio				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
d50 (mm)				1.0	-	-	2.0	-	-	60.0	-	-	125.0	-	-	-	-	-						
Profile																								
Riffle Length (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Riffle Slope (ft/ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Pool Length (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Pool Max Depth (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	-						
Pool Spacing (ft)				-	-	-	-	-	-	-	-	-	-	-	-	3.3	-	5.5						
Pattern																								
Channel Belt Width (ft)				-	-	-	-	-	-	-	-	-	-	-	-	5.4	7.2	9.0						
Radius of Curvature (ft)				-	-	-	-	-	-	-	-	-	-	-	-	7.0	-	11.0						
Rc: Bankfull Width (ft/ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Meander Wavelength (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Meander Width Ratio				-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	-						

Substrate, Bed and Transport Parameters				
Reach Shear Stress (Competency) lb/ft^2		-	-	-	
Max Part Size (mm) Mobilized at Bankfull		-	-	-	
Stream Power (Transport Capacity) W/m^2		-	-	-	
Additional Reach Parameters				
Drainage Area (mi^2)		0.02	2.4	0.02	
Rosgen Classification		B, G	B4	B4	
Bankfull Velocity (fps)	-	1.7 - 2.0	-	-	
Bankfull Discharge (cfs)	-	3.0	-	1.0	
Valley Length (ft)		-	-	-	
Channel Thalweg Length (ft)		-	-	-	
Sinuosity		1.08	-	1.14	
Water Surface Slope (ft/ft)		0.03 - 0.034	0.011 - 0.018	0.031	
Bankfull Slope (ft/ft)		-	-	-	
Bankfull Floodplain Area (acres)		-	-		
% of Reach with Eroding Banks		-	-		
Channel Stability or Habitat Metric		Unstable	-		
Biological or Other		-	-		

- Information unavailable.

Non-Applicable.

Table 10 Cont'd. Baseline Stream Data Summary
Fletcher Mitigation Site - Coates Branch Reach 1B (601 feet *)

Parameter	Regional Curve			Pre-Existing Condition						Reference Reach Data						Design			As-Built / Baseline					
Dimension & Substrate - Riffle	**LL**	**UL**	**Eq.**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Max**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**
Bankfull Width (ft)	-	-	-	0.9	-	-	1.3	-	-	14.7	-	-	19.5	-	-	-	5.7	-	-	5.2	-	-	-	1
Floodprone Width (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.0	-	-	-	1
Bankfull Mean Depth (ft)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	0.3	-	-	-	1
Bankfull Max Depth (ft)				0.2	-	-	0.3	-	-	1.2	-	-	1.4	-	-	-	0.5	-	-	0.7	-	-	-	1
Bankfull Cross Sectional Area (ft^2)	-			0.2	-	-	0.3	-	-	18	-	-	27.2	-	-	-	1.8	-	-	1.6	-	-	-	1
Width/Depth Ratio				5.1	-	-	5.6	-	-	12	-	-	14.0	-	-	-	17.9	-	-	16.5	-	-	-	1
Entrenchment Ratio				2.0	-	-	2.8	-	-	1.4	-	-	1.5	-	-	-	2.4	-	-	2.9	-	-	-	1
Bank Height Ratio				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	-	-	-	1
d50 (mm)				1.0	-	-	2.0	-	-	60.0	-	-	125.0	-	-	-	-	-	-	15.0	-	-	-	1
Profile																								
Riffle Length (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.0	6.5	6.3	14.0	2.1	52
Riffle Slope (ft/ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.000	0.020	0.016	0.072	0.016	52
Pool Length (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	3.4	3.2	6.3	1.2	51
Pool Max Depth (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	-	0.24	1.2	1.1	2.5	0.4	51
Pool Spacing (ft)				-	-	-	-	-	-	-	-	-	-	-	-	18.8	-	31.4	5.8	11.7	12	18.7	2.5	50
Pattern																								
Channel Belt Width (ft)				-	-	-	-	-	-	-	-	-	-	-	-	6.1	8.1	10.2	9.7	10.6	10.5	11.5	0.9	3
Radius of Curvature (ft)				-	-	-	-	-	-	-	-	-	-	-	-	8.0	-	12.0	9.0	11.0	12.0	12.1	1.8	3
Rc: Bankfull Width (ft/ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5	1.9	2.1	2.1	0.3	3
Meander Wavelength (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.7	10.6	10.5	11.5	0.9	3
Meander Width Ratio				-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	-	1.7	1.9	1.8	2.0	0.1	3
Substrate, Bed and Transport Parameters																								
Reach Shear Stress (Competency) lb/ft^2				-						-						-			-					
Max Part Size (mm) Mobilized at Bankfull				-						-						-			-					
Stream Power (Transport Capacity) W/m^2				-						-						-			-					
Additional Reach Parameters																								
Drainage Area (mi^2)				0.03						2.4						0.03								
Rosgen Classification				B, G						B4						B4			B4					
Bankfull Velocity (fps)	-			1.7 - 2.0						-						-								
Bankfull Discharge (cfs)	-			3.0						-						2.0								
Valley Length (ft)				-						-						-			597					
* Channel Thalweg Length (ft)				-						-						-			601					
^ Channel Centerline (ft)				-						-						-			606					
Sinuosity				1.08						-						1.04			1.05					
Water Surface Slope (ft/ft)				0.03 - 0.034						0.011 - 0.018						0.033			0.033					
Bankfull Slope (ft/ft)				-						-						-			0.033					
Bankfull Floodplain Area (acres)				-						-														
% of Reach with Eroding Banks				-						-														
Channel Stability or Habitat Metric				Severe						-														
Biological or Other				-						-														

* Channel Thalweg Length (ft): Based on actual thalweg calculations from the as-built survey, accounts for breaks in conservation easement and utility right-of-ways.

^ Channel Centerline (ft): Based on stream centerline stationing from design stream stationing; accounts for breaks in conservation easement and utility right-of-ways.

- Information unavailable.

Non-Applicable.

Table 10 Cont'd. Baseline Stream Data Summary
Fletcher Mitigation Site - Coates Branch Reach 1C (708 feet *)

Parameter	Regional Curve			Pre-Existing Condition						Reference Reach Data						Design			As-Built / Baseline					
Dimension & Substrate - Riffle	**LL**	**UL**	**Eq.**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Max**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**
Bankfull Width (ft)	-	-	-	1.9	-	-	3.4	-	-	14.7	-	-	19.5	-	-	-	6.0	-	-	5.4	-	-	-	1
Floodprone Width (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	20.0	-	-	-	1
Bankfull Mean Depth (ft)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	0.4	-	-	-	1
Bankfull Max Depth (ft)				0.2	-	-	0.3	-	-	1.2	-	-	1.4	-	-	-	0.5	-	-	0.8	-	-	-	1
Bankfull Cross Sectional Area (ft^2)	-			0.3	-	-	0.8	-	-	18	-	-	27.2	-	-	-	2.0	-	-	2.2	-	-	-	1
Width/Depth Ratio				10.4	-	-	14.5	-	-	12	-	-	14.0	-	-	-	17.8	-	-	13.5	-	-	-	1
Entrenchment Ratio				1.2	-	-	1.9	-	-	1.4	-	-	1.5	-	-	-	2.3	-	-	3.7	-	-	-	1
Bank Height Ratio				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	-	-	-	1
d50 (mm)				9.0	-	-	12.0	-	-	60.0	-	-	125.0	-	-	-	-	-	-	0.4	-	-	-	1
Profile																								
Riffle Length (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.8	7.4	7.7	10.1	1.6	48
Riffle Slope (ft/ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.000	0.010	0.010	0.033	0.007	48
Pool Length (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	4.6	4.2	7.3	1.4	48
Pool Max Depth (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	-	0.6	1.0	1.0	1.4	0.2	49
Pool Spacing (ft)				-	-	-	-	-	-	-	-	-	-	-	-	19.8	-	33.0	6.4	14.3	14.6	19.6	2.6	48
Pattern																								
Channel Belt Width (ft)				-	-	-	-	-	-	-	-	-	-	-	-	6.5	8.6	10.8	10.9	11.7	11.6	12.5	0.8	3
Radius of Curvature (ft)				-	-	-	-	-	-	-	-	-	-	-	-	9.0	-	13.0	7.0	8.8	7.2	12.1	2.9	3
Rc: Bankfull Width (ft/ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	1.5	1.2	2.1	0.5	3
Meander Wavelength (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.9	12.1	11.6	13.7	1.5	3
Meander Width Ratio				-	-	-	-	-	-	-	-	-	-	-	-	-	2.3	-	1.8	2.0	1.9	2.1	0.1	3
Substrate, Bed and Transport Parameters																								
Reach Shear Stress (Competency) lb/ft^2				-						-						-			-					
Max Part Size (mm) Mobilized at Bankfull				-						-						-			-					
Stream Power (Transport Capacity) W/m^2				-						-						-			-					
Additional Reach Parameters																								
Drainage Area (mi^2)				0.04						2.4						0.04								
Rosgen Classification				B, F, G						B4						B4			B4					
Bankfull Velocity (fps)	-			0.9 - 1.8						-						-								
Bankfull Discharge (cfs)	-			4.0						-						3.0								
Valley Length (ft)				-						-						-			667					
* Channel Thalweg Length (ft)				-						-						-			708					
^ Channel Centerline (ft)				-						-						-			708					
Sinuosity				1.03						-						1.07			1.06					
Water Surface Slope (ft/ft)				0.009 - 0.021						0.011 - 0.018						0.015			0.013					
Bankfull Slope (ft/ft)				-						-						-			0.013					
Bankfull Floodplain Area (acres)				-						-														
% of Reach with Eroding Banks				-						-														
Channel Stability or Habitat Metric				Unstable						-														
Biological or Other				-						-														

* Channel Thalweg Length (ft): Based on actual thalweg calculations from the as-built survey, accounts for breaks in conservation easement and utility right-of-ways.

^ Channel Centerline (ft): Based on stream centerline stationing from design stream stationing; accounts for breaks in conservation easement and utility right-of-ways.

- Information unavailable.

Non-Applicable.

Table 10 Cont'd. Baseline Stream Data Summary
Fletcher Mitigation Site - Coates Branch Reach 1D (325 feet *)

Parameter	Regional Curve			Pre-Existing Condition						Reference Reach Data						Design			As-Built / Baseline					
Dimension & Substrate - Riffle	**LL**	**UL**	**Eq.**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Max**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**
Bankfull Width (ft)	-	-	-	3.6	-	-	5.0	-	-	14.7	-	-	19.5	-	-	-	6.9	-	-	6.1	-	-	-	1
Floodprone Width (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25.0	-	-	-	1
Bankfull Mean Depth (ft)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	-	0.5	-	-	-	1
Bankfull Max Depth (ft)				0.2	-	-	0.3	-	-	1.2	-	-	1.4	-	-	-	0.6	-	-	1.0	-	-	-	1
Bankfull Cross Sectional Area (ft^2)	-			1.0	-	-	1.4	-	-	18	-	-	27.2	-	-	-	2.7	-	-	3.3	-	-	-	1
Width/Depth Ratio				13.0	-	-	18.0	-	-	12	-	-	14.0	-	-	-	17.7	-	-	11.4	-	-	-	1
Entrenchment Ratio				1.7	-	-	1.8	-	-	1.4	-	-	1.5	-	-	-	2.2	-	-	4.1	-	-	-	1
Bank Height Ratio				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	-	-	-	1
d50 (mm)				8.0	-	-	14.0	-	-	60.0	-	-	125.0	-	-	-	-	-	-	4.0	-	-	-	1
Profile																								
Riffle Length (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.1	7.2	7.3	11.9	1.8	22
Riffle Slope (ft/ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.000	0.008	0.006	0.021	0.006	22
Pool Length (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8	4.6	4.4	8.1	1.8	22
Pool Max Depth (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-	0.6	1.1	1.1	2.2	0.3	22
Pool Spacing (ft)				-	-	-	-	-	-	-	-	-	-	-	-	22.8	-	38.0	8.0	13.9	14.0	19.1	3.2	21
Pattern																								
Channel Belt Width (ft)				-	-	-	-	-	-	-	-	-	-	-	-	7.4	9.9	12.3	11.5	12.7	12.8	13.8	1.2	3
Radius of Curvature (ft)				-	-	-	-	-	-	-	-	-	-	-	-	10.0	-	15.0	4.7	7.0	7.2	9.2	2.3	3
Rc: Bankfull Width (ft/ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	1.0	1.0	1.3	0.3	3
Meander Wavelength (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.5	12.5	12.1	13.8	1.2	3
Meander Width Ratio				-	-	-	-	-	-	-	-	-	-	-	-	-	2.6	-	1.7	1.8	1.9	2.0	0.1	3
Substrate, Bed and Transport Parameters																								
Reach Shear Stress (Competency) lb/ft^2				-						-						-			-					
Max Part Size (mm) Mobilized at Bankfull				-						-						-			-					
Stream Power (Transport Capacity) W/m^2				-						-						-			-					
Additional Reach Parameters																								
Drainage Area (mi^2)				0.07						2.4						0.07								
Rosgen Classification				B						B4						B4			B4					
Bankfull Velocity (fps)	-			0.9 - 1.3						-						-								
Bankfull Discharge (cfs)	-			7.0						-						5.0								
Valley Length (ft)				-						-						-			311					
* Channel Thalweg Length (ft)				-						-						-			325					
^ Channel Centerline (ft)				-						-						-			325					
Sinuosity				1.05						-						1.12			1.05					
Water Surface Slope (ft/ft)				0.004 - 0.009						0.011 - 0.018						0.015			0.013					
Bankfull Slope (ft/ft)				-						-						-			0.014					
Bankfull Floodplain Area (acres)				-						-														
% of Reach with Eroding Banks				-						-														
Channel Stability or Habitat Metric				Unstable						-														
Biological or Other				-						-														

* Channel Thalweg Length (ft): Based on actual thalweg calculations from the as-built survey, accounts for breaks in conservation easement and utility right-of-ways.

^ Channel Centerline (ft): Based on stream centerline stationing from design stream stationing; accounts for breaks in conservation easement and utility right-of-ways.

- Information unavailable.

Non-Applicable.

Table 11a. Monitoring Data - Dimensional Morphology Summary (Dimensional Parameters – Cross Sections)
Fletcher Mitigation Site

	Cross Section 1 (Riffle) Fletcher Creek Reach 1B									Cross Section 2 (Pool) Fletcher Creek Reach 1B									Cross Section 3 (Pool) Fletcher Creek Reach 1C									Cross Section 4 (Riffle) Fletcher Creek Reach 1C								
Dimension	**Base**	**Pre-MY1**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**	**Base**	**Pre-MY1**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**	**Base**	**Pre-MY1**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**	**Base**	**Pre-MY1**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**
Record Elevation (datum) Used	2124.8	2124.7	2124.6	2124.7	2124.7					2123.0	2123.1	2123.1	2123.5	2123.4					2118.8	2118.9	2118.9	2118.8	2119.1					2118.5	2118.4	2118.5	2118.5	2118.6				
Low Bank Height Elevation (datum) Used	2124.8	2124.7	2124.7	2124.7	2124.8					2123.0	2123.4	2122.9	2123.1	2123.0					2118.8	2118.6	2118.6	2118.6	2118.9					2118.5	2118.6	2119.5	2118.5	2118.5				
Bankfull Width (ft)	7.1	6.1	6.1	4.5	5.0					10.9	11.9	12.2	10.8	9.5					10.9	7.5	12.2	6.9	7.4					7.6	6.1	6.5	5.4	4.0				
Floodprone Width (ft)	20.0	20.0	20.0	20.0	20.0					60.0	60.0	60.0	60.0	60.0					40.0	40.0	40.0	40.0	40.0					10.0	10.0	10.0	10.0	10.0				
Bankfull Mean Depth (ft)	0.3	0.4	0.4	0.5	0.5					1.7	1.5	1.3	1.7	1.9					0.9	1.4	0.8	1.5	1.4					0.3	0.3	0.3	0.4	0.5				
Bankfull Max Depth (ft)	0.6	0.6	0.6	0.7	0.7					2.7	2.5	2.2	2.8	2.6					1.8	2.0	2.0	2.6	2.1					0.5	0.5	0.4	0.6	0.6				
Bankfull Cross Sectional Area (ft^2)	2.3	2.3	2.3	2.3	2.3					18.3	18.3	18.3	18.3	18.3					10.3	10.3	10.3	10.3	10.3					2.1	2.1	2.1	2.1	2.1				
Bankfull Width/Depth Ratio	21.4	16.4	15.9	8.8	10.6					6.5	7.8	9.4	6.4	4.9					11.6	5.5	14.5	4.7	5.3					27.6	18.2	19.8	14.0	7.9				
Bankfull Entrenchment Ratio	2.8	3.3	3.3	4.4	4.0					5.5	5.0	4.9	5.5	6.3					3.7	5.3	3.3	5.8	5.4					1.3	1.6	1.5	1.8	2.5				
*Bankfull Bank Height Ratio	1.0	1.1	1.1	0.9	1.2					1.0	1.1	0.9	0.9	0.8					1.0	0.8	0.8	0.9	0.9					1.0	1.4	1.3	1.0	0.9				
Low Top of Bank Depth (ft)	0.6	0.7	0.7	0.6	0.8					2.7	2.9	2.0	2.4	2.1					1.8	1.6	1.7	2.4	1.9					0.5	0.6	0.6	0.6	0.6				

	Cross Section 5 (Pool) Fletcher Creek Reach 1C									Cross Section 6 (Riffle) Fletcher Creek Reach 1C									Cross Section 7 (Riffle) Fletcher Creek Reach 2A									Cross Section 8 (Pool) Fletcher Creek Reach 2A								
Dimension	**Base**	**Pre-MY1**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**	**Base**	**Pre-MY1**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**	**Base**	**Pre-MY1**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**	**Base**	**Pre-MY1**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**
Record Elevation (datum) Used	2106.8	2106.8	2106.9	2107.1	2107.1					2106.2	2106.2	2106.3	2106.2	2106.3					2101.4	2101.3	2101.1	2101.2	2101.1					2100.9	2100.9	2100.9	2101.0	2101.0				
Low Bank Height Elevation (datum) Used	2106.8	2106.3	2106.3	2106.3	2106.7					2106.2	2106.6	2106.6	2106.4	2106.3					2101.4	2101.3	2101.0	2101.0	2101.1					2100.9	2100.3	2100.6	2100.6	2100.6				
Bankfull Width (ft)	16.6	14.0	18.7	8.5	11.2					12.0	12.9	13.0	12.8	11.0					13.1	10.6	11.7	8.5	8.0					15.3	15.0	15.7	12.5	16.3				
Floodprone Width (ft)	60.0	60.0	60.0	60.0	60.0					50.0	50.0	50.0	50.0	50.0					35.0	35.0	35.0	35.0	35.0					50.0	50.0	50.0	50.0	50.0				
Bankfull Mean Depth (ft)	1.2	1.5	1.1	2.4	1.8					0.6	0.6	0.6	0.6	0.7					0.8	1.0	0.9	1.2	1.3					1.3	1.4	1.3	1.6	1.3				
Bankfull Max Depth (ft)	3.0	3.5	3.4	3.8	3.6					1.0	1.0	1.0	1.2	1.2					1.6	1.7	1.8	1.9	1.9					2.6	2.8	2.8	2.8	2.6				
Bankfull Cross Sectional Area (ft^2)	20.3	20.3	20.3	20.3	20.3					7.5	7.5	7.5	7.5	7.5					10.4	10.4	10.4	10.4	10.4					20.5	20.5	20.5	20.5	20.5				
Bankfull Width/Depth Ratio	13.7	9.6	17.2	3.5	6.2					19.2	22.4	22.4	21.8	16.2					16.5	10.7	13.2	6.9	6.2					11.4	11.0	12.0	7.7	13.0				
Bankfull Entrenchment Ratio	3.6	4.3	3.2	7.1	5.3					4.2	3.9	3.9	3.9	4.5					2.7	3.3	3.0	4.1	4.4					3.3	3.3	3.2	4.0	3.1				
*Bankfull Bank Height Ratio	1.0	0.8	0.8	0.8	0.9					1.0	1.4	1.4	1.1	1.0					1.0	1.0	0.9	0.9	1.0					1.0	0.8	0.9	0.9	0.9				
Low Top of Bank Depth (ft)	3.0	3.0	2.8	2.9	3.2					1.2	1.4	1.4	1.4	1.2					1.6	1.8	1.7	1.8	1.8					2.6	2.2	2.4	2.4	2.3				

	Cross Section 9 (Pool) Fletcher Creek Reach 2A									Cross Section 10 (Riffle) Fletcher Creek Reach 2A									Cross Section 11 (Riffle) Fletcher Creek Reach 2B									Cross Section 12 (Pool) Fletcher Creek Reach 2B								
Dimension	**Base**	**Pre-MY1**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**	**Base**	**Pre-MY1**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**	**Base**	**Pre-MY1**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**	**Base**	**Pre-MY1**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**
Record Elevation (datum) Used	2093.5	2093.6	2093.3	2093.5	2093.7					2093.1	2092.9	2093.0	2092.9	2092.6					2079.0	2079.1	2079.3	2079.4	2079.4					2078.6	2078.7	2078.7	2078.6	2078.7				
Low Bank Height Elevation (datum) Used	2093.5	2093.6	2092.6	2093.3	2093.6					2093.1	2093.1	2093.3	2093.0	2093.0					2079.0	2079.3	2079.3	2079.5	2079.5					2078.6	2078.8	2078.7	2079.1	2078.8				
Bankfull Width (ft)	15.6	16.1	13.6	11.2	10.6					12.6	11.0	11.8	8.2	6.7					10.2	9.6	11.2	12.6	11.0					9.7	10.0	9.7	9.4	7.8				
Floodprone Width (ft)	60.0	60.0	60.0	60.0	60.0					50.0	50.0	50.0	50.0	50.0					40.0	40.0	40.0	40.0	40.0					70.0	70.0	70.0	70.0	70.0				
Bankfull Mean Depth (ft)	1.1	1.0	1.2	1.5	1.6					0.7	0.8	0.8	1.1	1.4					0.7	0.7	0.6	0.6	0.6					1.2	1.2	1.2	1.2	1.5				
Bankfull Max Depth (ft)	2.8	2.3	2.8	3.0	2.7					1.2	1.6	1.7	2.5	2.3					1.3	1.1	1.2	1.4	1.3					2.3	2.2	2.2	2.4	2.4				
Bankfull Cross Sectional Area (ft^2)	16.9	16.9	16.9	16.9	16.9					9.2	9.2	9.2	9.2	9.2					7.1	7.1	7.1	7.1	7.1					11.7	11.7	11.7	11.7	11.7				
Bankfull Width/Depth Ratio	14.4	15.4	10.9	7.4	6.6					17.4	13.2	15.0	7.3	4.9					14.6	13.0	17.7	22.4	16.9					8.1	8.5	8.1	7.6	5.2				
Bankfull Entrenchment Ratio	3.9	3.7	4.4	5.4	5.7					4.0	4.6	4.3	6.1	7.4					3.9	4.2	3.6	3.2	3.7					7.2	7.0	7.2	7.5	9.0				
*Bankfull Bank Height Ratio	1.0	1.0	0.7	0.9	0.9					1.0	1.1	1.2	1.0	1.2					1.0	1.2	1.0	1.1	1.1					1.0	1.0	1.0	1.2	1.0				
Low Top of Bank Depth (ft)	2.8	2.3	2.1	2.7	2.5					1.5	1.7	2.0	2.6	2.6					1.3	1.4	1.2	1.5	1.4					2.3	2.2	2.2	2.9	2.6				

	Cross Section 13 (Pool) Fletcher Creek Reach 2B									Cross Section 14 (Riffle) Fletcher Creek Reach 2B								
Dimension	**Base**	**Pre-MY1**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**	**Base**	**Pre-MY1**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**
Record Elevation (datum) Used	2075.5	2075.5	2075.4	2075.5	2075.4					2075.1	2075.2	2075.3	2075.4	2075.4				
Low Bank Height Elevation (datum) Used	2075.5	2075.6	2075.8	2075.6	2075.7					2075.1	2075.2	2075.4	2075.3	2075.6				
Bankfull Width (ft)	10.1	13.1	9.9	9.7	8.9					9.8	10.3	9.7	9.6	10.2				
Floodprone Width (ft)	70.0	70.0	70.0	70.0	70.0					70.0	70.0	70.0	70.0	70.0				
Bankfull Mean Depth (ft)	1.6	1.2	1.7	1.7	1.8					0.8	0.7	0.8	0.8	0.7				
Bankfull Max Depth (ft)	2.4	2.6	2.8	2.6	2.5					1.2	1.1	1.2	1.3	1.4				
Bankfull Cross Sectional Area (ft^2)	16.4	16.4	16.4	16.4	16.4					7.6	7.6	7.6	7.6	7.6				
Bankfull Width/Depth Ratio	6.2	10.5	6.0	5.7	4.8					12.6	14.0	12.3	12.2	13.8				
Bankfull Entrenchment Ratio	6.9	5.3	7.1	7.2	7.9					7.2	6.8	7.2	7.3	6.8				
*Bankfull Bank Height Ratio	1.0	1.0	1.1	1.1	1.1					1.0	1.1	1.1	1.0	1.1				
Low Top of Bank Depth (ft)	2.4	2.7	3.2	2.8	2.8					1.2	1.1	1.4	1.3	1.6				

*Bank Height Ratio is calculated based on the As-built (MY0) cross-sectional area as described in the Standard Measurement of the BHR Monitoring Parameter document produced by the technical industry work group consisting of the NCIRT, NCDMS, and Industry Practitioners in NC (9/2018). The remainder of the bankfull dimensions are calculated based on the current year's low bank height.

+ Data not collected due to adaptive management on Weston Reach 1A and 1B

Table 11a Cont'd. Monitoring Data - Dimensional Morphology Summary (Dimensional Parameters – Cross Sections)
Fletcher Mitigation Site

	Cross Section 15 (Riffle) Weston Creek 1A									Cross Section 16 (Pool) Weston Creek 1A								Cross Section 17 (Pool) Weston Creek 1A								Cross Section 18 (Riffle) Weston Creek 1A							
Dimension	**Base**	**+Pre-MY1**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**	**Base**	**+Pre-MY1**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**	**Base**	**+Pre-MY1**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**	**Base**	**+Pre-MY1**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**
Record Elevation (datum) Used	2082.5	-	2082.6	2082.6	2082.7					2082.3	-	2082.5	2082.8	2082.8					2076.2	-	2076.4	2076.4	2076.6					2076.3	-	2076.3	2076.5	2076.5				
Low Bank Height Elevation (datum) Used	2082.5	-	2082.8	2082.6	2082.6					2082.3	-	2082.4	2082.4	2082.6					2076.2	-	2076.3	2076.2	2076.3					2076.3	-	2076.2	2076.4	2076.4				
Bankfull Width (ft)	9.1	-	10.8	9.0	5.2					9.7	-	9.3	9.4	10.1					9.8	-	8.2	8.3	6.6					10.4	-	23.5	10.4	8.3				
Floodprone Width (ft)	50.0	-	50.0	50.0	50.0					50.0	-	50.0	50.0	50.0					50.0	-	50.0	50.0	50.0					50.0	-	50.0	50.0	50.0				
Bankfull Mean Depth (ft)	0.6	-	0.5	0.6	1.0					1.1	-	1.1	1.1	1.0					1.0	-	1.1	1.1	1.4					0.6	-	0.3	0.6	0.8				
Bankfull Max Depth (ft)	1.1	-	1.2	1.2	1.4					2.0	-	1.8	1.8	1.6					1.7	-	1.9	1.8	2.1					0.9	-	0.9	1.1	1.2				
Bankfull Cross Sectional Area (ft^2)	5.4	-	5.4	5.4	5.4					10.4	-	10.4	10.4	10.4					9.4	-	9.4	9.4	9.4					6.2	-	6.2	6.2	6.2				
Bankfull Width/Depth Ratio	15.5	-	21.7	15.0	5.1					9.1	-	8.3	8.5	9.9					10.1	-	7.2	7.4	4.6					17.4	-	89.4	17.6	11.0				
Bankfull Entrenchment Ratio	5.5	-	4.6	5.5	9.6					5.1	-	5.4	5.3	4.9					5.1	-	6.1	6.0	7.6					4.8	-	2.1	4.8	6.0				
*Bankfull Bank Height Ratio	1.0	-	1.2	1.0	0.9					1.0	-	0.9	0.8	0.9					1.0	-	0.9	0.9	0.8					1.0	-	1.0	1.0	0.9				
Low Top of Bank Depth (ft)	1.1	-	1.4	1.2	1.2					2.0	-	1,7	1.4	1.4					1.7	-	1.8	1.6	1.7					0.9	-	0.9	1.0	1.0				

	Cross Section 19 (Riffle) Weston Creek 1B									Cross Section 20 (Pool) Weston Creek 1B								Cross Section 21 (Pool) Raccoon Branch 1D								Cross Section 22 (Riffle) Raccoon Branch 1D							
Dimension	**Base**	**+Pre-MY1**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**	**Base**	**+Pre-MY1**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**	**Base**	**Pre-MY1**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**	**Base**	**Pre-MY1**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**
Record Elevation (datum) Used	2074.9	-	2075.0	2075.0	2075.2					2074.8	-	2074.9	2075.0	2075.1					2131.4	2131.5	2131.5	2131.6	2131.7					2131.4	2131.4	2131.4	2131.7	2131.7				
Low Bank Height Elevation (datum) Used	2074.9	-	2075.3	2075.1	2075.1					2074.8	-	2074.8	2074.9	2075.0					2131.4	2131.2	2131.1	2131.3	2131.4					2131.4	2131.0	2131.3	2131.3	2131.4				
Bankfull Width (ft)	9.7	-	9.4	9.8	7.7					8.3	-	13.4	10.8	7.7					5.6	6.1	6.1	3.6	3.5					6.9	7.8	6.9	5.7	4.6				
Floodprone Width (ft)	40.0	-	40.0	40.0	40.0					60.0	-	60.0	60.0	60.0					20.0	20.0	20.0	20.0	20.0					20.0	20.0	20.0	20.0	20.0				
Bankfull Mean Depth (ft)	0.5	-	0.5	0.5	0.6					1.5	-	0.9	1.2	1.6					0.5	0.4	0.4	0.7	0.8					0.5	0.4	0.5	0.6	0.7				
Bankfull Max Depth (ft)	0.7	-	0.8	0.8	1.0					2.5	-	2.5	2.5	2.6					1.2	1.2	1.1	1.0	1.2					1.3	0.9	0.9	1.0	1.1				
Bankfull Cross Sectional Area (ft^2)	4.7	-	4.7	4.7	4.7					12.7	-	12.7	12.7	12.7					2.7	2.7	2.7	2.7	2.7					3.4	3.4	3.4	3.4	3.4				
Bankfull Width/Depth Ratio	20.4	-	19.0	20.4	12.8					5.4	-	14.2	9.2	4.7					11.6	13.7	13.8	4.9	4.5					13.8	18.1	14.2	9.5	6.2				
Bankfull Entrenchment Ratio	4.1	-	4.2	4.1	5.2					7.2	-	0.0	5.5	7.8					3.6	3.3	3.3	5.6	5.7					2.9	2.6	2.9	3.5	4.4				
*Bankfull Bank Height Ratio	1.0	-	1.3	1.1	0.9					1.0	-	1.0	1.0	0.9					1.0	0.7	0.6	0.7	0.8					1.0	0.6	0.8	0.7	0.7				
Low Top of Bank Depth (ft)	0.7	-	1.0	0.9	0.9					2.5	-	2.4	2.4	2.5					1.2	0.8	0.7	0.7	1.0					1.3	0.5	0.7	0.7	0.8				

	Cross Section 23 (Riffle) Coates Branch 1B									Cross Section 24 (Pool) Coates Branch 1B								Cross Section 25 (Pool) Coates Branch 1C								Cross Section 26 (Riffle) Coates Branch 1C							
Dimension	**Base**	**Pre-MY1**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**	**Base**	**Pre-MY1**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**	**Base**	**Pre-MY1**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**	**Base**	**Pre-MY1**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**
Record Elevation (datum) Used	2121.0	2121.1	2121.1	2121.1	2121.4					2121.1	2121.1	2121.2	2121.2	2121.2					2108.0	2108.1	2108.1	2108.2	2108.2					2107.9	2107.9	2108.0	2108.2	2108.1				
Low Bank Height Elevation (datum) Used	2121.0	2121.2	2121.2	2121.0	2121.1					2121.1	2121.0	2121.0	2121.0	2121.0					2108.0	2108.1	2107.9	2108.2	2108.2					2107.9	2107.9	2107.9	2108.1	2108.1				
Bankfull Width (ft)	5.2	4.9	3.4	3.5	2.3					7.4	8.6	7.9	5.7	7.5					5.3	5.6	6.2	4.8	4.4					5.4	5.5	5.8	5.8	4.2				
Floodprone Width (ft)	15.0	15.0	15.0	15.0	15.0					40.0	40.0	40.0	40.0	40.0					20.0	20.0	20.0	20.0	20.0					20.0	20.0	20.0	20.0	20.0				
Bankfull Mean Depth (ft)	0.3	0.3	0.5	0.5	0.7					0.7	0.6	0.6	0.9	0.7					0.5	0.5	0.4	0.6	0.6					0.4	0.4	0.4	0.4	0.5				
Bankfull Max Depth (ft)	0.7	0.5	1.0	0.8	0.8					1.5	1.3	1.4	1.4	1.5					0.9	0.9	0.9	0.8	0.9					0.8	0.6	0.6	0.5	0.8				
Bankfull Cross Sectional Area (ft^2)	1.6	1.6	1.6	1.6	1.6					5.1	5.1	5.1	5.1	5.1					2.7	2.7	2.7	2.7	2.7					2.2	2.2	2.2	2.2	2.2				
Bankfull Width/Depth Ratio	16.5	15.1	7.5	7.6	3.4					10.7	14.5	12.3	6.4	10.9					10.5	11.3	14.5	8.8	7.0					13.5	14.0	15.4	15.5	8.1				
Bankfull Entrenchment Ratio	2.9	3.1	4.4	4.3	6.4					5.4	4.6	5.0	7.0	5.3					3.8	3.6	3.2	4.1	4.5					3.7	3.6	3.4	3.4	4.7				
*Bankfull Bank Height Ratio	1.0	1.1	1.1	0.9	0.6					1.0	0.9	0.9	0.9	0.9					1.0	1.0	0.8	1.0	1.1					1.0	1.0	0.8	0.9	0.9				
Low Top of Bank Depth (ft)	0.7	0.6	1.1	0.7	0.5					1.5	1.2	1.2	1.3	1.3					0.9	0.9	0.8	0.8	0.9					0.8	0.6	0.5	0.5	0.8				

	Cross Section 27 (Pool) Coates Branch 1D									Cross Section 28 (Riffle) Coates Branch 1D								
Dimension	**Base**	**Pre-MY1**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**	**Base**	**Pre-MY1**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**
Record Elevation (datum) Used	2105.7	2105.7	2105.7	2105.7	2105.9					2105.6	2105.6	2105.7	2105.7	2105.8				
Low Bank Height Elevation (datum) Used	2105.7	2105.7	2105.5	2105.8	2106.0					2105.6	2105.6	2105.5	2105.6	2105.7				
Bankfull Width (ft)	5.9	6.9	6.4	5.6	6.7					6.1	7.4	7.5	4.7	4.0				
Floodprone Width (ft)	25.0	25.0	25.0	25.0	25.0					25.0	25.0	25.0	25.0	25.0				
Bankfull Mean Depth (ft)	0.6	0.5	0.6	0.7	0.6					0.5	0.4	0.4	0.7	0.8				
Bankfull Max Depth (ft)	1.2	1.3	1.1	1.2	1.2					1.0	0.9	0.9	1.0	1.1				
Bankfull Cross Sectional Area (ft^2)	3.7	3.7	3.7	3.7	3.7					3.3	3.3	3.3	3.3	3.3				
Bankfull Width/Depth Ratio	9.2	13.2	11.1	8.4	12.2					11.4	16.5	17.2	6.9	4.9				
Bankfull Entrenchment Ratio	4.3	3.6	3.9	4.5	3.7					4.1	3.4	3.3	5.3	6.2				
*Bankfull Bank Height Ratio	1.0	1.0	0.8	1.0	1.0					1.0	1.0	0.9	0.9	0.9				
Low Top of Bank Depth (ft)	1.2	1.3	1.0	1.2	1.3					1.0	0.9	0.8	0.9	0.9				

*Bank Height Ratio is calculated based on the As-built (MY0) cross-sectional area as described in the Standard Measurement of the BHR Monitoring Parameter document produced by the technical industry work group consisting of the NCIRT, NCDMS, and Industry Practitioners in NC (9/2018). The remainder of the bankfull dimensions are calculated based on the current year's low bank height.

+ Data not collected due to adaptive management on Weston Reach 1A and 1B

Table 11b. Monitoring Data - Stream Reach Data Summary
Fletcher Mitigation Site - Fletcher Creek Reach 1B (380 feet *)

Parameter	Baseline						Pre-MY - 1						MY - 1						MY - 2						MY - 3						MY - 4						MY -5						MY - 6					
Dimension & Substrate - Riffle	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**
Bankfull Width (ft)	-	7.1	-	-	-	1	-	6.1	-	-	-	1	-	6.1	-	-	-	1	-	4.5	-	-	-	1	-	5.0	-	-	-	1																		
Floodprone Width (ft)	-	20.0	-	-	-	1	-	20.0	-	-	-	1	-	20.0	-	-	-	1	-	20.0	-	-	-	1	-	20.0	-	-	-	1																		
Bankfull Mean Depth (ft)	-	0.3	-	-	-	1	-	0.4	-	-	-	1	-	0.4	-	-	-	1	-	0.5	-	-	-	1	-	0.5	-	-	-	1																		
Bankfull Max Depth (ft)	-	0.6	-	-	-	1	-	0.6	-	-	-	1	-	0.6	-	-	-	1	-	0.7	-	-	-	1	-	0.7	-	-	-	1																		
Bankfull Cross-Sectional Area (ft²)	-	2.3	-	-	-	1	-	2.3	-	-	-	1	-	2.3	-	-	-	1	-	2.3	-	-	-	1	-	2.3	-	-	-	1																		
Width/Depth Ratio	-	21.4	-	-	-	1	-	16.4	-	-	-	1	-	15.9	-	-	-	1	-	8.8	-	-	-	1	-	10.6	-	-	-	1																		
Entrenchment Ratio	-	2.8	-	-	-	1	-	3.3	-	-	-	1	-	3.3	-	-	-	1	-	4.4	-	-	-	1	-	4.0	-	-	-	1																		
Bank Height Ratio	-	1.0	-	-	-	1	-	1.0	-	-	-	1	-	1.1	-	-	-	1	-	0.9	-	-	-	1	-	1.2	-	-	-	1																		
Profile																																															
Riffle Length (ft)	4.8	8.5	8.0	13.1	2.5	13																																									
Riffle Slope (ft/ft)	0.002	0.018	0.014	0.044	0.013	13																																									
Pool Length (ft)	5.1	9.6	9.7	14.4	2.8	12																																									
Pool Max Depth (ft)	1.2	2.0	1.9	2.9	0.5	12																																									
Pool Spacing (ft)	14.6	27.9	29.4	40.5	8.0	11																																									
Pattern																																															
Channel Belt Width (ft)	17.7	18.2	17.8	19.0	0.7	3																																									
Radius of Curvature (ft)	17.0	22.7	25.0	26.0	4.9	3																																									
Rc: Bankfull Width (ft/ft)	2.0	2.6	2.9	3.0	0.6	3																																									
Meander Wavelength (ft)	17.7	18.2	17.8	19.1	0.8	3																																									
Meander Width Ratio	2.0	2.1	2.0	2.2	0.1	3																																									
Additional Reach Parameters																																															
Rosgen Classification	B4																																														
*Channel Thalweg Length (ft)	380																																														
Sinuosity (ft)	1.12																																														
Water Surface Slope (Channel) (ft/ft)	0.015																																														
Bankfull Slope (ft/ft)	0.016																																														
Ri% / Ru% / P% / G% / S%	30%	26%	32%	12%	0%																																									

* Channel Thalweg Length (ft): Based on actual thalweg calculations from the as-built survey, accounts for breaks in conservation easement and utility right-of-ways.

- Information Unavailable

N/A - Information does not apply.

Ri = Riffle / Ru = Run / P = Pool / G = Glide / S = Step

Table 11b Cont'd. Monitoring Data - Stream Reach Data Summary
Fletcher Mitigation Site - Fletcher Creek Reach 1C (1,541 feet *)

Parameter	Baseline						Pre-MY - 1						MY - 1						MY - 2						MY - 3						MY - 4						MY - 5						MY - 6					
Dimension & Substrate - Riffle	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**
Bankfull Width (ft)	7.6	9.8	9.8	12.0	3.1	2	6.1	9.5	9.5	12.9	4.8	2	6.5	9.7	9.7	13.0	4.6	2	5.4	9.1	9.1	12.8	5.2	2	4.0	7.5	7.5	11.0	4.9	2																		
Floodprone Width (ft)	10.0	30.0	30.0	50.0	28.3	2	10.0	30.0	30.0	50.0	28.3	2	10.0	30.0	30.0	50.0	28.3	2	10.0	30.0	30.0	50.0	28.3	2	10.0	30.0	30.0	50.0	28.3	2																		
Bankfull Mean Depth (ft)	0.3	0.5	0.5	0.6	0.2	2	0.3	0.5	0.5	0.6	0.2	2	0.3	0.5	0.5	0.6	0.2	2	0.4	0.5	0.5	0.6	0.1	2	0.5	0.6	0.6	0.7	0.1	2																		
Bankfull Max Depth (ft)	0.5	0.8	0.8	1.0	0.4	2	0.5	0.7	0.7	1.0	0.4	2	0.4	0.7	0.7	1.0	0.4	2	0.6	0.9	0.9	1.2	0.4	2	0.6	0.9	0.9	1.2	0.4	2																		
Bankfull Cross-Sectional Area (ft²)	2.1	4.8	4.8	7.5	3.8	2	2.1	4.8	4.8	7.5	3.8	2	2.1	4.8	4.8	7.5	3.8	2	2.1	4.8	4.8	7.5	3.8	2	2.1	4.8	4.8	7.5	3.8	2																		
Width/Depth Ratio	19.2	23.4	23.4	27.6	6.0	2	18.2	20.3	20.3	22.4	3.0	2	19.8	21.1	21.1	22.4	1.9	2	14.0	17.9	17.9	21.8	5.5	2	7.9	12.1	12.1	16.2	5.9	2																		
Entrenchment Ratio	1.3	2.7	2.7	4.2	2.0	2	1.6	2.7	2.7	3.9	1.6	2	1.5	2.7	2.7	3.9	1.6	2	1.8	2.9	2.9	3.9	1.5	2	2.5	3.5	3.5	4.5	1.5	2																		
Bank Height Ratio	1.0	1.0	1.0	1.0	0.0	2	1.4	1.4	1.4	1.4	0.0	2	1.3	1.3	1.3	1.4	0.0	2	1.0	1.1	1.1	1.1	0.1	2	0.9	1.0	1.0	1.0	0.1	2																		
Profile																																															
Riffle Length (ft)	3.4	10.9	11.1	21.1	4.9	44																																									
Riffle Slope (ft/ft)	0.000	0.009	0.007	0.029	0.008	44																																									
Pool Length (ft)	6.3	13.1	12.8	29.0	4.6	44																																									
Pool Max Depth (ft)	1.5	2.8	2.8	4.0	0.6	44																																									
Pool Spacing (ft)	13.5	35.0	34.4	96.1	13.5	43																																									
Pattern																																															
Channel Belt Width (ft)	18.7	20.2	19.7	22.3	1.9	3																																									
Radius of Curvature (ft)	17.2	21.0	20.6	25.3	4.1	3																																									
Rc: Bankfull Width (ft/ft)	1.8	2.2	2.2	2.7	0.5	3																																									
Meander Wavelength (ft)	18.7	20.2	19.7	22.3	1.9	3																																									
Meander Width Ratio	2.0	2.1	2.1	2.4	0.2	3																																									
Additional Reach Parameters																																															
Rosgen Classification	B4																																														
*Channel Thalweg Length (ft)	1,541																																														
Sinuosity (ft)	1.10																																														
Water Surface Slope (Channel) (ft/ft)	0.012																																														
Bankfull Slope (ft/ft)	0.012																																														
Ri% / Ru% / P% / G% / S%	32%	19%	38%	11%	0%																																									

* Channel Thalweg Length (ft): Based on actual thalweg calculations from the as-built survey, accounts for breaks in conservation easement and utility right-of-ways.

- Information Unavailable

N/A - Information does not apply.

Ri = Riffle / Ru = Run / P = Pool / G = Glide / S = Step

Table 11b Cont'd. Monitoring Data - Stream Reach Data Summary
Fletcher Mitigation Site - Fletcher Creek Reach 2A (1,299 feet *)

Parameter	Baseline						Pre-MY - 1						MY - 1						MY - 2						MY - 3						MY -4						MY - 5						MY - 6					
Dimension & Substrate - Riffle	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**
Bankfull Width (ft)	13.1	14.3	14.3	15.5	1.7	2	10.6	13.4	13.4	16.1	4.0	2	11.7	12.6	12.6	13.6	1.3	2	8.2	8.3	8.3	8.5	0.2	2	6.7	7.4	7.4	8.0	0.9	2																		
Floodprone Width (ft)	35.0	47.5	47.5	60.0	17.7	2	35.0	47.5	47.5	60.0	17.7	2	35.0	47.5	47.5	60.0	17.7	2	35.0	42.5	42.5	50.0	10.6	2	35.0	42.5	42.5	50.0	10.6	2																		
Bankfull Mean Depth (ft)	0.8	0.9	0.9	1.1	0.2	2	1.0	1.0	1.0	1.0	0.0	2	0.9	1.1	1.1	1.2	0.3	2	1.1	1.2	1.2	1.2	0.1	2	1.3	1.3	1.3	1.4	0.1	2																		
Bankfull Max Depth (ft)	1.6	2.2	2.2	2.8	0.8	2	1.7	2.0	2.0	2.3	0.4	2	1.8	2.3	2.3	2.8	0.7	2	1.9	2.2	2.2	2.5	0.4	2	1.9	2.1	2.1	2.3	0.3	2																		
Bankfull Cross-Sectional Area (ft²)	10.4	13.6	13.6	16.9	4.6	2	10.4	13.7	13.7	16.9	4.6	2	10.4	13.6	13.6	16.9	4.6	2	9.2	9.8	9.8	10.4	0.9	2	9.2	9.8	9.8	10.4	0.8	2																		
Width/Depth Ratio	14.2	15.3	15.3	16.5	1.7	2	10.7	13.0	13.0	15.4	3.3	2	10.9	12.0	12.0	13.2	1.6	2	6.9	7.1	7.1	7.3	0.3	2	4.9	5.5	5.5	6.2	0.9	2																		
Entrenchment Ratio	2.7	3.3	3.3	3.9	0.9	2	3.3	3.5	3.5	3.7	0.3	2	3.0	3.7	3.7	4.4	1.0	2	4.1	5.1	5.1	6.1	1.4	2	4.4	5.9	5.9	7.4	2.2	2																		
Bank Height Ratio	1.0	1.0	1.0	1.0	0.0	2	1.0	1.0	1.0	1.0	0.0	2	0.7	0.8	0.8	0.9	0.1	2	0.9	1.0	1.0	1.0	0.1	2	1.0	1.1	1.1	1.2	0.1	2																		
Profile																																															
Riffle Length (ft)	5.3	16.0	14.6	32.2	6.7	35																																									
Riffle Slope (ft/ft)	0.001	0.010	0.008	0.028	0.007	35																																									
Pool Length (ft)	5.6	10.8	10.2	25.3	4.2	34																																									
Pool Max Depth (ft)	1.2	2.5	2.6	3.7	0.7	34																																									
Pool Spacing (ft)	9.4	36.8	37.5	52.2	9.4	33																																									
Pattern																																															
Channel Belt Width (ft)	23.8	24.5	24.1	25.5	0.9	3																																									
Radius of Curvature (ft)	16.8	22.1	19.8	29.6	6.7	3																																									
Rc: Bankfull Width (ft/ft)	1.6	2.1	1.9	2.8	0.6	3																																									
Meander Wavelength (ft)	23.8	24.5	24.1	25.5	0.9	3																																									
Meander Width Ratio	2.3	2.4	2.3	2.5	0.1	3																																									
Additional Reach Parameters																																															
Rosgen Classification	B4																																														
*Channel Thalweg Length (ft)	1,299																																														
Sinuosity (ft)	1.15																																														
Water Surface Slope (Channel) (ft/ft)	0.011																																														
Bankfull Slope (ft/ft)	0.012																																														
Ri% / Ru% / P% / G% / S%	44%	15%	29%	12%	0%																																									

* Channel Thalweg Length (ft): Based on actual thalweg calculations from the as-built survey, accounts for breaks in conservation easement and utility right-of-ways.
- Information Unavailable
N/A - Information does not apply.
Ri = Riffle / Ru = Run / P = Pool / G = Glide / S = Step

Table 11b Cont'd. Monitoring Data - Stream Reach Data Summary
Fletcher Mitigation Site - Fletcher Creek Reach 2B (1,510 feet *)

Parameter	Baseline						Pre-MY - 1						MY - 1						MY - 2						MY - 3						MY - 4						MY - 5						MY - 6					
Dimension & Substrate - Riffle	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**
Bankfull Width (ft)	9.8	10.0	10.0	10.2	0.3	2	9.6	9.9	9.9	10.3	0.5	2	9.7	10.4	10.4	11.2	1.1	2	9.6	11.1	11.1	12.6	2.11	2	10.2	10.6	10.6	11.0	0.5	2																		
Floodprone Width (ft)	40.0	55.0	55.0	70.0	21.2	2	40.0	55.0	55.0	70.0	21.2	2	40.0	55.0	55.0	70.0	21.2	2	40.0	55.0	55.0	70.0	21.21	2	40.0	55.0	55.0	70.0	21.2	2																		
Bankfull Mean Depth (ft)	0.7	0.7	0.7	0.8	0.1	2	0.7	0.7	0.7	0.7	0.0	2	0.6	0.7	0.7	0.8	0.1	2	0.6	0.7	0.7	0.8	0.16	2	0.6	0.7	0.7	0.7	0.1	2																		
Bankfull Max Depth (ft)	1.2	1.3	1.3	1.3	0.1	2	1.1	1.1	1.1	1.1	0.1	2	1.2	1.2	1.2	1.2	0.0	2	1.3	1.4	1.4	1.4	0.09	2	1.3	1.3	1.3	1.4	0.0	2																		
Bankfull Cross-Sectional Area (ft²)	7.1	7.4	7.4	7.6	0.3	2	7.1	7.3	7.3	7.6	0.3	2	7.1	7.3	7.3	7.6	0.4	2	7.1	7.3	7.3	7.6	0.35	2	7.1	7.4	7.4	7.6	0.3	2																		
Width/Depth Ratio	12.6	13.6	13.6	14.6	1.4	2	13.0	13.5	13.5	14.0	0.7	2	12.3	15.0	15.0	17.7	3.8	2	12.2	17.3	17.3	22.4	7.22	2	13.8	15.3	15.3	16.9	2.2	2																		
Entrenchment Ratio	3.9	5.5	5.5	7.2	2.3	2	4.2	5.5	5.5	6.8	1.9	2	3.6	5.4	5.4	7.2	2.6	2	3.2	5.2	5.2	7.3	2.92	2	3.7	5.2	5.2	6.8	2.3	2																		
Bank Height Ratio	1.0	1.0	1.0	1.0	0.0	2	1.1	1.1	1.1	1.1	0.0	2	1.0	1.1	1.1	1.1	0.1	2	1.0	1.0	1.0	1.1	0.08	2	1.1	1.1	1.1	1.1	0.0	2																		
Profile																																															
Riffle Length (ft)	5.3	16.0	14.6	32.2	6.7	35																																									
Riffle Slope (ft/ft)	0.001	0.010	0.008	0.028	0.007	35																																									
Pool Length (ft)	5.6	10.8	10.2	25.3	4.2	34																																									
Pool Max Depth (ft)	1.2	2.5	2.6	3.7	0.7	34																																									
Pool Spacing (ft)	9.4	36.8	37.5	52.2	9.4	33																																									
Pattern																																															
Channel Belt Width (ft)	18.0	19.9	19.2	22.6	2.4	3																																									
Radius of Curvature (ft)	23.5	25.3	24.8	27.5	2.0	3																																									
Rc: Bankfull Width (ft/ft)	2.2	2.4	2.3	2.6	0.2	3																																									
Meander Wavelength (ft)	17.9	19.9	19.2	22.6	2.4	3																																									
Meander Width Ratio	1.7	1.9	1.8	2.1	0.2	3																																									
Additional Reach Parameters																																															
Rosgen Classification	B5																																														
*Channel Thalweg Length (ft)	1,510																																														
Sinuosity (ft)	1.10																																														
Water Surface Slope (Channel) (ft/ft)	0.011																																														
Bankfull Slope (ft/ft)	0.012																																														
Ri% / Ru% / P% / G% / S%	44%	15%	29%	12%	0%																																									

* Channel Thalweg Length (ft): Based on actual thalweg calculations from the as-built survey, accounts for breaks in conservation easement and utility right-of-ways.
- Information Unavailable
N/A - Information does not apply.
Ri = Riffle / Ru = Run / P = Pool / G = Glide / S = Step

Table 11b Cont'd. Monitoring Data - Stream Reach Data Summary
Fletcher Mitigation Site - Weston Creek Reach 1A (1,982 feet *)

Parameter	Baseline						+Pre-MY - 1						MY - 1						MY - 2						MY - 3						MY - 4						MY - 5						MY - 6					
Dimension & Substrate - Riffle	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**
Bankfull Width (ft)	9.1	9.8	9.8	10.4	0.9	2	-	-	-	-	-	-	10.2	16.8	16.8	23.5	9.4	2	9.0	9.7	9.7	10.4	0.97	2	5.2	6.8	6.8	8.3	2.2	2																		
Floodprone Width (ft)	50.0	50.0	50.0	50.0	0.0	2	-	-	-	-	-	-	50.0	50.0	50.0	50.0	0.0	2	50.0	50.0	50.0	50.0	0.00	2	50.0	50.0	50.0	50.0	0.0	2																		
Bankfull Mean Depth (ft)	0.6	0.6	0.6	0.6	0.0	2	-	-	-	-	-	-	0.3	0.4	0.4	0.5	0.2	2	0.6	0.6	0.6	0.6	0.01	2	0.8	0.9	0.9	1.0	0.2	2																		
Bankfull Max Depth (ft)	0.9	1.0	1.0	1.1	0.1	2	-	-	-	-	-	-	0.9	1.1	1.1	1.2	0.2	2	1.1	1.1	1.1	1.2	0.10	2	1.2	1.3	1.3	1.4	0.2	2																		
Bankfull Cross-Sectional Area (ft^2)	5.4	5.8	5.8	6.2	0.6	2	-	-	-	-	-	-	5.4	5.8	5.8	6.2	0.6	2	5.4	5.8	5.8	6.2	0.51	2	5.4	5.8	5.8	6.2	0.6	2																		
Width/Depth Ratio	15.5	16.4	16.4	17.4	1.3	2	-	-	-	-	-	-	21.7	55.5	55.5	89.4	47.9	2	15.0	16.3	16.3	17.6	1.83	2	21.7	8.1	8.1	11.0	4.2	2																		
Entrenchment Ratio	4.8	5.1	5.1	5.5	0.5	2	-	-	-	-	-	-	2.1	3.5	3.5	4.9	2.0	2	4.8	5.2	5.2	5.5	0.52	2	6.0	7.8	7.8	9.6	2.5	2																		
Bank Height Ratio	1.0	1.0	1.0	1.0	0.0	2	-	-	-	-	-	-	1.0	1.1	1.1	1.2	0.2	2	1.0	1.0	1.0	1.0	0.05	2	0.9	0.9	0.9	0.9	0.0	2																		
Profile																																															
Riffle Length (ft)	4.3	13.3	11.9	38.6	7.8	55																																									
Riffle Slope (ft/ft)	0.000	0.004	0.002	0.017	0.004	55																																									
Pool Length (ft)	5.7	13.1	12.8	26.1	4.3	54																																									
Pool Max Depth (ft)	1.1	1.7	1.7	2.6	0.4	54																																									
Pool Spacing (ft)	8.9	35.7	34.4	72.9	12.0	53																																									
Pattern																																															
Channel Belt Width (ft)	24.8	27.0	27.2	29.0	2.1	3																																									
Radius of Curvature (ft)	11.0	14.3	14.6	17.4	3.2	3																																									
Rc: Bankfull Width (ft/ft)	1.3	1.7	1.7	2.0	0.4	3																																									
Meander Wavelength (ft)	24.5	26.9	27.2	29.0	2.3	3																																									
Meander Width Ratio	2.9	3.1	3.2	3.4	0.2	3																																									
Additional Reach Parameters																																															
Rosgen Classification	C5																																														
*Channel Thalweg Length (ft)	1,982																																														
Sinuosity (ft)	1.24																																														
Water Surface Slope (Channel) (ft/ft)	0.005																																														
Bankfull Slope (ft/ft)	0.005																																														
Ri% / Ru% / P% / G% / S%	38%	15%	36%	11%	0%																																									

* Channel Thalweg Length (ft): Based on actual thalweg calculations from the as-built survey, accounts for breaks in conservation easement and utility right-of-ways.
- Information Unavailable
+ Data not collected due to adaptive management on Weston Reach 1A and 1B
N/A - Information does not apply.
Ri = Riffle / Ru = Run / P = Pool / G = Glide / S = Step

Table 11b Cont'd. Monitoring Data - Stream Reach Data Summary
Fletcher Mitigation Site - Weston Creek Reach 1B (825 feet *)

Parameter	Baseline						+Pre-MY - 1						MY - 1						MY - 2						MY - 3						MY - 4						MY - 5						MY - 6					
Dimension & Substrate - Riffle	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**
Bankfull Width (ft)	-	9.7	-	-	-	1	-	-	-	-	-	-	-	9.4	-	-	-	1	-	9.8	-	-	-	1	-	7.7	-	-	-	1																		
Floodprone Width (ft)	-	40.0	-	-	-	1	-	-	-	-	-	-	-	40.0	-	-	-	1	-	40.0	-	-	-	1	-	40.0	-	-	-	1																		
Bankfull Mean Depth (ft)	-	0.5	-	-	-	1	-	-	-	-	-	-	-	0.5	-	-	-	1	-	0.5	-	-	-	1	-	0.6	-	-	-	1																		
Bankfull Max Depth (ft)	-	0.7	-	-	-	1	-	-	-	-	-	-	-	0.8	-	-	-	1	-	0.8	-	-	-	1	-	1.0	-	-	-	1																		
Bankfull Cross-Sectional Area (ft^2)	-	4.7	-	-	-	1	-	-	-	-	-	-	-	4.7	-	-	-	1	-	4.7	-	-	-	1	-	4.7	-	-	-	1																		
Width/Depth Ratio	-	20.4	-	-	-	1	-	-	-	-	-	-	-	19.0	-	-	-	1	-	20.4	-	-	-	1	-	12.8	-	-	-	1																		
Entrenchment Ratio	-	4.1	-	-	-	1	-	-	-	-	-	-	-	4.2	-	-	-	1	-	4.1	-	-	-	1	-	5.2	-	-	-	1																		
Bank Height Ratio	-	1.0	-	-	-	1	-	-	-	-	-	-	-	1.3	-	-	-	1	-	1.1	-	-	-	1	-	0.9	-	-	-	1																		
Profile																																															
Riffle Length (ft)	4.5	12.3	12.1	29.1	5.9	21																																									
Riffle Slope (ft/ft)	0.000	0.007	0.002	0.031	0.008	21																																									
Pool Length (ft)	5.6	14.8	14.0	26.8	6.9	21																																									
Pool Max Depth (ft)	1.4	2.0	2.0	2.7	0.3	21																																									
Pool Spacing (ft)	19.7	35.2	34.8	68.4	12.1	20																																									
Pattern																																															
Channel Belt Width (ft)	27.3	28.4	28.1	29.9	1.3	3																																									
Radius of Curvature (ft)	15.8	19.5	18.2	24.5	4.5	3																																									
Rc: Bankfull Width (ft/ft)	1.7	2.1	1.9	2.6	0.5	3																																									
Meander Wavelength (ft)	27.3	28.4	28.1	29.9	1.3	3																																									
Meander Width Ratio	2.9	3.0	3.0	3.2	0.1	3																																									
Additional Reach Parameters																																															
Rosgen Classification	C5																																														
*Channel Thalweg Length (ft)	825																																														
Sinuosity (ft)	1.17																																														
Water Surface Slope (Channel) (ft/ft)	0.0024																																														
Bankfull Slope (ft/ft)	0.0026																																														
Ri% / Ru% / P% / G% / S%	35%	9%	42%	14%	0%																																									

* Channel Thalweg Length (ft): Based on actual thalweg calculations from the as-built survey, accounts for breaks in conservation easement and utility right-of-ways.
- Information Unavailable
+ Data not collected due to adaptive management on Weston Reach 1A and 1B
N/A - Information does not apply.
Ri = Riffle / Ru = Run / P = Pool / G = Glide / S = Step

Table 11b Cont'd. Monitoring Data - Stream Reach Data Summary
Fletcher Mitigation Site - Raccoon Branch Reach 1D (440 feet *)

Parameter	Baseline						Pre-MY - 1						MY - 1						MY - 2						MY - 3						MY - 4						MY - 5						MY - 6					
Dimension & Substrate - Riffle	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**
Bankfull Width (ft)	-	6.9	-	-	-	1	-	7.8	-	-	-	1	-	6.9	-	-	-	1	-	5.7	-	-	-	1	-	4.6	-	-	-	1																		
Floodprone Width (ft)	-	20.0	-	-	-	1	-	20.0	-	-	-	1	-	20.0	-	-	-	1	-	20.0	-	-	-	1	-	20.0	-	-	-	1																		
Bankfull Mean Depth (ft)	-	0.5	-	-	-	1	-	0.4	-	-	-	1	-	0.5	-	-	-	1	-	0.6	-	-	-	1	-	0.7	-	-	-	1																		
Bankfull Max Depth (ft)	-	1.3	-	-	-	1	-	0.9	-	-	-	1	-	0.9	-	-	-	1	-	1.0	-	-	-	1	-	1.1	-	-	-	1																		
Bankfull Cross-Sectional Area (ft²)	-	3.4	-	-	-	1	-	3.4	-	-	-	1	-	3.4	-	-	-	1	-	3.4	-	-	-	1	-	3.4	-	-	-	1																		
Width/Depth Ratio	-	13.8	-	-	-	1	-	18.1	-	-	-	1	-	14.2	-	-	-	1	-	9.5	-	-	-	1	-	6.2	-	-	-	1																		
Entrenchment Ratio	-	2.9	-	-	-	1	-	2.6	-	-	-	1	-	2.9	-	-	-	1	-	3.5	-	-	-	1	-	4.4	-	-	-	1																		
Bank Height Ratio	-	1.0	-	-	-	1	-	0.6	-	-	-	1	-	0.8	-	-	-	1	-	0.7	-	-	-	1	-	0.7	-	-	-	1																		
Profile																																															
Riffle Length (ft)	1.5	4.5	4.2	7.9	1.7	38																																									
Riffle Slope (ft/ft)	0.003	0.033	0.030	0.085	0.021	38																																									
Pool Length (ft)	1.7	5.4	5.0	12.7	2.6	37																																									
Pool Max Depth (ft)	0.6	1.0	1.1	1.4	0.2	37																																									
Pool Spacing (ft)	4.1	12.1	11.2	28.8	5.5	35																																									
Pattern																																															
Channel Belt Width (ft)	6.7	7.5	7.0	8.7	1.1	3																																									
Radius of Curvature (ft)	7.9	10.1	8.5	13.9	3.3	3																																									
Rc: Bankfull Width (ft/ft)	1.2	1.6	1.3	2.2	0.6	3																																									
Meander Wavelength (ft)	6.7	7.5	7.0	8.7	1.1	3																																									
Meander Width Ratio	1.1	1.2	1.1	1.4	0.1	3																																									
Additional Reach Parameters																																															
Rosgen Classification	B4																																														
*Channel Thalweg Length (ft)	440																																														
Sinuosity (ft)	1.08																																														
Water Surface Slope (Channel) (ft/ft)	0.040																																														
Bankfull Slope (ft/ft)	0.041																																														
Ri% / Ru% / P% / G% / S%	39%	0%	46%	8%	6%																																									

* Channel Thalweg Length (ft): Based on actual thalweg calculations from the as-built survey, accounts for breaks in conservation easement and utility right-of-ways.

- Information Unavailable

N/A - Information does not apply.

Ri = Riffle / Ru = Run / P = Pool / G = Glide / S = Step

Table 11b Cont'd. Monitoring Data - Stream Reach Data Summary
Fletcher Mitigation Site - Coates Branch Reach 1B (606 feet *)

Parameter	Baseline						Pre-MY - 1						MY - 1						MY - 2						MY - 3						MY - 4						MY - 5						MY - 6					
Dimension & Substrate - Riffle	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**
Bankfull Width (ft)	-	5.2	-	-	-	1	-	4.9	-	-	-	1	-	3.4	-	-	-	1	-	3.5	-	-	-	1	-	2.3	-	-	-	1.00																		
Floodprone Width (ft)	-	15.0	-	-	-	1	-	15.0	-	-	-	1	-	15.0	-	-	-	1	-	15.0	-	-	-	1	-	15.0	-	-	-	1.00																		
Bankfull Mean Depth (ft)	-	0.3	-	-	-	1	-	0.3	-	-	-	1	-	0.5	-	-	-	1	-	0.5	-	-	-	1	-	0.7	-	-	-	1.00																		
Bankfull Max Depth (ft)	-	0.7	-	-	-	1	-	0.5	-	-	-	1	-	1.0	-	-	-	1	-	0.8	-	-	-	1	-	0.8	-	-	-	1.00																		
Bankfull Cross-Sectional Area (ft²)	-	1.6	-	-	-	1	-	1.6	-	-	-	1	-	1.6	-	-	-	1	-	1.6	-	-	-	1	-	1.6	-	-	-	1.00																		
Width/Depth Ratio	-	16.5	-	-	-	1	-	15.1	-	-	-	1	-	7.5	-	-	-	1	-	7.6	-	-	-	1	-	3.4	-	-	-	1.00																		
Entrenchment Ratio	-	2.9	-	-	-	1	-	3.1	-	-	-	1	-	4.4	-	-	-	1	-	4.3	-	-	-	1	-	6.4	-	-	-	1.00																		
Bank Height Ratio	-	1.0	-	-	-	1	-	1.3	-	-	-	1	-	1.1	-	-	-	1	-	0.9	-	-	-	1	-	0.6	-	-	-	1.00																		
Profile																																															
Riffle Length (ft)	3.0	6.5	6.3	14.0	2.1	52																																									
Riffle Slope (ft/ft)	0.000	0.020	0.016	0.072	0.016	52																																									
Pool Length (ft)	1.2	3.4	3.2	6.3	1.2	51																																									
Pool Max Depth (ft)	0.2	1.2	1.1	2.5	0.4	51																																									
Pool Spacing (ft)	5.8	11.7	12.0	18.7	2.5	50																																									
Pattern																																															
Channel Belt Width (ft)	9.7	10.6	10.5	11.5	0.9	3																																									
Radius of Curvature (ft)	9.0	11.0	12.0	12.1	1.8	3																																									
Rc: Bankfull Width (ft/ft)	1.5	1.9	2.1	2.1	0.3	3																																									
Meander Wavelength (ft)	9.7	10.6	10.5	11.5	0.9	3																																									
Meander Width Ratio	1.7	1.9	1.8	2.0	0.1	3																																									
Additional Reach Parameters																																															
Rosgen Classification	B4																																														
*Channel Thalweg Length (ft)	601																																														
Sinuosity (ft)	1.05																																														
Water Surface Slope (Channel) (ft/ft)	0.033																																														
Bankfull Slope (ft/ft)	0.033																																														
Ri% / Ru% / P% / G% / S%	56%	0%	28%	10%	6%																																									

* Channel Thalweg Length (ft): Based on actual thalweg calculations from the as-built survey, accounts for breaks in conservation easement and utility right-of-ways.

- Information Unavailable

N/A - Information does not apply.

Ri = Riffle / Ru = Run / P = Pool / G = Glide / S = Step

Table 11b Cont'd. Monitoring Data - Stream Reach Data Summary
Fletcher Mitigation Site - Coates Branch Reach 1C (708 feet *)

Parameter	Baseline						Pre-MY - 1						MY - 1						MY - 2						MY - 3						MY - 4						MY - 5						MY - 6					
Dimension & Substrate - Riffle	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**
Bankfull Width (ft)	-	5.4	-	-	-	1	-	5.5	-	-	-	1	-	5.8	-	-	-	1	-	5.8	-	-	-	1	-	4.2	-	-	-	1.00																		
Floodprone Width (ft)	-	20.0	-	-	-	1	-	20.0	-	-	-	1	-	20.0	-	-	-	1	-	20.0	-	-	-	1	-	20.0	-	-	-	1.00																		
Bankfull Mean Depth (ft)	-	0.4	-	-	-	1	-	0.4	-	-	-	1	-	0.4	-	-	-	1	-	0.4	-	-	-	1	-	0.5	-	-	-	1.00																		
Bankfull Max Depth (ft)	-	0.8	-	-	-	1	-	0.6	-	-	-	1	-	0.6	-	-	-	1	-	0.5	-	-	-	1	-	0.8	-	-	-	1.00																		
Bankfull Cross-Sectional Area (ft^2)	-	2.2	-	-	-	1	-	2.2	-	-	-	1	-	2.2	-	-	-	1	-	2.2	-	-	-	1	-	2.2	-	-	-	1.00																		
Width/Depth Ratio	-	13.5	-	-	-	1	-	14.0	-	-	-	1	-	15.4	-	-	-	1	-	15.5	-	-	-	1	-	8.1	-	-	-	1.00																		
Entrenchment Ratio	-	3.7	-	-	-	1	-	3.6	-	-	-	1	-	3.4	-	-	-	1	-	3.4	-	-	-	1	-	4.7	-	-	-	1.00																		
Bank Height Ratio	-	1.0	-	-	-	1	-	0.9	-	-	-	1	-	0.8	-	-	-	1	-	0.9	-	-	-	1	-	0.9	-	-	-	1.00																		
Profile																																																
Riffle Length (ft)	3.8	7.4	7.7	10.1	1.6	48																																										
Riffle Slope (ft/ft)	0.000	0.010	0.010	0.033	0.007	48																																										
Pool Length (ft)	1.2	4.6	4.2	7.3	1.4	48																																										
Pool Max Depth (ft)	0.6	1.0	1.0	1.4	0.2	49																																										
Pool Spacing (ft)	6.4	14.3	14.6	19.6	2.6	48																																										
Pattern																																																
Channel Belt Width (ft)	10.9	11.7	11.6	12.5	0.8	3																																										
Radius of Curvature (ft)	7.0	8.8	7.2	12.1	2.9	3																																										
Rc: Bankfull Width (ft/ft)	1.2	1.5	1.2	2.1	0.5	3																																										
Meander Wavelength (ft)	10.9	12.1	11.6	13.7	1.5	3																																										
Meander Width Ratio	1.8	2.0	1.9	2.1	0.1	3																																										
Additional Reach Parameters																																																
Rosgen Classification	B4																																															
*Channel Thalweg Length (ft)	708																																															
Sinuosity (ft)	1.06																																															
Water Surface Slope (Channel) (ft/ft)	0.013																																															
Bankfull Slope (ft/ft)	0.013																																															
Ri% / Ru% / P% / G% / S%	52%	0%	32%	11%	5%																																										

* Channel Thalweg Length (ft): Based on actual thalweg calculations from the as-built survey, accounts for breaks in conservation easement and utility right-of-ways.

- Information Unavailable

N/A - Information does not apply.

Ri = Riffle / Ru = Run / P = Pool / G = Glide / S = Step

Table 11b Cont'd. Monitoring Data - Stream Reach Data Summary
Fletcher Mitigation Site - Coates Branch Reach 1D (325 feet *)

Parameter	Baseline						Pre-MY - 1						MY - 1						MY - 2						MY - 3						MY - 4						MY - 5						MY - 6					
Dimension & Substrate - Riffle	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**
Bankfull Width (ft)	-	6.1	-	-	-	1	-	7.4	-	-	-	1	-	7.5	-	-	-	1	-	4.7	-	-	-	1	-	4.0	-	-	-	1.00																		
Floodprone Width (ft)	-	25.0	-	-	-	1	-	25.0	-	-	-	1	-	25.0	-	-	-	1	-	25.0	-	-	-	1	-	25.0	-	-	-	1.00																		
Bankfull Mean Depth (ft)	-	0.5	-	-	-	1	-	0.4	-	-	-	1	-	0.4	-	-	-	1	-	0.7	-	-	-	1	-	0.8	-	-	-	1.00																		
Bankfull Max Depth (ft)	-	1.0	-	-	-	1	-	0.9	-	-	-	1	-	0.9	-	-	-	1	-	1.0	-	-	-	1	-	1.1	-	-	-	1.00																		
Bankfull Cross-Sectional Area (ft^2)	-	3.3	-	-	-	1	-	3.3	-	-	-	1	-	3.3	-	-	-	1	-	3.3	-	-	-	1	-	3.3	-	-	-	1.00																		
Width/Depth Ratio	-	11.4	-	-	-	1	-	16.5	-	-	-	1	-	17.2	-	-	-	1	-	6.9	-	-	-	1	-	4.9	-	-	-	1.00																		
Entrenchment Ratio	-	4.1	-	-	-	1	-	3.4	-	-	-	1	-	3.3	-	-	-	1	-	5.3	-	-	-	1	-	6.2	-	-	-	1.00																		
Bank Height Ratio	-	1.0	-	-	-	1	-	1.0	-	-	-	1	-	0.9	-	-	-	1	-	0.9	-	-	-	1	-	0.9	-	-	-	1.00																		
Profile																																																
Riffle Length (ft)	4.1	7.2	7.3	11.9	1.8	22																																										
Riffle Slope (ft/ft)	0.000	0.008	0.006	0.021	0.006	22																																										
Pool Length (ft)	1.8	4.6	4.4	8.1	1.8	22																																										
Pool Max Depth (ft)	0.6	1.1	1.1	2.2	0.3	22																																										
Pool Spacing (ft)	8.0	13.9	14.0	19.1	3.2	21																																										
Pattern																																																
Channel Belt Width (ft)	11.5	12.7	12.8	13.8	1.2	3																																										
Radius of Curvature (ft)	4.7	7.0	7.2	9.2	2.3	3																																										
Rc: Bankfull Width (ft/ft)	0.7	1.0	1.0	1.3	0.3	3																																										
Meander Wavelength (ft)	11.5	12.5	12.1	13.8	1.2	3																																										
Meander Width Ratio	1.7	1.8	1.9	2.0	0.1	3																																										
Additional Reach Parameters																																																
Rosgen Classification	B4																																															
*Channel Thalweg Length (ft)	325																																															
Sinuosity (ft)	1.05																																															
Water Surface Slope (Channel) (ft/ft)	0.013																																															
Bankfull Slope (ft/ft)	0.014																																															
Ri% / Ru% / P% / G% / S%	52%	0%	33%	10%	5%																																										

* Channel Thalweg Length (ft): Based on actual thalweg calculations from the as-built survey, accounts for breaks in conservation easement and utility right-of-ways.

- Information Unavailable

N/A - Information does not apply.

Ri = Riffle / Ru = Run / P = Pool / G = Glide / S = Step

Appendix E
Hydrologic Data

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Monitoring Gauge	Performance Standard: 12 % WETS Station: Asheville 13S Growing Season: 4/9 to 10/26 (201 days) Max. Consecutive Hydroperiod (%) and number of consecutive days (n)															
	Pre MY-1 (2020)		MY-1 (2020)		MY-2 (2021)		MY-3 (2022)		MY-4 (2023)		MY-5 (2024)		MY-6 (2025)		MY-7 (2026)	
	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n
MW-1	-	-	4	9	4	9	25	50	-	-	-	-	-	-	-	-
MW-2	-	-	4	9	3	7	2	5	-	-	-	-	-	-	-	-
MW-3	-	-	5	11	7	14	11	23	-	-	-	-	-	-	-	-
MW-4	-	-	6	13	5	10	5	10	-	-	-	-	-	-	-	-
MW-5	-	-	6	13	11	23	8	17	-	-	-	-	-	-	-	-
MW-6	-	-	4	9	11	22	8	17	-	-	-	-	-	-	-	-
MW-7	-	-	2	4	4	9	8	17	-	-	-	-	-	-	-	-
MW-8	-	-	6	13	10	21	10	21	-	-	-	-	-	-	-	-
MW-9	-	-	12	24	15	31	11	22	-	-	-	-	-	-	-	-
MW-10	-	-	11	23	11	22	11	22	-	-	-	-	-	-	-	-
MW-11	-	-	3	6	3	7	3	6	-	-	-	-	-	-	-	-

* Performace standard for groundwater gauges was calculated at 12 percent (24 days). Percent deviation is based upon this duration (2.4 days)

Exceeds requirements by 10%

Exceeds requirements, but by less than 10%

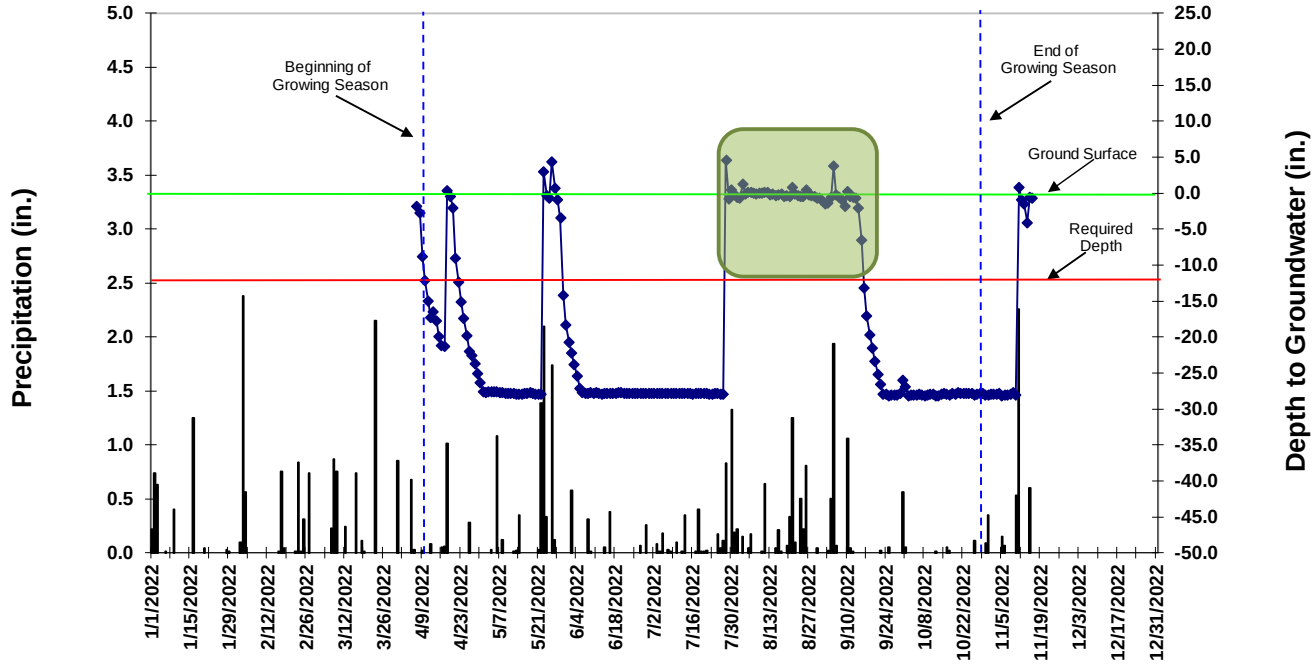
Fails to meet requirements, by less than 10%

Fails to meet requirements by more than 10%

Gauge ID: **MW1**

Total Number of Consecutive Days Water Table within 12 inches of Soil Surface: **50**

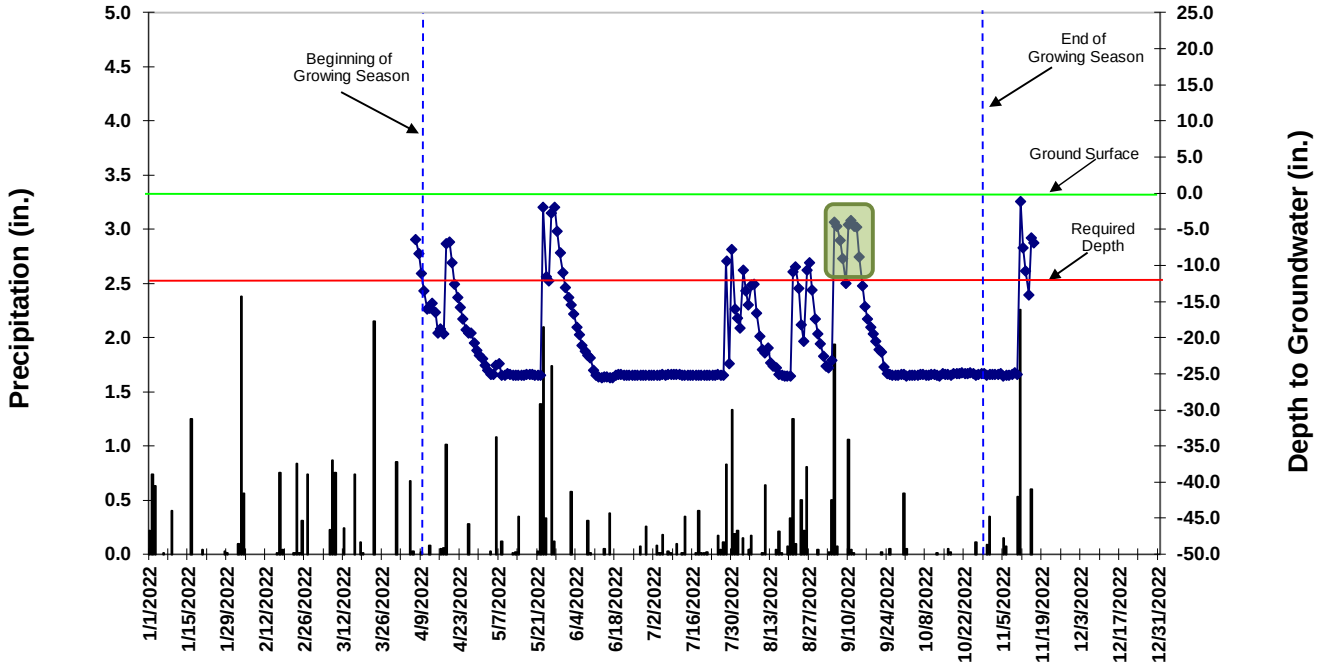
Percentage of Growing Season Water Table within 12 inches of Soil Surface: **24.9%**



Gauge ID: **MW2**

Total Number of Consecutive Days Water Table within 12 inches of Soil Surface: **5**

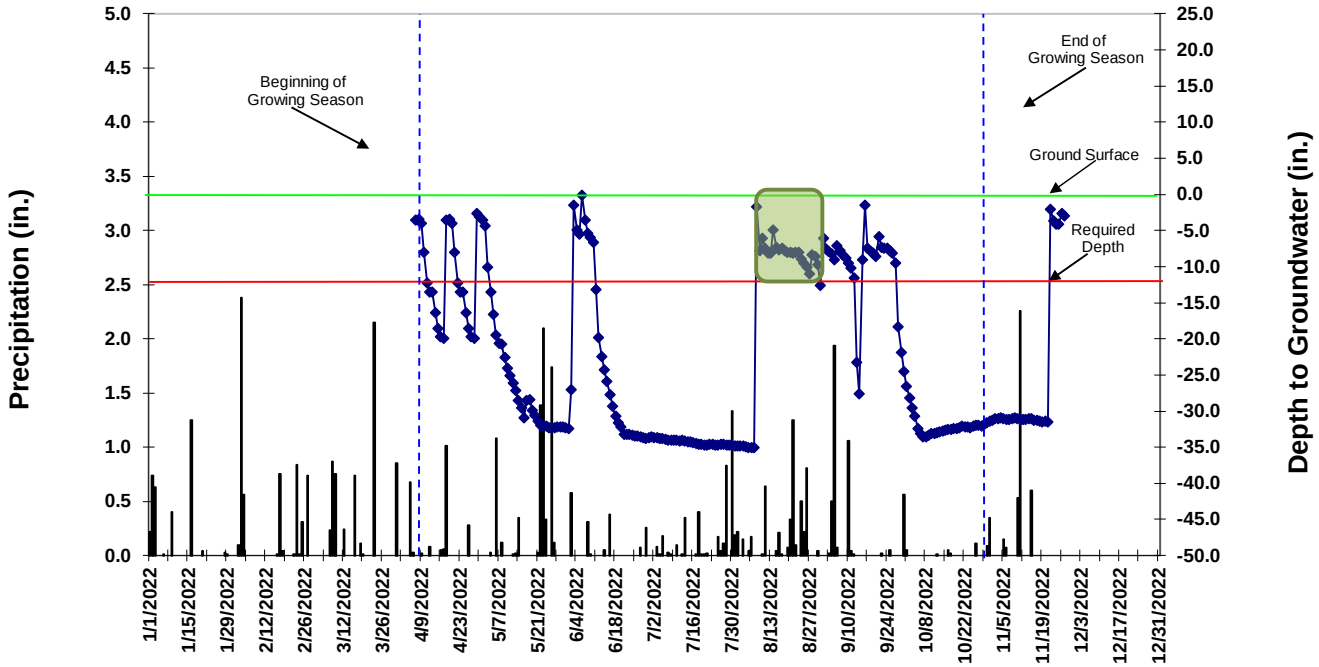
Percentage of Growing Season Water Table within 12 inches of Soil Surface: **2%**



Gauge ID: **MW3**

Total Number of Consecutive Days Water Table within 12 inches of Soil Surface: **23**

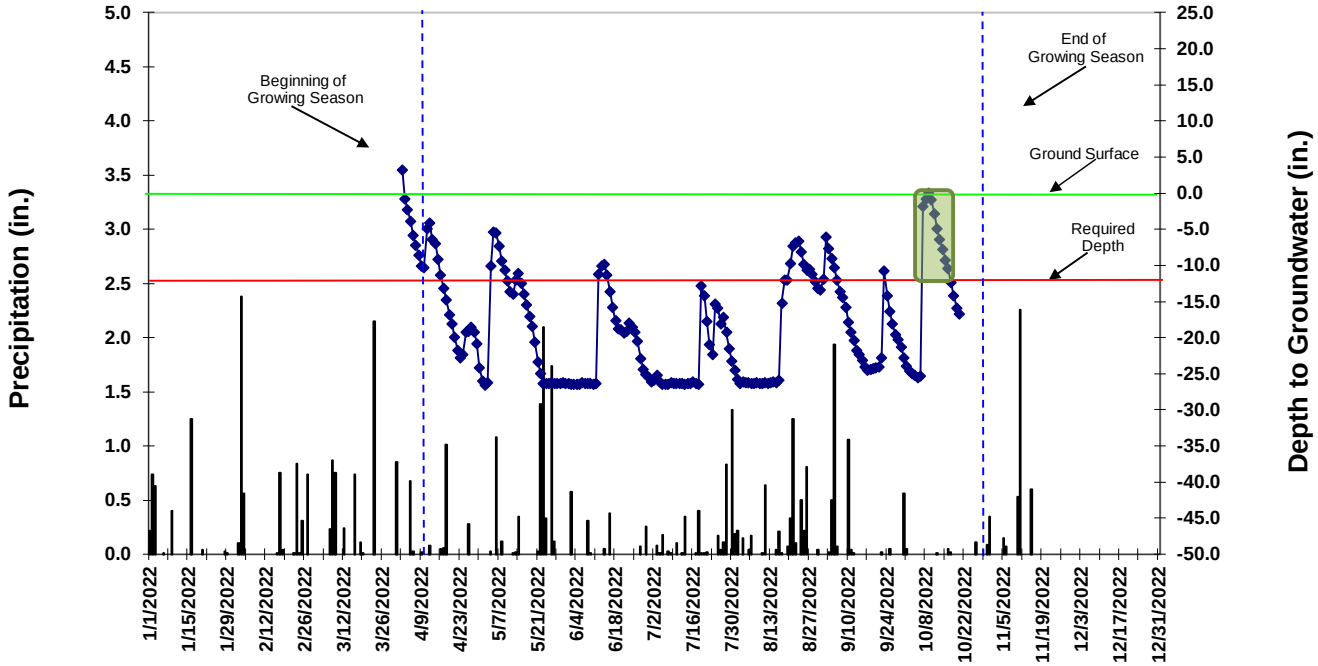
Percentage of Growing Season Water Table within 12 inches of Soil Surface: **11%**



Gauge ID: **MW4**

Total Number of Consecutive Days Water Table within 12 inches of Soil Surface: **10**

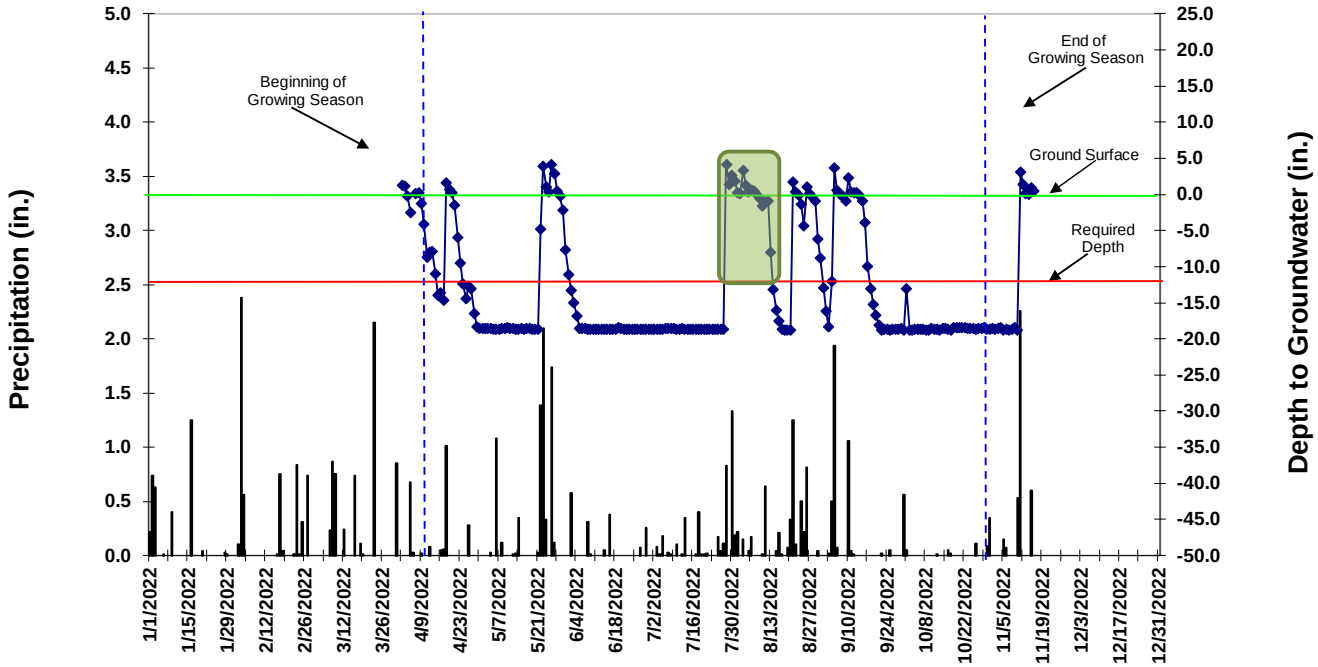
Percentage of Growing Season Water Table within 12 inches of Soil Surface: **5%**



Gauge ID: **MW5**

Total Number of Consecutive Days Water Table within 12 inches of Soil Surface: **17**

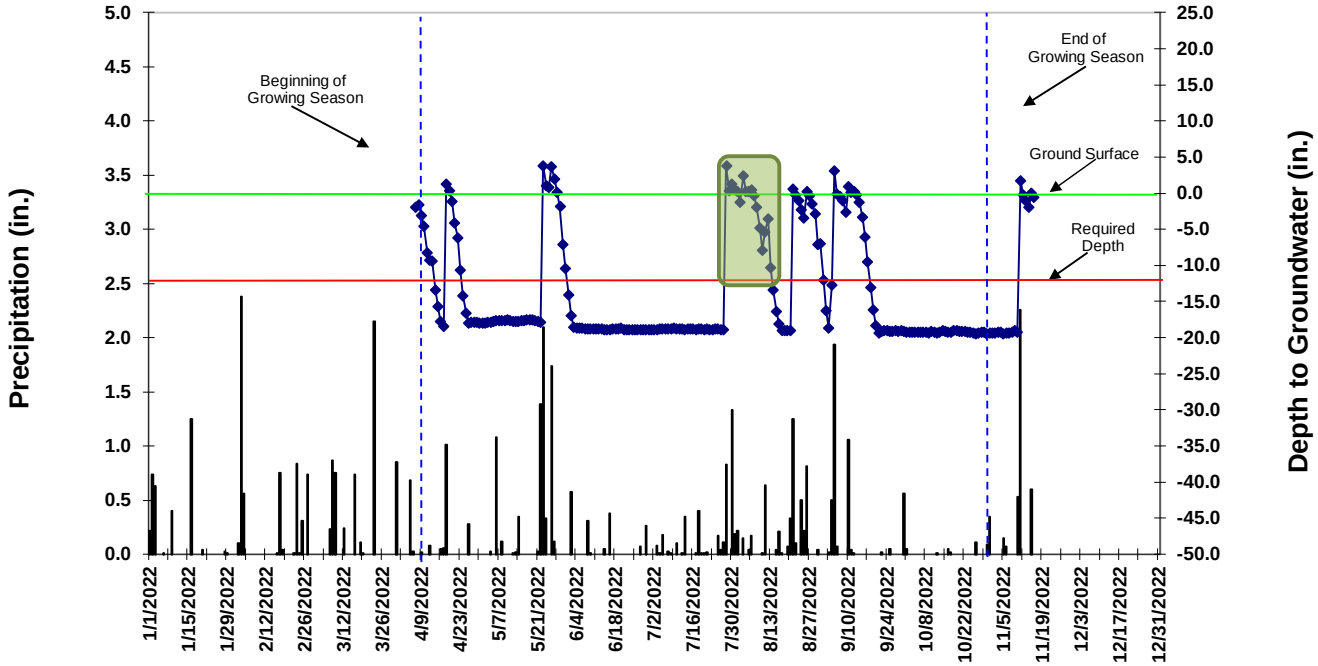
Percentage of Growing Season Water Table within 12 inches of Soil Surface: **8%**



Gauge ID: **MW6**

Total Number of Consecutive Days Water Table within 12 inches of Soil Surface: **17**

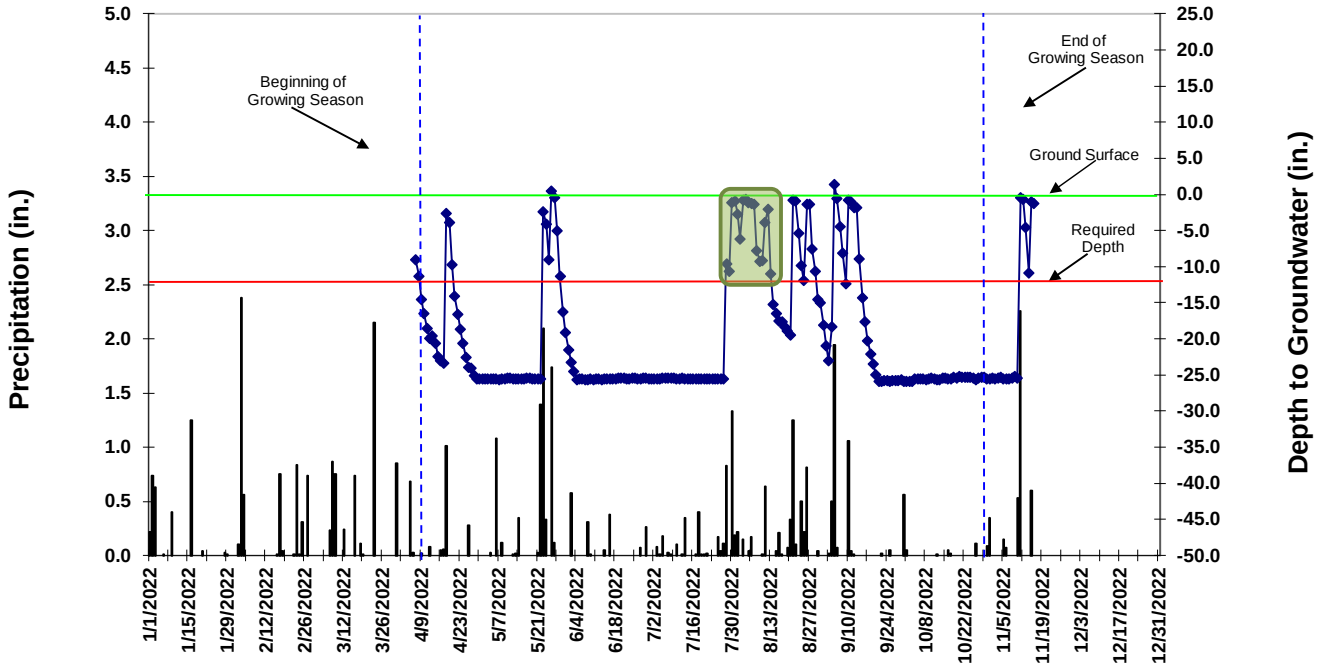
Percentage of Growing Season Water Table within 12 inches of Soil Surface: **8%**



Gauge ID: **MW7**

Total Number of Consecutive Days Water Table within 12 inches of Soil Surface: **17**

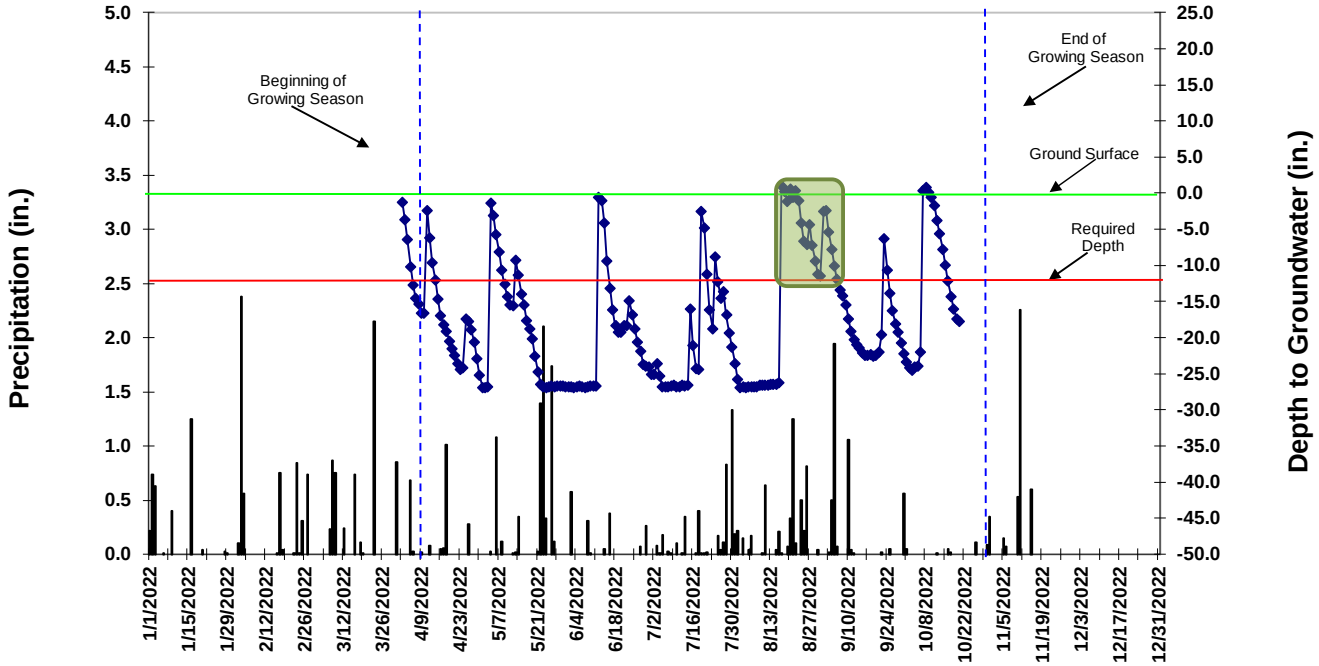
Percentage of Growing Season Water Table within 12 inches of Soil Surface: **8%**



Gauge ID: **MW8**

Total Number of Consecutive Days Water Table within 12 inches of Soil Surface: **21**

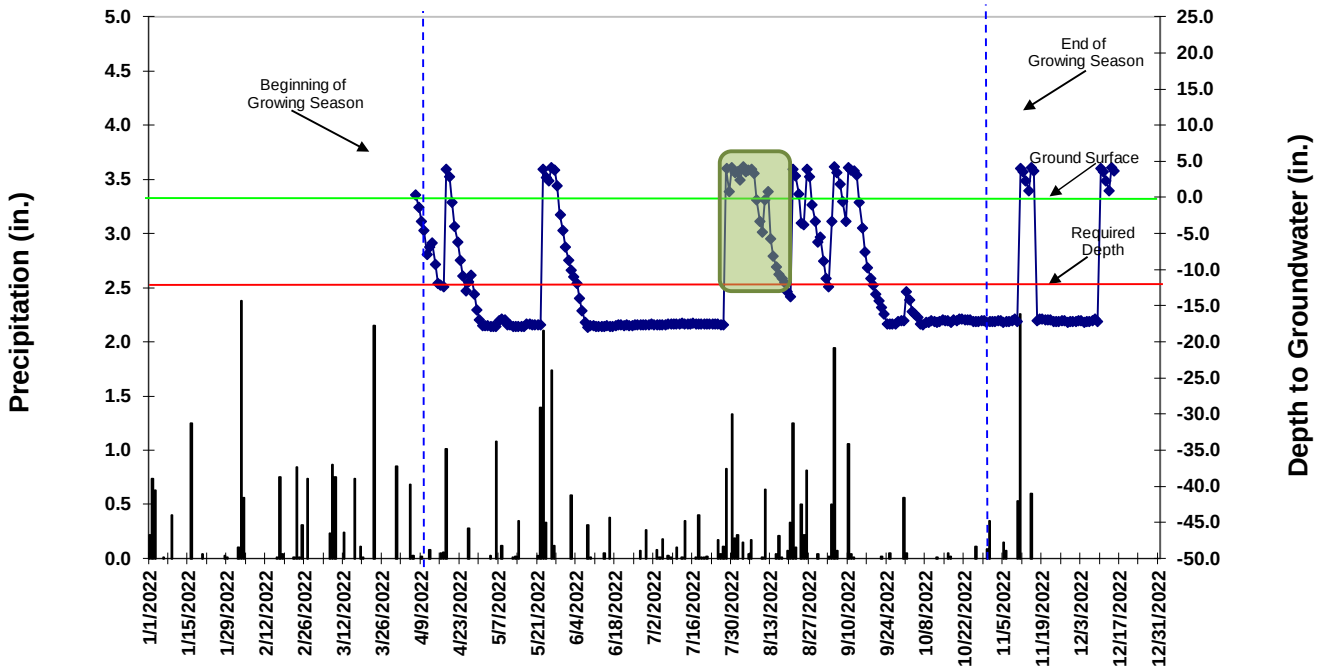
Percentage of Growing Season Water Table within 12 inches of Soil Surface: **10%**



Gauge ID: **MW9**

Total Number of Consecutive Days Water Table within 12 inches of Soil Surface: **22**

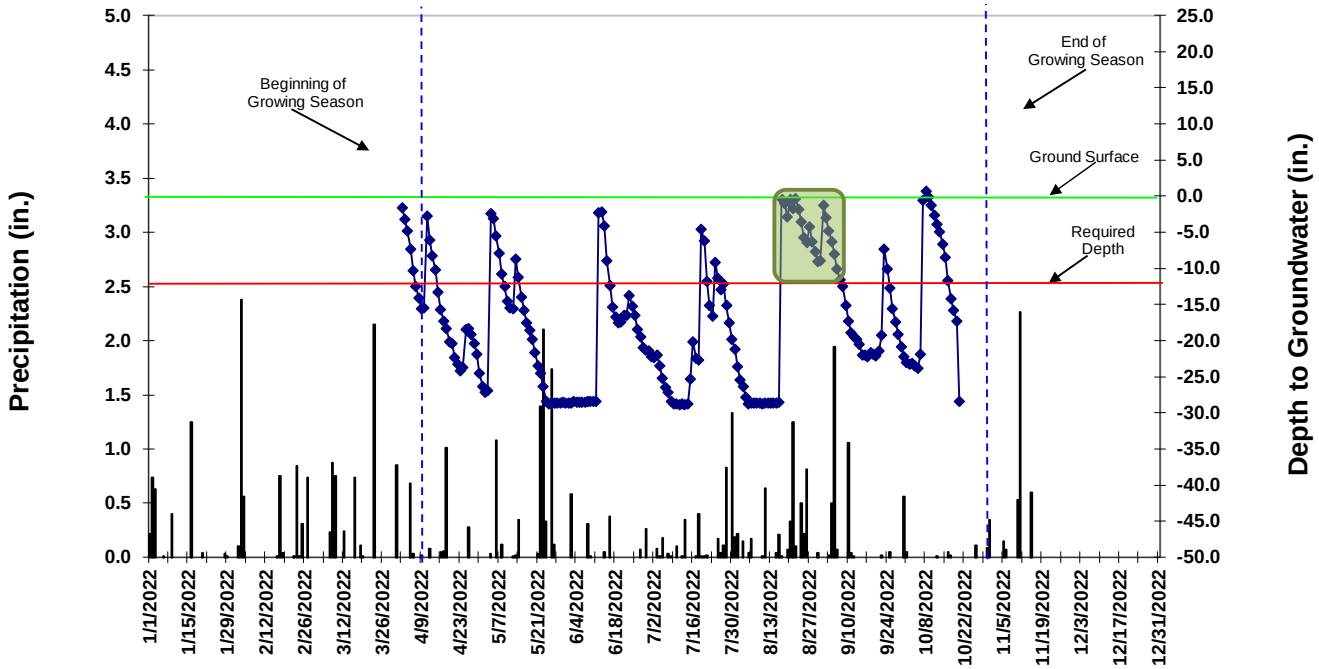
Percentage of Growing Season Water Table within 12 inches of Soil Surface: **11%**



Gauge ID: **MW10**

Total Number of Consecutive Days Water Table within 12 inches of Soil Surface: **22**

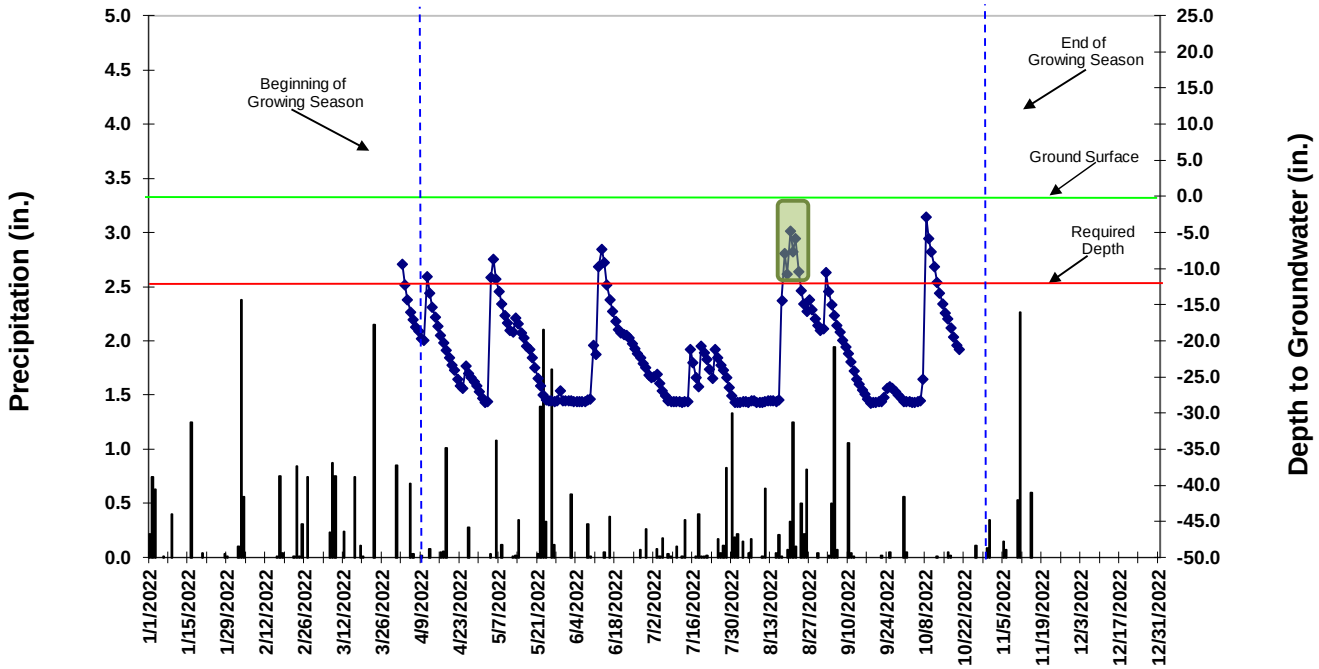
Percentage of Growing Season Water Table within 12 inches of Soil Surface: **11%**

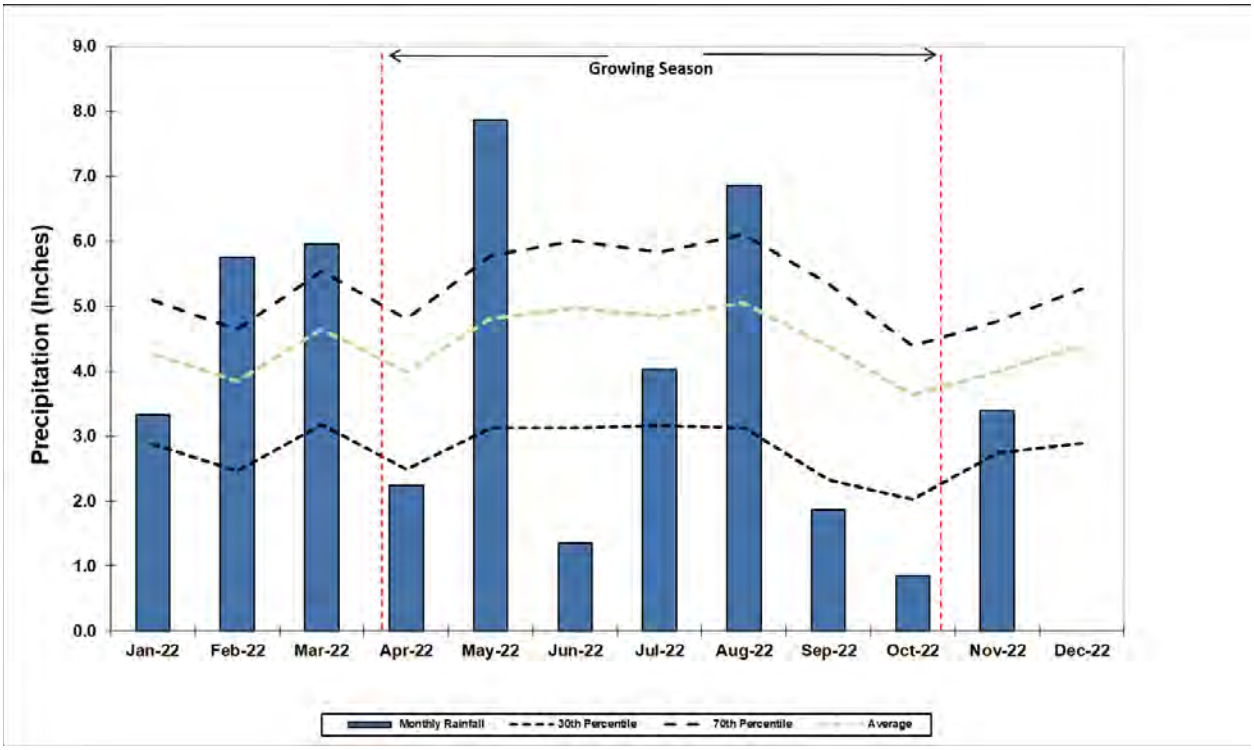


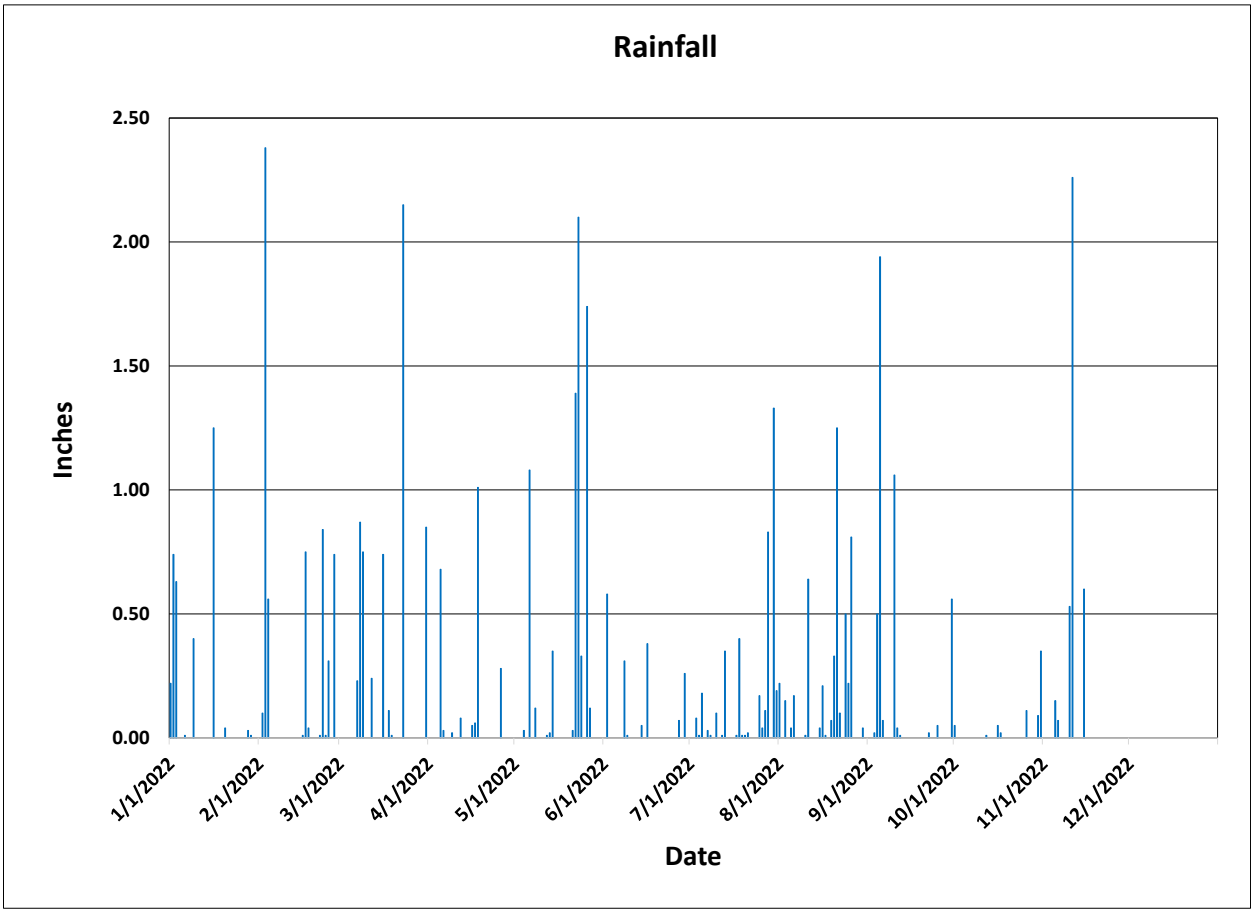
Gauge ID: **MW11**

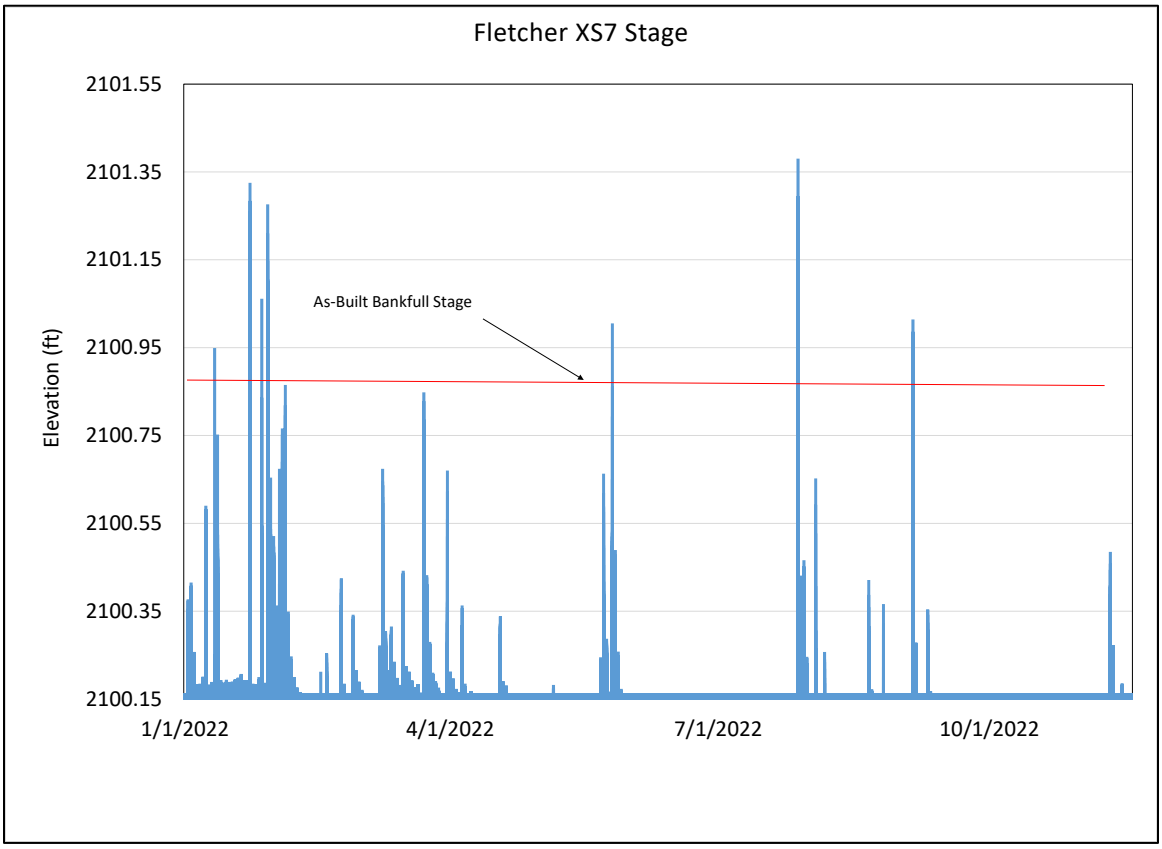
Total Number of Consecutive Days Water Table within 12 inches of Soil Surface: **6**

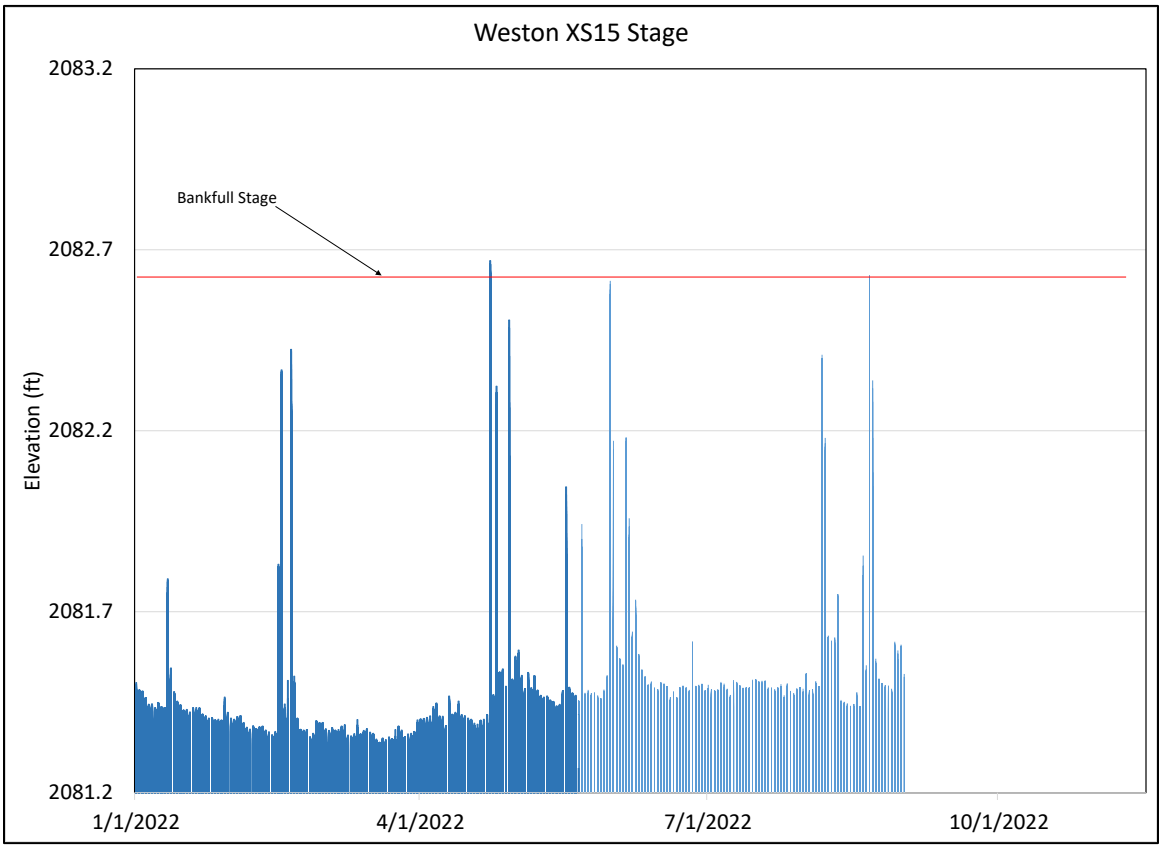
Percentage of Growing Season Water Table within 12 inches of Soil Surface: **3%**

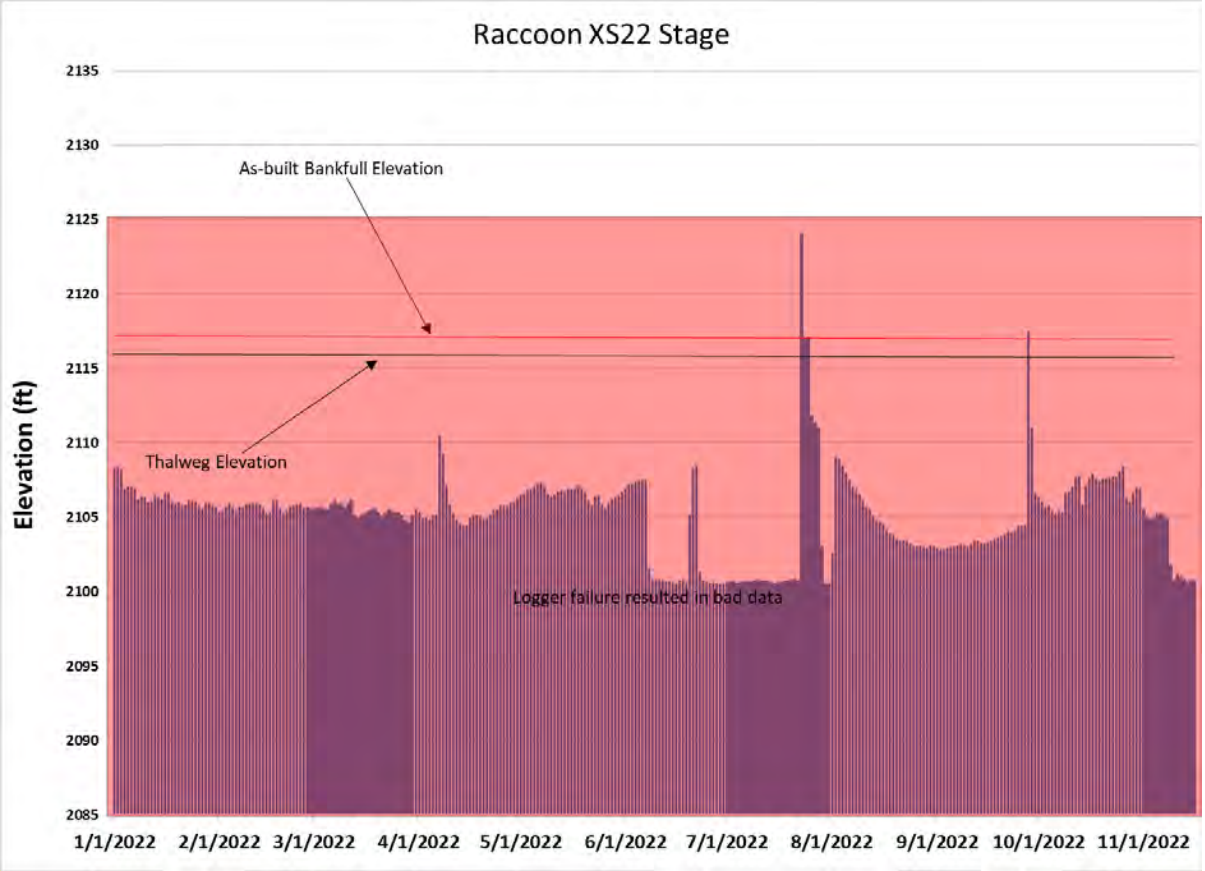



Growing Season
Precipitation (Inches)
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
Jan-22
Feb-22
Mar-22
Apr-22
May-22
Jun-22
Jul-22
Aug-22
Sep-22
Oct-22
Nov-22
Dec-22
Monthly Rainfall
30th Percentile
70th Percentile
Average


Rainfall
Inches
2.50
2.00
1.50
1.00
0.50
0.00
1/1/2022
2/1/2022
3/1/2022
4/1/2022
5/1/2022
6/1/2022
7/1/2022
8/1/2022
9/1/2022
10/1/2022
11/1/2022
12/1/2022
Date


Fletcher XS7 Stage
2101.55
2101.35
2101.15
2100.95
2100.75
2100.55
2100.35
2100.15
Elevation (ft)
As-Built Bankfull Stage
1/1/2022
4/1/2022
7/1/2022
10/1/2022


Weston XS15 Stage
2083.2
2082.7
2082.2
2081.7
2081.2
Elevation (ft)
Bankfull Stage
1/1/2022
4/1/2022
7/1/2022
10/1/2022


Raccoon XS22 Stage
Elevation (ft)
2135
2130
2125
2120
2115
2110
2105
2100
2095
2090
2085
As-built Bankfull Elevation
Thalweg Elevation
Logger failure resulted in bad data
1/1/2022
2/1/2022
3/1/2022
4/1/2022
5/1/2022
6/1/2022
7/1/2022
8/1/2022
9/1/2022
10/1/2022
11/1/2022

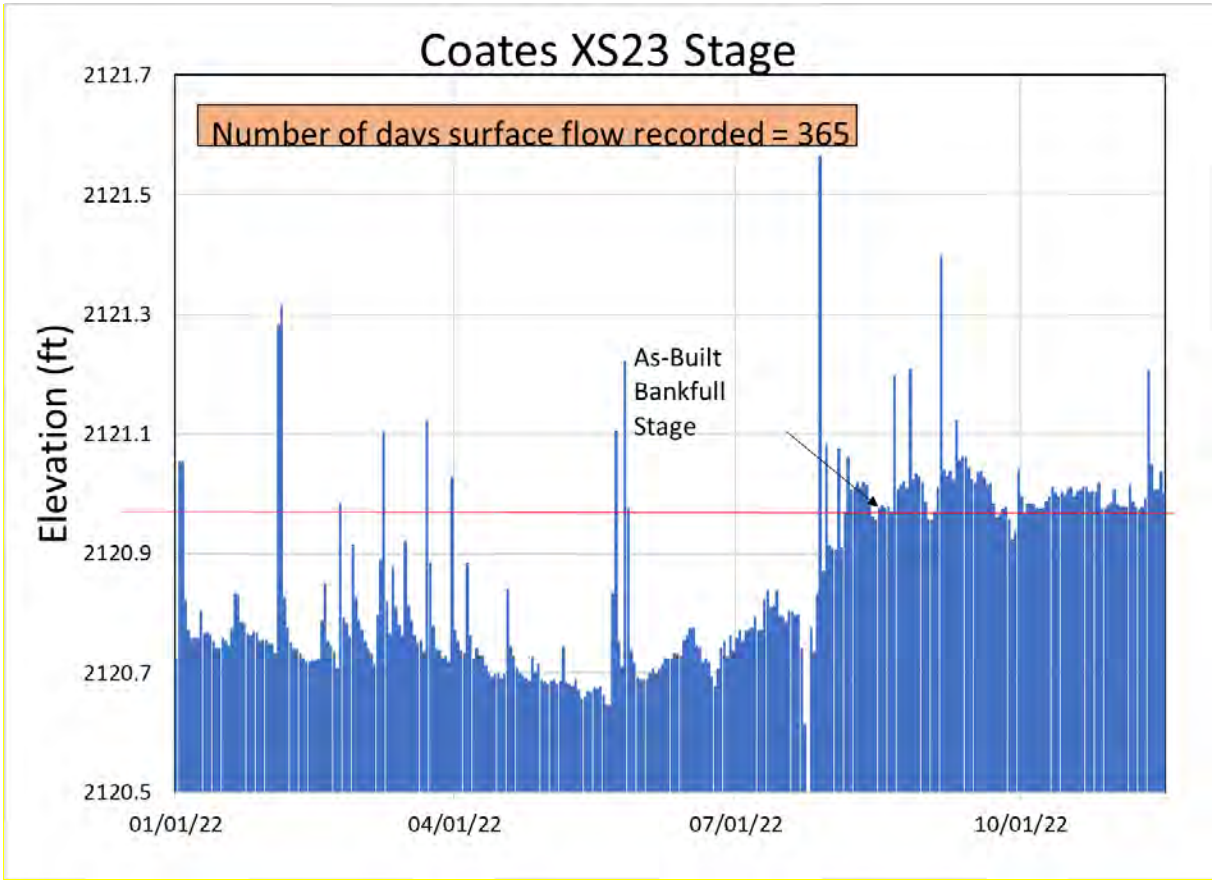

Coates XS23 Stage
Number of days surface flow recorded = 365
Elevation (ft)
2121.7
2121.5
2121.3
2121.1
2120.9
2120.7
2120.5
As-Built
Bankfull
Stage
01/01/22
04/01/22
07/01/22
10/01/22

Table 10. Verification of Bankfull Events Fletcher Creek Mitigation Project				
Reach	**Date of Data Collection**	***Date of Occurrence**	**Method**	**Photo # (if available)**
Fletcher Reach 1	8/6/2020	8/6/2020	Stage Recorder	n/a
	8/15/2020	8/15/2020	Stage Recorder	n/a
	10/18/2021	unknown	Crest Gauge	n/a
Fletcher Reach 2	10/18/2021	unknown	Crest Gauge	n/a
	10/19/2021	3/25/2021	Stage Recorder	n/a
	10/19/2021	3/31/2021	Stage Recorder	n/a
	10/19/2021	8/17/2021	Stage Recorder	n/a
	10/19/2021	3/31/2021	Stage Recorder	n/a
	10/19/2021	8/17/2021	Stage Recorder	n/a
	11/14/2022	unknown	Crest Gauge	n/a
Coates Branch	4/19/2019	4/19/2019	Stage Recorder	n/a
	2/6/2020	2/6/2020	Stage Recorder	n/a
	4/29/2020	4/29/2020	Stage Recorder	n/a
	8/6/2020	8/6/2020	Stage Recorder	n/a
	8/15/2020	8/15/2020	Stage Recorder	n/a
	10/18/2021	unknown	Crest Gauge	3
	10/19/2021	11/12/2020	Stage Recorder	n/a
	10/19/2021	12/14/2020	Stage Recorder	n/a
	10/19/2021	1/1/2021	Stage Recorder	n/a
	10/19/2021	2/18/2021	Stage Recorder	n/a
	10/19/2021	3/25/2021	Stage Recorder	n/a
	10/19/2021	3/31/2021	Stage Recorder	n/a
	10/19/2021	8/17/2021	Stage Recorder	n/a
	10/19/2021	10/7/2021	Stage Recorder	n/a
	11/13/2022	2/4/2022	Stage Recorder	n/a
	11/13/2022	5/26/2022	Stage Recorder	n/a
	11/13/2022	7/28/2022	Stage Recorder	n/a
Weston Creek Reach 1A	No data collected during 2019 due to Adaptive Management			
	10/15/2021	2/6/2020	Stage Recorder	n/a
	10/15/2021	10/15/2021	Crest Gauge	4
	10/19/2021	3/25/2021	Stage Recorder	n/a
	10/19/2021	8/17/2021	Stage Recorder	n/a
	11/14/2022	4/23/2022	Stage Recorder	n/a
	11/14/2022	10/27/2022	Stage Recorder	n/a

*The dates listed for 2022 were based on precipitation and stage recorder data collected between October 2021 and November 2022

Appendix F
Other Data

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Date	Start / End Time	Certified Applicator #	Site & Target Species	Herbicide	Concentration (%)	Volume Herbicide Concentration Used (oz)	Volume Mixture Used (gal)	Weather (Temp/Wind)	Site Notes
6/21/2022	13:00-15:00	C. Lawson 26-38261	Coates, MFR, festuca	Glypho	4	22	6	80+/light var	Festuca treatment along fenceline, native vegetation boundary, and around planted and natural stems.
6/21/2022	11:00-13:00	C. Lawson 26-38261. O. Carson	Fletcher (N), Kudzu	Clopyrilid	1	7	7	70/light var	Spot treatment Kudzu along easement boundary.
7/12/2022	10:00-16:00	C. Lawson 26-38261	Fletcher (S), MFR, Privet	Tryclopyr	3	69	23	85/light var	multifloral rose, privet, tree-of-heaven, bittersweet.
9/15/2022	10:00-12:00	C. Lawson 26-38261	Fletcher (N), Kudzu	Clopyrilid	3	15	5	80/light-Moderate var	Kudzu within and along periphery of Weston Reach 1B.
9/27/2022	10:00-13:00	O. Carson 26-29539	Fletcher (N&S)	Glypho	4	45	15	85/light var	multifloral rose, privet, tree-of-heaven, bittersweet.

Fletcher Stream and Wetland MY3 Supplemental Planting Summary			
Scientific Name	**Common Name**	**Material**	**Relative Percentage**
Acer negundo	Box elder	bareroot	35
Alnus serrulata	Tag alder	bareroot	15
Cornus amomum	Silky dogwood	bareroot	15
Liriodendron tulipifera	Tulip poplar	bareroot	35
Salix nigra	*Black willow*	*live stake*	*50*
Salix sericea	*Silky willow*	*live stake*	*50*

* Supplemental planting was conducted on February 28 and March 3, 2022. Additional livestakes were installed along Coates Branch Reach 1B, 1C, and 1D. Bare root stems were installed along the right descending easement boundary of Fletcher Reach 1B and 2A; and between Coates Branch Reach 1D and Fletcher 1C.

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