



*Commonwealth of Virginia*

**VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY**

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Director  
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April 6, 2023

Mr. Michael Liberati  
Corteva Environmental Remediation  
974 Centre Road, Building 735  
Wilmington, DE 19805

**VIA ELECTONIC MAIL**

**Re: 2021 Leaf-on and Leaf-off Maintenance Inspections  
Former DuPont Waynesboro Site AOC 4  
Waynesboro, Virginia  
EPA ID# VAD003114832**

Dear Mr. Liberati:

This letter acknowledges the receipt and review of the 2021 Leaf-on Maintenance Inspection and 2021 Leaf-off Maintenance Inspection Memorandums dated November 9, 2022 and November 8, 2022 submitted to the Virginia Department of Environmental Quality, Office of Remediation Programs (VDEQ) by AECOM on behalf of Corteva Agriscience. The memorandums document bank management inspection activities that occurred during that time.

VDEQ has no comments. If you have any questions, you may contact me at 540-209-3663 or by email at [William.jordan@deq.virginia.gov](mailto:William.jordan@deq.virginia.gov).

Sincerely,

A handwritten signature in cursive script that reads "W. Calvin Jordan".

W. Calvin Jordan  
Corrective Action Project Manager  
Office of Remediation Programs

cc: DuPont Waynesboro Correspondence File  
Bill Reese, Rich Judge, AECOM  
Graham Simmerman, VRO VDEQ  
Jacqueline Morrison, US EPA

## Memorandum

To Michael Liberati, Corteva Environmental Remediation  
Nancy Grosso, Corteva Environmental Remediation Page 1 of 7

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CC Kristy Hoffman, AECOM

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Subject 2021 Leaf-on Maintenance Inspection  
Former DuPont Waynesboro Site, Area of Concern 4

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From Joshua Collins, AECOM  
Bill Reese, AECOM

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Date November 9, 2022

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This memorandum summarizes the 2021 Leaf-on Maintenance Inspections (maintenance inspection) for the Constitution Park, City Shops, Allied Ready Mix, North Park, and Shiloh Baptist Church Bank Management Areas (BMAs), conducted from June 21<sup>st</sup> – June 25<sup>th</sup>, 2021. Inspection activities were conducted as specified in the scope described in the Maintenance Plan and included as Appendix M of the Basis of Design Report, Phase 1A BMAs, South River AOC 4 (Anchor QEA et al., 2016). The purpose of the inspections is to identify potential BMA maintenance needs, focusing on vegetative development, bank stability, and the integrity of the installed bank stabilization features.

Additional attachments to this memorandum include maintenance inspection logs, photographic logs, and Cap Area Inspection Records for each BMA as follows:

- Attachment A – Constitution Park BMA
- Attachment B – City Shops BMA
- Attachment C – Allied Ready-Mix BMA
- Attachment D – Shiloh Baptist Church BMA
- Attachment E – North Park BMA

### **FINDINGS**

#### **Constitution Park**

The 2021 leaf-on maintenance inspection conducted at the Constitution Park BMA documented stable bank conditions with improved native vegetation growth and increased invasive species coverage compared to the previous leaf-on inspection conducted in the Spring of 2020 (AECOM, 2020). Evidence of pedestrian traffic is present along improvised access paths but is reduced compared to the previous leaf-on inspection conducted in the Spring of 2020 (AECOM, 2020). Pedestrian traffic does not appear to be affecting the integrity of the bank treatment. Erosion control fabric and coir logs are beginning to degrade as designed and are being replaced by natural sediment deposition and vegetative growth, providing long-term stability.

A brief summary of findings is provided below; complete details of the maintenance inspection including maintenance inspection field sheets, photographic logs, and the Cap Area Inspection Record are provided in Attachment A.

### ***Vegetation***

- Planted and natural recruitment of native vegetation was present throughout the BMA and is becoming further established over time. Live stakes which were installed in the spring/summer of 2019 have not been established (e.g. <5% established), but herbaceous plugs installed at the same time appear healthy.
- Areal coverage of Japanese knotweed (*Fallopia japonica*) has increased throughout the BMA. These areas will continue to be monitored and treated as needed.

### ***Stability***

- Consistent bank angles were documented, as constructed, throughout the BMA.
- Paths from foot traffic accessing the bank and along the toe of slope were noted, but do not appear to be affecting bank stability at this time. Evidence of foot traffic has decreased since most recent inspection.
- Limited areas of localized scour were documented. Overall evidence of scour has decreased since the most recent inspection.
- Evidence of one “at-risk” (e.g., may no longer be stable due to erosion) tree, a Box Elder (*Acer negundo*), was noted at station 00-450’.

### ***Installed Features***

- Erosion control fabric has decomposed as designed throughout most of the BMA, with less than 10% remaining.
- Rock toe features were intact with increased sediment deposition filling in the interstices.
- Large woody debris (LWD) were stable, and anchor chains were intact.
- Coir log decomposition has increased; those not decomposed were intact and are beginning to degrade as designed.
- The installed gravel access path appears to be overgrown and shows signs of wear with exposed geocell present.
- Groundhog activity within the BMA continues to be limited to a single burrow adjacent to the stone steps. Groundhog activity/burrows will continue to be monitored to determine if corrective actions are necessary.

### ***City Shops***

The maintenance inspection conducted at the City Shops BMA documented stable conditions throughout the BMA with minimal change compared to the previous leaf-off inspection conducted in the fall of 2020 (AECOM, 2020). Overall, there was minimal scour along the bank face; the native planted grasses, saplings, and live stakes continue to become established.

A brief summary of findings is provided below; complete details of the maintenance inspection including field sheets, photographic logs, and the Cap Area Inspection Record are provided in Attachment B.

### ***Vegetation***

- The upper portions of the bank exhibited dense stands of native grasses, planted saplings, and shrubs throughout the BMA.
- Larger trees left in place during remediation along the BMA are healthy and show no signs of stress, except for the smallest existing mature sycamore tree at 00+300 which was documented as dead in the leaf off 2019 report (AECOM, 2020). The

upper half of this tree has broken off and fell along the bank edge as LWD (Attachment B, Photo 20).

- Small patches of invasive Japanese knotweed are present throughout the BMA. These localized areas will continue to be monitored and treated, as necessary.

### ***Stability***

- Riverbanks generally maintained a consistent bank angle throughout the BMA as constructed, with no sign of surface erosion, scour, or undercutting at the toe of slope within the remediated portions of the BMA.
- There was no evidence of recent erosion or “at-risk” trees (e.g. trees that may no longer be stable due to erosion) within the remediated areas other than the previously identified dead existing mature sycamore tree at 00+300.
- An area of erosion upstream from the remedial footprint shows signs of significant scour, minimally vegetated bank, and extensive exposed at-risk tree roots; this area will continue to be monitored to identify potential impacts to the adjacent, downstream BMAs.

### ***Installed Features***

- Erosion control fabric was intact throughout the BMA and is beginning to degrade as designed. It will become part of the detrital layer over time.
- The installed rock toe was intact and is continuing to show evidence of desired sediment deposition throughout. There has been no change to the rock toe and geocell at location 00+350 that was disturbed by the City of Waynesboro Department of Public to daylight an existing stormwater outfall pipe in 2019.
- Previous inspections documented two installed LWD features that were displaced from their original positions at the City Shops BMA; they are currently stable with sediment filling in behind them. They continue to be within the remedial project area and will continue to be monitored. Corrective actions will be implemented if warranted.
- Vegetative cover and localized scour at the base of the existing mature tree at location 00 +300 is satisfactory and will continue to be monitored to verify the integrity/stability of geocell around the base of the tree during future monitoring events.

### ***Allied Ready Mix***

The findings of the maintenance inspection conducted at the Allied Ready Mix BMA documented stable conditions throughout the BMA with increased vegetation cover and a decrease in exposed geocell and erosion control fabric compared to the previous leaf-on inspection conducted in the spring of 2020 (AECOM, 2020). Limited areas of torn erosion control fabric were noted in the area where previously documented stone toe rock was intentionally moved by others and placed in the stream to create an improvised weir at station 00+100 (AECOM, 2020). As of spring 2021, this weir has been removed and the streambank area has been restored with vegetative cover. Vegetative cover throughout the BMA is established with extensive natural recruitment occurring and limited Japanese knotweed present. Vegetative community growth, sediment deposition, and stability will continue to be monitored.

A brief summary of findings is provided below; complete details of the maintenance inspection including field sheets, photographic logs, and the Cap Area Inspection Record are provided in Attachment C.

***Vegetation***

- Robust growth of planted native vegetation and natural recruitment along the stone toe was noted throughout the BMA.
- Live stakes and plantings are 40-70% established and appear to be healthy.
- Localized areas of bare soil/erosion control fabric were present, predominantly in the upstream BMA. In these areas, vegetation growth appears to be hampered due to excessive foot traffic.
- Stations exhibiting increased cover of invasive knotweed include 00+400, 00+1250 and 00+1300.

***Stability***

- As built riverbank angles remained unchanged and consistent bank angles were maintained throughout the BMA as constructed (Attachment C – Table 1).
- Potential “at-risk” trees (e.g., trees that may no longer be stable due to erosion) within the remediated portions of the BMA include a silver maple at station 00+100 and maple saplings at 00+400.
- Areas of localized scour within the BMA, associated with heavy foot traffic, were limited to isolated areas in the upstream BMA (as discussed above at station 00-20) and at location 00+00.
- Heavy erosion continues to be present downstream of the last remediated section of the BMA. The downstream terminus of the bank treatment will continue to be monitored for signs of back cutting, which may undermine the integrity of the bank.
- Scour occurs at stations 00-20, 00+00, 00+50, 00+100, 00+1250, and 00+1450.

***Installed Features***

- Erosion control fabric is significantly exposed at station 00+1450.
- The stone toe was intact throughout the BMA, with sediment deposition filling in the interstices providing substrate for natural recruitment of native plant species.
- As previously documented in the fall 2019 leaf-off report, rocks from the stone toe at 00+100 were moved approximately 3 to 4-feet into the stream channel parallel to the bank to create an improvised weir, by unidentified members of the public (AECOM, 2020). Corrective actions, including the replacement of stone at the toe of the bank took place in 2020 and the area has been restored.
- Rip rap fortified outfall culverts, the Steel Run confluence, and the bank abutment remain intact and functioning as designed.

***Shiloh Baptist Church***

The maintenance inspection conducted at the Shiloh Baptist Church BMA documented stable conditions at the recently remediated bank with limited areas of erosion caused by overland flow of stormwater behind the church and beginning of Riverside Drive. Installed live stakes and other plantings appear healthy and are becoming established. Grasses and seed mix species are established.

A brief summary of findings is provided below; complete details of the maintenance inspection including field sheets, photographic logs, and the Cap Area Inspection Record are provided in Attachment D.

***Vegetation***

- Installed live stakes, saplings, and shrubs appear healthy and are becoming established along the majority of the BMA.
- Installed saplings and shrubs were removed by the landowner between 00+50 and 00+150 in 2020. They have since been replaced and are intact as of spring 2021.
- Large trees left in place during remediation along the BMA appear to be healthy and show no signs of stress.
- Larger patches of invasive Japanese knotweed are present at stations 00-25, 00+500.
- “At-risk” trees (trees that may no longer be stable due to erosion) are located at station 00+650 (mature sycamore) and downstream, outside of remediated area from 00+975.
- Possible future “at-risk” trees are located at station 00+450 (catalpa saplings).

***Stability***

- Consistent bank slopes were documented throughout the BMA with no indication of any changes from the as-built condition.
- There was no scour documented along the toe of slope; however, surface runoff from the parking lot behind Shiloh Baptist Church and the beginning of Riverside Drive was noted. Corrective actions (i.e., topsoil placement, seeding, and erosion control blanket) will be completed and surface water drainage will be evaluated to determine if additional corrective actions are required.
- Slight scour was noted at stations 00-25, 00+700 and downstream of 00+975, outside of the remediated area.

***Installed Features***

- The installed rock toe was intact and showed no indication of movement.
- The armor-flex reinforced stormwater drain outlet at 00+350 was intact.
- Erosion control fabric was no longer exposed and did not show signs of wear. Dense vegetation was present at the time of the spring 2021 survey. Patches of exposed soil were present at station 00+450, following torn fabric noted in 2020. Corrective actions and monitoring will be performed as described above.

**North Park**

The maintenance inspection conducted at the North Park documented stable conditions at the recently remediated bank with limited areas of erosion caused by overland flow of stormwater. Installed live stakes and other plantings appear healthy and are becoming established. Grasses and seed mix species are established. Isolated locations of exposed fabric, geocell, and soil were undergoing repair on the day of the Spring 2021 inspection, June 24, 2021.

A brief summary of findings is provided below; complete details of the maintenance inspection including field sheets, photographic logs, and the Cap Area Inspection Record are provided in Attachment E.

***Vegetation***

- Installed live stakes, saplings, and shrubs appear healthy and are becoming established along the majority of the BMA.
- Large trees left in place during remediation along the BMA appear to be healthy and show no signs of stress.

- Larger patches of invasive Japanese knotweed are present at stations 00+400, 00+1100 and 00+1750.

### ***Stability***

- Consistent bank slopes were documented throughout the BMA with no indication of changes from the as-built condition.
- There was slight scour documented at station 00-25 at toe of slope; 00+1300, 00\_1550 (at toe of slope); 00+1350, 00+1400, 00+1450, 00+1500, 00+2300, 00+2350, 00+2380 (under roots); and 00+1900 (at toe of stairs).
- “At-risk” trees (e.g. trees that may no longer be stable due to erosion) were identified, some more at-risk than others. Those that are most at-risk include the box elder at station 00+2300 and the Black walnuts at stations 00+1400 and 00+1450.

### ***Installed Features***

- The installed rock toe was intact and showed no indication of movement.
- Erosion control fabric was exposed and shows signs of wear in some areas. Erosion control fabric was 00+50, 00+100, 00+350, 00+400, 00+500, 00+550, 00+600, 00+650, 00+700 where surface runoff occurs. Corrective actions took place on June 24, 2021 and monitoring will be performed as described above.

## **RECOMMENDATIONS**

The following monitoring and maintenance activities are recommended for each of the BMAs based on the findings of the 2021 leaf-on inspection:

### **Constitution Park**

- Continue invasive species management (e.g., herbicide treatment or biocontrol method) as necessary.
- Monitor stability of “at-risk” Box Elder at station 00-450’ during future monitoring events to determine if corrective actions are required.

### **City Shops**

- Monitor vegetation and mature trees along the BMA, particularly the sycamore tree that is dead at 00+300, to determine if corrective actions are required.
- Continue to monitor the stability of two previously dislodged pieces of LWD at 00+400 & 00+850.

### **Allied Ready Mix**

- Corrective actions of the stone toe around the improvised weir were completed in the fall of 2020.
- Monitor invasive knotweed at Stations 00+400, 00+1250 and 00+1300 and treat if necessary.
- Continue focused monitoring of downstream scour and vegetation establishment.

### **Shiloh Baptist Church**

- The need for corrective measures (e.g. herbicide treatment or biocontrol) should be monitored at locations where larger patches of invasive Japanese knotweed are present particularly at Station 00+500.



- Continue to monitor “at-risk” trees (trees that may no longer be stable due to erosion) at station 00+650 (mature sycamore) and downstream, outside of remediated area from 00+975.

### **North Park**

- Continued monitoring of at “risk-trees”.
- Monitoring and remedy for larger patches of invasive knotweed.

### **REFERENCES**

AECOM 2020. 2020 Leaf-on Maintenance Inspection, Former DuPont Waynesboro Site, Area of Concern 4. November 2020.

Anchor QEA, AECOM, and E.I. du Pont de Nemours and Company. 2016. Basis of Design Report, Phase 1A Bank Management Areas, South River Area of Concern 4. September 2016.



Attachment A  
Constitution Park BMA

Attachment A - Table 1  
2021 Leaf-On Maintenance Inspection Log  
Constitution Park BMA  
Former DuPont Waynesboro Site, Area of Concern 4

Station (ft) <sup>1</sup>	Undercutting				Exposed Roots			At Risk Trees			Installed Stabilization Features Intact					Local Scour			Overall Change Since Previous Inspection	
	Approximate Bank Angle (Degrees)	Consistent Grade (Y/N) <sup>2</sup>	Notes	Photo # (Attachment A)	Exposed Roots (L/M/H) <sup>3</sup>	Notes	Photo # (Attachment A)	At Risk Trees Present (Y/N) <sup>4</sup>	Notes	Photo # (Attachment A)	Rock Toe/LWD (Y/N) <sup>5</sup>	Geocell (Y/N) <sup>6</sup>	Erosion Control Fabric (Y/N) <sup>7</sup>	Notes	Photo # (Attachment A)	Scour Present (Y/N) <sup>7</sup>	Notes	Photo # (Attachment A)	Y/N	Notes
00 - 25	30	N (see notes)	Lower bank: ~20 degrees Upper bank: ~55 degrees	1,2	L	Persimmon saplings adjacent to edge of water; Large patches of invasive Knotweed present.	1,2	N	Persimmon saplings adjacent to edge of water.	1,2	NA	NA	NA	None.	1,2	Y	Low presence of scour 5' upstream of 00 - 25. Slight erosion at waters edge.	1,2	Y	Large patches of invasive Knotweed have become established.
00 + 00	40	N (see notes)	Lower bank: ~30 degrees Upper bank: ~55 degrees	3,4	NA	No live stakes established.	3,4	N	No trees adjacent to edge of water.	3,4	NA	Y	Y	Coir logs intact, some erosion control fabric is visible; Exposed geocell below constructed gravel river access.	3,4	N	Slight scour. Geocell ~20% exposed below constructed gravel river access.	3,4	Y	No live stakes established.
00 + 50	45	Y	Lower 3' of bank toe level	5,6	NA	~50% invasive species cover- Japanese Knotweed. ~50% native Jewelweed. Live stakes ~10% established.	5,6	N	No trees adjacent to edge of water.	5,6	NA	Y	Y (It was placed but has decomposed in Spring 2021.)	Erosion control fabric is no longer visible due to decomposition. Coir log also decomposed.	5,6	N	Evidence of foot traffic along the toe of slope.	5,6	Y	More vegetation established; Erosion control fabric decomposed.
00 + 100	40	N (see notes)	Lower bank: ~10 degrees (rock toe); Upper bank: ~45 degrees	7, 8	NA	No live stakes established. But other species - Blue Flag Iris, Wing Stem, Nettle, Jewelweed, and Sycamores are establishing.	7, 8	N	Sycamore saplings.	7, 8	Y (Rock Toe)	Y (It was placed but is not visible in spring 2021.)	Y (It was placed but has decomposed as of Spring 2021.)	Rock toe along bank and constructed river access steps intact with evidence of disturbance due to groundhog and/or human activity.	7,8	Y (under steps and rock toe)	Sediment deposition adjacent to rock toe boulders.	7,8	N	None.
00 + 150	45	N (see notes)	Lower bank: ~5 degrees (rock toe); Upper bank: ~45 degrees	9,10	NA	Native vegetation is dominant - Soft Rush, Bulrush, Elderberry, Jewelweed; No live stake establishment observed.	9,10	N	No trees adjacent to edge of water.	9,10	Y (LWD and Rock Toe)	Y (It was placed but has decomposed as of spring 2021.)	Y	Installed geocell and erosion control fabric not visible - decomposition.	9,10	Y (under rocks)	Silt filling in behind LWD and in boulders.	9,10	Y	Ailanthus saplings observed.
00 + 200	55	Y	None.	11	NA	Isolated, small patches of invasive vegetation present (Japanese Knotweed); No live stakes observed. Native vegetation includes - Pokeberry, Elderberry, Sycamore, Catalpa Saplings, and Jewelweed.	11	N	No trees adjacent to edge of water.	11	NA	Y (It was placed but is now decomposed.)	Y (It was placed but has decomposed in Spring 2021.)	Installed coir logs and erosion fabric have mostly decomposed. Geocell not visible. Minimal scour observed.	11	N	No evidence of foot traffic along the toe of slope.	11	Y	Increased vegetation cover.
00 + 250	55	Y	None.	12,13	NA	Patches of invasive vegetation present; No live stakes established. Native vegetation includes: Pokeberry, Jewelweed, Maple and Catalpa saplings. ~10% Japanese knotweed.	12,13	N	No trees adjacent to edge of water.	12,13	NA	Y (Geocell exposed 30% at toe)	Y (~50% exposed.)	Erosion control fabric decomposed; Geocell is not visible; Coir logs degraded; No evidence of foot traffic along toe of slope.	12,13	Y	No scour observed.	12,13	Y	No live stakes established; increase in native vegetation.
00 + 300	70	Y	None.	14	NA	Predominantly native vegetation present - increased cover of Staghorn Sumac; ~25% Japanese Knotweed cover, ~2% Crown Vetch; live stakes ~20% established.	14	N	No trees adjacent to edge of water.	14	NA	Y	Y (It was placed but has decomposed as of Spring 2021.)	No geocell exposed; Coir logs and stakes visible.	14	N	No scour observed.	14	Y	Predominately native vegetation, an increase in vegetation cover.
00 + 350	70	Y	None.	15,16,17	NA	Invasive vegetation present ~70% Japanese Knotweed; Live stakes ~30% established. Native bank vegetation includes: Jewelweed, Curly Dock, Dogbane, and Blue Flag Iris.	15,16,17	N	Sycamore on bank was previously listed as dead - It is alive as of spring 2021.	15,16,17	NA	Y (Exposed downstream around Black Walnut.)	Y (Was placed but is not visible in Spring 2021.)	No geocell exposed; Erosion control fabric has decomposed; Coir logs degraded; No foot traffic or paths observed along toe of slope.	15,16,17	Y	Minimal scour present at toe of slope.	15,16,17	Y	Increased invasive vegetation.
00 + 400	60	Y	None.	18,19	NA	Native vegetation present along top of bank with small patches of invasive knotweed (~10% cover) at toe of slope; No live stakes observed. Native vegetation includes: Black Walnut, Jewelweed, Pokeberry, Poison Ivy, Box Elder, and Catalpa saplings.	18,19	N	Sycamore on bank 40' upstream previously listed as dead - was not observed in spring 2021.	18,19	NA	Y	Y (~2% exposed at toe of slope.)	No erosion control fabric or geocell exposed.	18,19	N	No scour observed.	18,19	Y	No live stakes established; No erosion control fabric or geocell exposed. An increase in native vegetation cover.
00 + 450	50	Y	None.	20	NA	Japanese Knotweed ~5% cover; Native vegetation present- Jewelweed, Box Elder, Locust, Curly Dock, Pokeberry.	20	Y	Box Elder at risk.	20	NA	Y	Y (~25% exposed.)	Erosion control fabric exposed.	20	Y	No evidence of scour on upper Coir Log.	20	Y	Native vegetation has filled in.
00 + 500	40	Y	The bank design has a decreased vertical bank height (~6') compared to upstream monitoring stations.	21,22,23	NA	Native vegetative present with patches of the invasive Knotweed (~40% cover); No live stakes observed. Native vegetation observed: Jewelweed, Pokeberry, Wing Stem ( <i>Verbena alternifolia</i> ), and Catalpa.	21,22,23	N	No trees adjacent to edge of water.	21,22,23	NA	Y	N	None.	21,22,23	N	None.	21,22,23	Y	No live stakes established. Filled in with Knotweed and Jewelweed.
00 + 525	15	Y	None.	24,25	NA	Predominantly native vegetation cover; No live stakes observed. Japanese Knotweed ~5% cover, Sycamore, Locust, American Elm, Jewelweed, Curly Dock, and Elderberry.	24,25	N	No at risk trees adjacent to edge of water. Catalpa saplings establishing.	24,25	NA	N	Y (~30% exposed. Coir logs decomposed, stakes remain.)	No erosion control fabric or geocell exposed.	24,25	N	None.	24,25	Y	No live stakes established. ~5% Knotweed cover, native vegetation establishing.

**Notes:**

1. Inspection station is described as the distance (feet) upstream (-) or downstream (+) from the start of the BMA (00); for example, Station 00 + 50' is 50 feet downstream from the start of the BMA
2. A significant deviation from continuous bank slope or break in grade may be used as an indicator of undercutting; consistent bank grade is evaluated as Y (yes) or N (no)
3. The extent to which roots are exposed may provide a relative measure of the magnitude of apparent erosion; extent of exposed roots is evaluated as L (low), M (moderate), H (high), or NA (not applicable- no exposed roots)
4. At-risk trees (i.e., trees that lean towards the river) typically have a greater potential to fall into the river and dislodge the bank soil and erosion-control products immediately around and above the tree; presence of at-risk trees is evaluated as Y (yes) or N (no)
5. Installed rock toe and large woody debris (LWD) features are monitored to ensure that they are anchored and determine whether material has sloughed, or been eroded, or moved downstream; these installed features are evaluated as Y (yes, intact), N (no, not intact), or NA (not applicable- no installed features to monitor)
6. Installed geocell and erosion control fabric are monitored to ensure that they are intact and determine whether material is exposed or visible; these installed features are evaluated as Y (yes, intact), N (no, not intact), or NA (not applicable- no installed features to monitor)
7. The presence of local scour is assessed at the toe and center of the bank, per inspection station, as well as approximately 25 feet upstream and downstream of the start and end of the BMA; the presence of scour is evaluated as Y (yes) or N (no)

## South River Photolog Constitution Park BMA Bank Monitoring Memo

Attachment A

**Location:**  
00-25'

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**Photo Number:**      **Date:**  
1                              6/22/2021

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**Direction Photo Taken:**  
West

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**Description:**  
~20 degree lower bank angle and 55 degree upper bank angle; Persimmon saplings adjacent to water's edge; invasive knotweed has become established; some erosion at water's edge with minimal scour.



**Location:**  
00-25'

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**Photo Title:**              **Date:**  
2                              6/22/2021

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**Direction Photo Taken:**  
Northwest

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**Description:**  
Start of remediated bank; No evidence of foot traffic along toe of slope; coir logs decomposed.



## South River Photolog Constitution Park BMA Bank Monitoring Memo

Attachment A

**Location:**  
00+00'

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**Photo Number:**      **Date:**  
3                              6/22/2021

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**Direction Photo Taken:**  
West

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**Description:**  
~30 degree lower bank angle and 55 degree upper bank angle; No live stakes have established; No trees adjacent to water; coir logs intact; some erosion control fabric exposed; vegetation established; exposed geocell at constructed gravel access path.



**Location:**  
00+00'

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**Photo Title:**              **Date:**  
4                              6/22/2021

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**Direction Photo Taken:**  
Northwest


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**Description:**  
Slight scour; Exposed geocell along constructed river access path.



## South River Photolog Constitution Park BMA Bank Monitoring Memo

Attachment A

<b>Location:</b> 00+50'	
<b>Photo Number:</b> 5 <b>Date:</b> 6/22/2021	
<b>Direction Photo Taken:</b> West	
<b>Description:</b> ~45 degree bank angle; no exposed roots; No live stakes have established; native vegetation established-jewelweed 50% cover, invasive knotweed 50% cover; coir logs have decomposed along toe of slope; erosion control fabric deteriorated; No geocell observed; sediment deposition along toe of slope.	

<b>Location:</b> 00+50'	
<b>Photo Title:</b> 6 <b>Date:</b> 6/22/2021	
<b>Direction Photo Taken:</b> Northwest	
<b>Description:</b> Evidence of foot traffic at toe of slope; erosion control fabric deteriorated.	

## South River Photolog Constitution Park BMA Bank Monitoring Memo

Attachment A

**Location:**  
00+100'

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**Photo Number:**      **Date:**  
7                              6/22/2021

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**Direction Photo Taken:**  
West

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**Description:**  
~45 degree bank angle; no live stakes not visible; plantings establishing- mostly elderberry; vegetation established-mostly jewelweed; staircase intact; sediment deposition around rock toe; installed rock toe intact; no geocell or erosion fabric visible.



**Location:**  
00+100'

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**Photo Title:**              **Date:**  
8                              6/22/2021

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**Direction Photo Taken:**  
West

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**Description:**  
Staircase intact; undercutting under bottom stone slab steps likely occurring during high water events.



## South River Photolog Constitution Park BMA Bank Monitoring Memo

Attachment A

**Location:**  
00+150'

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**Photo Number:**      **Date:**  
9                              6/22/2021

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**Direction Photo Taken:**  
West

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**Description:**  
~45 degree bank angle; no exposed roots; live stakes not visible; native vegetation has established- softrush, elderberry, sumac; invasive ailanthus saplings observed; evidence of foot traffic along slope; scour at toe of bank; LWD intact; sediment deposition behind LWD.



**Location:**  
00+150'

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**Photo Title:**              **Date:**  
10                              6/22/2021

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**Direction Photo Taken:**  
Northwest


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**Description:**  
Downstream view; rock toe, no erosion control fabric or geocell exposed.



## South River Photolog Constitution Park BMA Bank Monitoring Memo

Attachment A

<p><b>Location:</b> 00+200'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 11                              6/22/2021</p> <hr/> <p><b>Direction Photo Taken:</b> West</p> <hr/> <p><b>Description:</b> ~55 degree bank angle; no evidence of lives stakes observed; isolated patched of invasive knotweed; native vegetation establishing- elderberry, sumac, pokeberry, sycamore and catalpa saplings; vegetation established mid to upper bank; erosion control fabric deteriorated; no geocell exposed; minimal scour.</p>	
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<p><b>Location:</b> 00+250'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 12                              6/22/2021</p> <hr/> <p><b>Direction Photo Taken:</b> West</p> <hr/> <p><b>Description:</b> ~55 degree bank angle; vegetation establishing mid to upper bank; no live stakes observed; native vegetation established- jewelweed, catalpa saplings; erosion control fabric deteriorated; no geocell exposed a; coir logs visible at toe of slope; no scour observed.</p>	
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## South River Photolog Constitution Park BMA Bank Monitoring Memo

Attachment A

**Location:**  
00+250'

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**Photo Number:**      **Date:**  
13                              6/22/2021

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**Direction Photo Taken:**  
Southwest

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**Description:**  
Small patches of invasive knotweed observed; no at risk trees present; coir logs have degraded; no foot traffic evident at water's edge.



**Location:**  
00+300'

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**Photo Title:**              **Date:**  
14                              6/22/2021

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**Direction Photo Taken:**  
West

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**Description:**  
~70 degree bank angle; vegetation established mid to upper bank; no live stakes observed; erosion control fabric deteriorated; no geocell; no evidence of foot traffic; native vegetation established- staghorn sumac, jewelweed; invasive knotweed ~ 25% cover.



## South River Photolog Constitution Park BMA Bank Monitoring Memo

Attachment A

**Location:**  
00+350'

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**Photo Number:**      **Date:**  
15                              6/22/2021

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**Direction Photo Taken:**  
West

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**Description:**  
~70 degree bank angle;  
vegetation establishing;  
invasive knotweed ~70%  
cover; live stakes ~ 30%  
established; erosion control  
fabric deteriorated; sycamore  
tree previously listed as  
dead, is alive and growing;  
minimal scour present at toe  
of slope.



**Location:**  
00+350'

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**Photo Title:**              **Date:**  
16                              6/22/2021

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**Direction Photo Taken:**  
Southwest


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**Description:**  
Upstream view of  
remediated bank; minimal  
scour overall; coir logs have  
degraded; no evidence of  
foot traffic observed;  
increased native vegetation  
established.



## South River Photolog Constitution Park BMA Bank Monitoring Memo

Attachment A

<p><b>Location:</b> 00+350'</p>	
<p><b>Photo Number:</b> 17      <b>Date:</b> 6/22/2021</p>	
<p><b>Direction Photo Taken:</b> Northwest</p>	
<p><b>Description:</b> Downstream view; increased cover of invasive knotweed; no live stakes observed; no exposed geocell or erosion control fabric observed.</p>	

<p><b>Location:</b> 00+400'</p>	
<p><b>Photo Title:</b> 18      <b>Date:</b> 6/22/2021</p>	
<p><b>Direction Photo Taken:</b> West</p>	
<p><b>Description:</b> ~60 degree bank angle; vegetation establishing mid to upper bank; No live stakes observed; coir logs deteriorating; no erosion control fabric observed; lower bank soils no longer exposed; invasive knotweed ~10% cover; native vegetation includes- black walnut, jewelweed, pokeberry, box elder, poison ivy and catalpa saplings.</p>	

## South River Photolog Constitution Park BMA Bank Monitoring Memo

Attachment A

**Location:**  
00+400'

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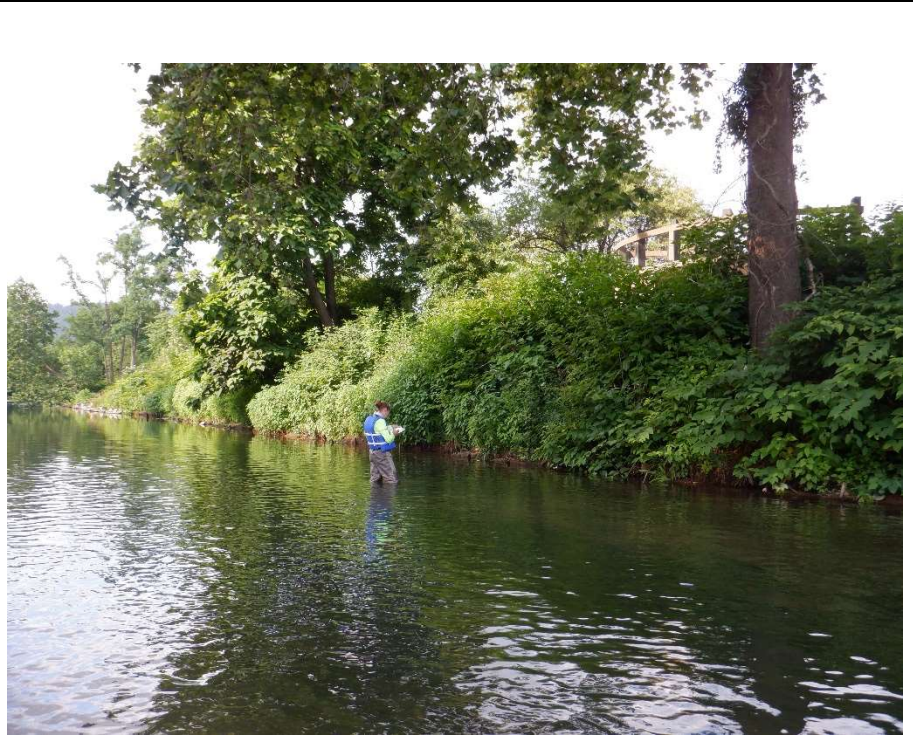
**Photo Number:**      **Date:**  
19                              6/22/2021

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**Direction Photo Taken:**  
Southwest

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**Description:**  
Upstream view showing remediated section; no exposed roots or at-risk trees present; no scour; coir logs have decomposed; increase in cover of invasive knotweed.



**Location:**  
00+450'

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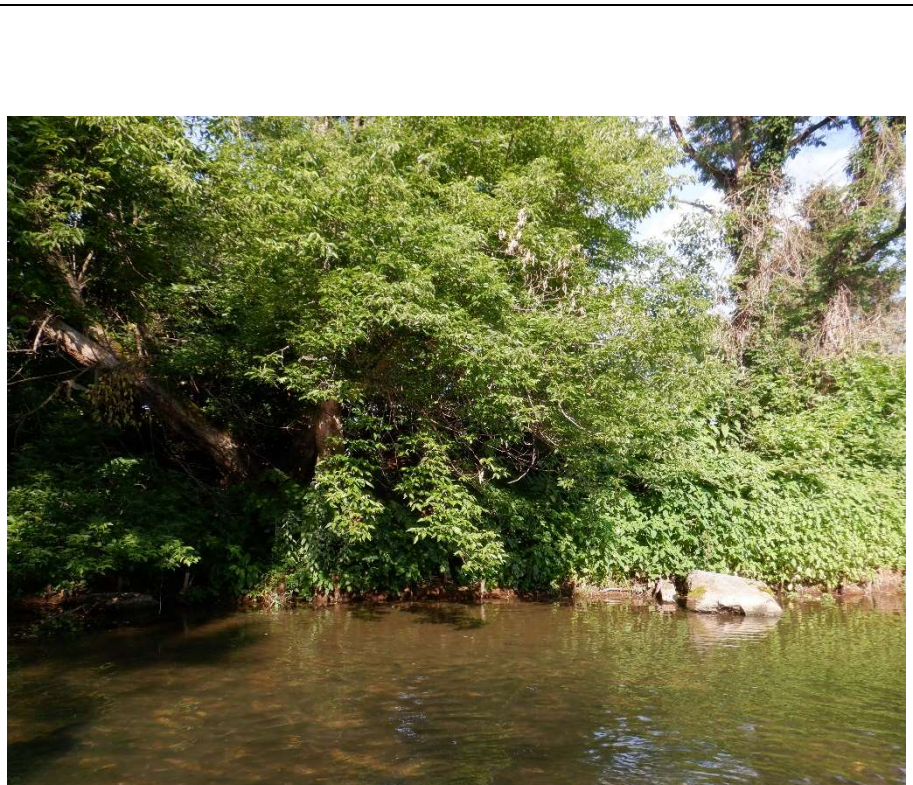
**Photo Title:**              **Date:**  
20                              6/22/2021

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**Direction Photo Taken:**  
West

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**Description:**  
~50 degree bank angle; vegetation established; no erosion control fabric exposed; banks soils covered with vegetation (mostly jewelweed); invasive knotweed ~5% cover; native vegetation includes- jewelweed, box elder, locust, curly dock, pokeberry; box elder is an at-risk tree; erosion control fabric decomposed; coir logs decomposed, stakes remain at toe of slope.



## South River Photolog Constitution Park BMA Bank Monitoring Memo

Attachment A

<p><b>Location:</b> 00+500'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 21                              6/22/2021</p> <hr/> <p><b>Direction Photo Taken:</b> West</p> <hr/> <p><b>Description:</b> ~40 degree bank angle; no live stakes observed; filled in with invasive knotweed ~40% cover and native jewelweed-vegetation established, so bank soils exposed; coir logs deteriorated; no geocell exposed; erosion control fabric deteriorated; undercutting along toe.</p>	
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<p><b>Location:</b> 00+500'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 22                              6/22/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Southwest</p> <hr/> <p><b>Description:</b> Upstream view- at risk box elder at 00+450; no scour, no exposed roots.</p>	
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## South River Photolog Constitution Park BMA Bank Monitoring Memo

Attachment A

**Location:**  
00+500'

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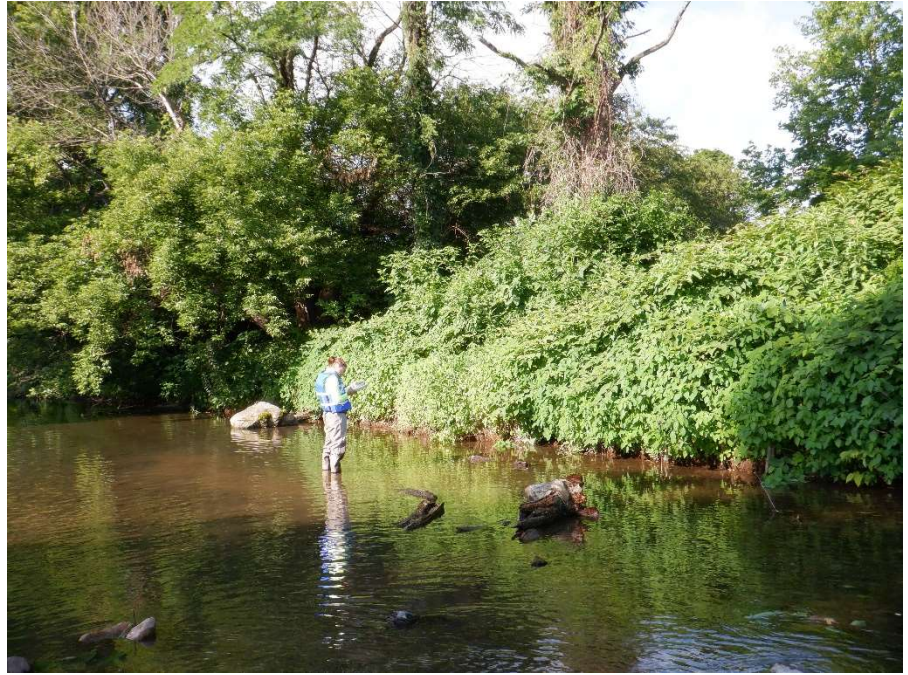
**Photo Number:**      **Date:**  
23                              6/22/2021

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**Direction Photo Taken:**  
Southwest

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**Description:**  
Invasive knotweed cover  
~40%.



**Location:**  
00+525'

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**Photo Title:**              **Date:**  
24                              6/22/2021

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**Direction Photo Taken:**  
West

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**Description:**  
~15 degree bank angle; no  
exposed roots; native  
vegetation established-  
sycamore, locust, American  
elm, jewelweed, curly dock,  
elderberry; invasive  
knotweed ~5% cover.



## South River Photolog Constitution Park BMA Bank Monitoring Memo

Attachment A

**Location:**

00+525'

**Photo Number:**

25

**Date:**

6/22/2021

**Direction Photo Taken:**

Northwest

**Description:**

Downstream view- patches of invasive knotweed observed.



Attachment A - Waynesboro Off-Site Cap Areas

Inspection Record Sheet

Maintenance Plan

Location and property owner name: Constitution Park BMA		
Item	Status/Maintenance Needs	Repairs Needed?
Access Roads	NA	NA
Trails	Stairs, greenway, and installed gravel path intact, but showing wear and overgrown; Geocell is exposed on installed gravel path	1
Drainage Structures	Drainage structures intact	1
Outfall Structures	Outfall structures intact	1
Rip-Rap Protection	Rip-rap intact	1
Cap System Vegetative Cover	Live stakes installed in 2019 have not been established (e.g. <5% established), but herbaceous plugs installed at the same time appear healthy. Increased presence of Japanese knotweed	1
Cap System Geosynthetics	Cap system is intact	1
Cap System Slope Stability	Slope is generally consistent and stable	1
Cap System Subsidence	Slight subsidence near the uppermost section of the BMA associated with foot traffic at the toe of the slope	1
Fencing and Gates	Fencing intact	1

Notes:

1. Functioning properly; no repairs needed
2. Repairs needed (describe why, what, and where), but not time critical
3. Time critical repair needed (describe what and where)

Comments:

Inspected by: Katie Bartling, Rebecca Indeck, Sara Bartle


Date: June 22, 2021





Attachment B  
City Shops BMA


Station (ft) <sup>1</sup>	Undercutting				Exposed Roots			At Risk Trees			Installed Stabilization Features Intact				Local Scour			Overall Change Since Previous Inspection		
	Approximate Bank Angle (Degrees)	Consistent Grade (Y/N) <sup>2</sup>	Notes	Photo # (Attachment B)	Exposed Roots (L, M, H) <sup>3</sup>	Notes	Photo # (Attachment B)	At Risk Trees Present (Y/N) <sup>4</sup>	Notes	Photo # (Attachment B)	Rock Toe/LWD (Y/N) <sup>5</sup>	Geocell (Y/N) <sup>6</sup>	Erosion Control Fabric (Y/N) <sup>6</sup>	Notes	Photo # (Appendix B)	Scour Present (Y/N) <sup>7</sup>	Notes	Photo # (Attachment B)	Y/N	Notes
00 + 25	85	Y	None.	1,2	H	High quantity of exposed roots on the bank. "80% vegetated." "50% honeysuckle. Ailanthus saplings.	1,2	Y	At risk trees present - Box Elder.	1,2	NA	NA	NA	None.	1,2	Y	Scour present throughout.	1,2	Y	Greater area of bank vegetated - box elder, sugar maple, honeysuckle, ailanthus.
00 + 00	70	N (see notes)	Lower bank: "60 degrees Upper bank: "80 degrees	3	N	No exposed roots. Catalpa tree at toe of slope.	3	N	No woody plants adjacent to edge of water.	3	Y	Y	Y	None.	3	Y	Some scour present from rock toe to mid bank upstream of remediation.	3	Y	Increased vegetation cover - sumac "50% cover, pokeweed, goldenrod, tickseed, ailanthus at toe, honeysuckle, birch, grasses.
00 + 50	45	Y	None.	4,5,6	N	Predominantly native vegetation along top of rock toe - Catalpa and Sycamore saplings. Overall sumac "60% cover, no knotweed observed.	4,5,6	N	No woody plants adjacent to edge of water.	4,5,6	Y (LWD and Rock Toe)	Y	Y	No geocell or erosion control fabric exposed. LWD intact; sediment filling behind LWD.	4,5,6	N	No scour present along rock toe.	4,5,6	N	None.
00 + 100	45	Y	None.	7	N	Predominantly native vegetation along top of Rock Toe - Sumac "60% cover, grasses, no knotweed. Sycamore saplings at toe.	7	N	No woody plants adjacent to edge of water.	7	Y (LWD and Rock Toe)	Y	Y	No geocell observed. "5% erosion control fabric exposed on upper bank. LWD intact.	7	N	No scour present along rock toe.	7	Y	Increased vegetation "20% honeysuckle cover, box elder "30% cover. Also dogwoods, maple, 2 ailanthus, physocarpus "10% cover, sumac is 25% cover.
00 + 150	45	Y	None.	8,9	NA	Predominantly native vegetation along top of Rock Toe - Sycamore saplings. Dogwoods, Sumac, Jewelweed at toe, and Physocarpus; invasive knotweed present.	8,9	N	No woody plants adjacent to edge of water.	8,9	Y	Y	Y	No geocell observed. "5% erosion control fabric exposed on upper bank. LWD intact.	8,9	N	No scour present along rock toe.	8,9	Y	More invasive knotweed present.
00 + 200	45	Y	None.	10,11	NA	Predominantly native vegetation along top of Rock Toe - Sumac "60% cover; large patches of invasive knotweed present "75% cover. Access stairs covered by knotweed.	10,11	N	No woody plants adjacent to edge of water.	10,11	Y	Y	Y	Erosion control fabric "20% exposed on upper bank. Rock stairs and gate present on upper half of bank.	10,11	N	No scour present along rock toe; outfall pipe present within rock toe.	10,11	Y	More invasive knotweed present.
00 + 250	45	Y	None.	12	NA	Predominantly native vegetation along top of Rock Toe - Sumac 15-20' tall, Pokeberry, and Jewelweed. Invasive knotweed present "20% cover.	12	N	No woody plants adjacent to edge of water.	12	Y (LWD and Rock Toe)	Y	Y	Erosion control fabric "40% exposed; LWD intact.	12	N	No scour present along rock toe.	12	Y	More invasive knotweed present.
00 + 300	45	Y	None.	13	NA	Predominantly native vegetation along top of Rock Toe - Elderberry "80% cover, Periwinkle "20%. No knotweed observed.	13	N	Smallest old growth Sycamore dead with top 1/2 snapped off creating natural log dam at water's edge (see photo).	13	Y (LWD and Rock Toe)	Y	Y	No fabric exposed; no geocell exposed; LWD intact.	13	N	No scour present along rock toe.	13	Y	Log dam from top 1/2 of dead sycamore at water's edge on upstream side of LWD (see photo).
00 + 350	45	Y	None.	14	NA	Predominantly native vegetation along top of Rock Toe - Sumac, Jewelweed "80% cover, and Catalpa saplings.	14	N	None.	14	Y (LWD and Rock Toe)	Y	Y	No erosion control fabric exposed. Some geocell exposed; Rock exposed on bank; LWD intact; no change to status of outfall pipe that was daylighted by the City of Waynesboro Public Works Department. No additional stabilization or remediation of exposed outfall pipe in regards to cut geocell, erosion control fabric, and movement of Rock Toe has taken place. Rock Toe above outfall that was daylighted is beginning to collapse. No groundhog observed.	14	N	Scour present from storm drain disturbance.	14	Y	Rock toe above daylighted outfall pipe beginning to collapse. 20' downstream of daylighted outfall, is a fallen sycamore sapling at the base of mature tree (see photo). New active groundhog burrow observed; catalpa saplings observed.
00 + 400	45	Y	None.	15,16,17	NA	Predominantly native vegetation along top of Rock Toe - small Sycamores at toe of slope. Invasive Honeysuckle present. Jewelweed and grasses are dominant.	15,16,17	N	No at risk trees present.	15,16,17	Y (LWD and Rock Toe)	Y	Y	Erosion control fabric exposed on upper bank; Upstream LWD has shifted and is parallel with another piece of installed LWD downstream of 00 +400'; 1st outfall pipe has broken hinge on door; 2nd outfall pipe appears to be blocked from opening and is covered by vegetation.	15,16,17	Y	No scour present along rock toe; two outfall pipes present within rock toe.	15,16,17	Y	Outfall pipes covered by vegetation / blocked. Large sycamore and sumacs are new.
00 + 450	45	Y	None.	18	NA	Native vegetation along top of Rock Toe - 4 Sycamores, and 1 Silver Maple; some large trees present; Small patches of invasive knotweed present "25% cover.	18	N	No at risk trees present.	18	Y (LWD and Rock Toe)	Y	Y	No erosion control fabric exposed at top of bank and around tree bases; No geocell exposed. Grasses present.	18	N	No scour present along rock toe.	18	Y	Exposed rock at toe, scour in between rocks.
00 + 500	45	Y	None.	19,20,21	NA	Native vegetation along top of Rock Toe - Jewelweed "30% cover, Elderberry, Raspberry, Elm sapling; some large trees present - Sycamore. Invasive Japanese Knotweed "25% cover.	19,20,21	N	No at risk trees present.	19,20,21	Y	Y	Y	None exposed.	19,20,21	N	No scour present along rock toe.	19,20,21	Y	Sediment deposition at toe of slope.
00 + 550	70	Y	None.	22	H	Lower bank consists mostly of exposed roots.	22	Y	Several large trees with exposed roots hanging over the river - Silver Maple and Sycamore. Also invasive Honeysuckle is at risk.	22	NA	NA	NA	Section was not remediated.	22	Y	Entire lower bank shows large amounts of scour.	22	N	None.
00 + 600	75	Y	None.	23	H	Lower bank consists mostly of exposed roots.	23	Y	Many exposed roots along the lower bank. At risk trees include: Silver Maple, Hackberry, and Sycamore.	23	NA	NA	NA	Section was not remediated.	23	Y	Entire lower bank shows large amounts of scour.	23	N	None.
00 + 650	85	Y	None.	24,25	H	Bank consists mostly of exposed roots. Strip of Jewelweed at toe of slope.	24,25	Y	At risk trees present along the upper bank - Hackberry, invasive Honeysuckle and Black Locust.	24,25	NA	NA	NA	Section was not remediated.	24,25	Y	Entire bank shows large amounts of scour. Exposed soil at toe.	24,25	N	None.
00 + 700	90	Y	None.	26	H	Bank consists mostly of exposed roots, with some vegetation growing on slope.	26	Y	At risk trees present along the upper bank - Hackberry, invasive Honeysuckle and Black Locust.	26	NA	NA	NA	Section was not remediated.	26	Y	Entire bank shows large amounts of scour. Exposed soil at toe.	26	Y	More vegetation growing on exposed slope.
00 + 750	90	N (see notes)	Beginning of second remediated area. Upstream bank: "90 degrees, downstream bank: "45 degrees.	27,28,29	M	Upper bank upstream of the remediation consists mostly of exposed roots. Invasive Japanese Knotweed "75% cover, also present is Black Locust, Jewelweed "10% cover, Willow "25% cover, and Pokeweed "20% cover.	27,28,29	Y	At risk trees present upstream of rock toe - Catalpa.	27,28,29	Y	Y	Y	Beginning of second remediated section.	27,28,29	Y	Large amounts of scour above rock toe.	27,28,29	Y	Vegetation has established. Small elm saplings, sediment deposition observed on rocks.
00 + 800	40	Y	None.	30,31	NA	Planted vegetation well established above Rock Toe - no invasive knotweed observed. Elms "15% cover, Sycamore sapling at toe, Wing Stem and grasses also observed.	30,31	N	No at risk trees present.	30,31	Y (LWD and Rock Toe)	Y	Y	No geocell exposed; No erosion control fabric exposed; LWD intact.	30,31	N	No scour present along rock toe.	30,31	Y	No erosion control fabric exposed. Rocks at toe of slope.
00 + 850	25	N (see notes)	Lower bank: "25 degrees Upper bank: "30 degrees	32,33,34	NA	Planted vegetation well established above Rock Toe - Box Elder and Red Maple saplings; invasive Ailanthus sapling observed. Jewelweed becoming established.	32,33,34	N	No at risk trees present.	32,33,34	N (LWD) Y (Rock Toe)	Y	Y	Erosion control fabric primarily covered in vegetation; LWD moved from its installed position. The root ball side of the installed LWD has pivoted downstream from its original position and is now angled into the river.	32,33,34	N	No scour present along rock toe.	32,33,34	Y	Sand and gravel deposition observed.
00 + 880	20	Y	None.	35,36	NA	Planted vegetation well established above Rock Toe. Catalpa and Sycamore saplings and large Sycamore. Invasive Knotweed "25% cover.	35,36	N	No woody plants adjacent to edge of water.	35,36	Y (Rock Toe)	Y	Y	Erosion control fabric covered in vegetation. Sediment filling around shifted LWD. Downstream end of LWD is at a 45 degree angle from bank about 10-15 feet from the water's edge (see photo).	35,36	N	No scour present along rock toe and lower bank.	35,36	Y	Downstream end of LWD shifted to a greater angle of 45 degrees and 10-15 feet from water's edge.


Notes:  
 1. Inspection station is described as the distance (feet) upstream (-) or downstream (+) from the start of the BMA (00); for example, Station 00 + 50' is 50 feet downstream from the start of the BMA.  
 2. A significant deviation from continuous bank slope or break in grade may be used as an indicator of undercutting; consistent bank grade is evaluated as Y (yes) or N (no).  
 3. The extent to which roots are exposed may provide a relative measure of the magnitude of apparent erosion; extent of exposed roots is evaluated as L (low), M (moderate), H (high), or NA (not applicable- no exposed roots).  
 4. At-risk trees (i.e., trees that lean towards the river) typically have a greater potential to fall into the river and dislodge the bank soil and erosion control products immediately around and above the tree; presence of at-risk trees is evaluated as Y (yes) or N (no).  
 5. Installed rock toe and large woody debris (LWD) features are monitored to ensure that they are anchored and determine whether material has sloughed, or been eroded, or moved downstream; these installed features are evaluated as Y (yes, intact), N (no, not intact), or NA (not applicable- no installed features to monitor).  
 6. Installed geocell and erosion control fabric are monitored to ensure that they are intact and determine whether material is exposed or visible; these installed features are evaluated as Y (yes, intact), N (no, not intact), or NA (not applicable- no installed features to monitor).  
 7. The presence of local scour is assessed at the toe and center of the bank, per inspection station, as well as approximately 25 feet upstream and downstream of the start and end of the BMA; the presence of scour is evaluated as Y (yes) or N (no).  
 Grey shaded cells from 00+550 to 00+700 are portions of the bank that were not remediated.


<p><b>Location:</b> Station 00-25'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 1                              6/22/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Northwest</p> <hr/> <p><b>Description:</b> 85 degree bank angle; at risk trees present - box elder; scour present throughout; 80% vegetated - 50% honeysuckle, Ailanthus saplings.</p>	
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<p><b>Location:</b> Station 00-25'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 2                              6/22/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Northwest</p> <hr/> <p><b>Description:</b> High quantity of roots exposed on the bank; at risk trees present-box elder; scour present throughout.</p>	
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<p><b>Location:</b> Station 00-00'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 3                              6/22/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Northwest</p> <hr/> <p><b>Description:</b> 70 degree bank angle; lower bank - 60 degrees, upper bank - 80 degrees. No exposed roots, catalpa tree at toe of slope. No woody plants adjacent to edge of water; some scour present from rock toe to mid bank upstream of remediation.</p>	 A photograph showing a riverbank with a rocky toe. The bank is covered in dense green vegetation, including large ferns and other leafy plants. The water is dark and calm, reflecting the sky. The background shows more trees and a clear sky.
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<p><b>Location:</b> Station 00-50'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 4                              6/22/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Northwest</p> <hr/> <p><b>Description:</b> 45 degree bank angle; predominantly native vegetation along top of rock toe- catalpa and sycamore saplings. Overall sumacs - 60% cover, no knotweed observed; no woody plants adjacent to edge of water; No geocell or erosion control fabric exposed. LWD intact; sediment filling behind LWD.</p>	 A photograph showing a riverbank with a rocky toe. The bank is covered in dense green vegetation, including large ferns and other leafy plants. The water is dark and calm, reflecting the sky. The background shows more trees and a clear sky.
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<p><b>Location:</b> Station 00-50'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 5                              6/22/2021</p> <hr/> <p><b>Direction Photo Taken:</b> West</p> <hr/> <p><b>Description:</b> Upstream view of location; installed rock toe intact; No geocell or erosion control fabric exposed; predominantly native vegetation along top of rock toe- catalpa and sycamore saplings. Overall sumacs - 60% cover, no knotweed observed.</p>	 A photograph showing an upstream view of a river. A concrete bridge with a metal railing spans across the river in the middle ground. The riverbank is lined with dense, lush green vegetation, including tall trees and thick bushes. The water is dark and reflects the surrounding greenery. The sky is overcast.
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<p><b>Location:</b> Station 00-50'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 6                                  6/22/2021</p> <hr/> <p><b>Direction Photo Taken:</b> North</p> <hr/> <p><b>Description:</b> Downstrea view of location; installed rock toe intact; No geocell or erosion control fabric exposed; predominantly native vegetation along top of rock toe- catalpa and sycamore saplings. Overall sumacs - 60% cover, no knotweed observed.</p>	 A photograph showing a downstream view of a river. The riverbank is lined with dense, lush green vegetation, including tall trees and thick bushes. The water is dark and reflects the surrounding greenery. The sky is blue with scattered white clouds. A utility pole is visible in the background.
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<p><b>Location:</b> Station 00-100'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 7                              6/22/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Northwest</p> <hr/> <p><b>Description:</b> 45 degree bank angle; predominantly native vegetation along top of rock toe- sumac 60% cover, grasses, no knotweed. Sycamore saplings at toe; No woody plants adjacent to edge of water; No geocell observed. ~5% erosion control fabric exposed on upper bank. LWD intact. No scour present along rock toe.</p>	
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<p><b>Location:</b> Station 00-150'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 8                                  6/22/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Northwest</p> <hr/> <p><b>Description:</b> 45 degree bank angle; Predominantly native vegetation along top of rock toe- sycamore saplings, dogwoods, sumac, jewelweed at toe, physocarpus; invasive knotweed present; No woody plants adjacent to edge of water; No geocell observed. ~5% erosion control fabric exposed on upper bank. LWD intact; No scour present along rock toe.</p>	
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<p><b>Location:</b> Station 00-150'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 9                              6/22/2021</p> <hr/> <p><b>Direction Photo Taken:</b> West</p> <hr/> <p><b>Description:</b> Upstream view of location; predominantly native vegetation along top of rock toe; no geocell observed. ~5% erosion control fabric exposed on upper bank. LWD intact; No scour present along rock toe.</p>	
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<p><b>Location:</b> Station 00-200'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 10                              6/22/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Northwest</p> <hr/> <p><b>Description:</b> 45 degree bank angle; predominantly native vegetation along top of rock toe-sumac ~60% cover; large patches of invasive knotweed present ~75% cover. access stairs covered by knotweed; No woody plants adjacent to edge of water; erosion control fabric 20% exposed on upper bank. Rock stairs and gate present on upper half of bank; No scour present along rock toe.</p>	
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<p><b>Location:</b> Station 00-200'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 11                              6/22/2021</p> <hr/> <p><b>Direction Photo Taken:</b> North</p> <hr/> <p><b>Description:</b> Downstream view of location; Predominantly native vegetation along top of rock toe; erosion control fabric 20% exposed on upper bank. Rock stairs and gate present on upper half of bank; No scour present along rock toe; outfall pipe present within rock toe.</p>	
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<p><b>Location:</b> Station 00-250'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 12                              6/22/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Northwest</p> <hr/> <p><b>Description:</b> 45 degree bank angle; Predominantly native vegetation along top of rock toe-sumacs 15-20' tall, pokeberry, jewelweed; invasive knotweed present ~20% cover; no woody plants adjacent to edge of water; erosion control fabric 40% exposed; LWD intact; no scour present along rock toe.</p>	
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**Location:**  
Station 00-300'

**Photo Number:** 13      **Date:** 6/22/2021

**Direction Photo Taken:**  
Northwest

**Description:**  
45 degree bank angle;  
Predominantly native vegetation along top of rock toe- elderberry ~80% cover, periwinkle ~25%; no knotweed observed; smallest old growth sycamore dead with top 1/2 snapped off creating natural log dam at water's edge; no fabric exposed; no geocell exposed; LWD intact; no scour present along rock toe.




**Location:**  
Station 00-350'


**Photo Title:** 14      **Date:** 6/22/2021

**Direction Photo Taken:**  
Northwest

**Description:**  
45 degree bank angle;  
Predominantly native vegetation along top of rock toe- sumac, jewelweed ~80% cover, catalpa saplings; no erosion control fabric exposed; some geocell exposed; rock exposed on bank; LWD intact; no additional stabilization or remediation of exposed outfall pipe in regards to cut geocell, movement of rock toe has taken place; rock toe above outfall that was daylighted is beginning to collapse; scour present from storm drain disturbance.



<p><b>Location:</b> Station 00-400'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 15                              6/22/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Northwest</p> <hr/> <p><b>Description:</b> 45 degree bank angle; predominantly native vegetation along top of rock toe- small sycamores at toe of slope, invasive honeysuckle present, jewelweed and grasses are dominant; no at risk trees present; erosion control fabric exposed on upper bank; 1st outfall pipe has broken hinge on door; 2nd outfall pipe appears to be blocked from opening and is covered by vegetation; no scour present along rock toe; two outfall pipes present within rock toe.</p>	
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<p><b>Location:</b> Station 00-400'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 16                              6/22/2021</p> <hr/> <p><b>Direction Photo Taken:</b> West</p> <hr/> <p><b>Description:</b> Upstream view of location; predominantly native vegetation along top of rock toe, no at risk trees present; erosion control fabric exposed on upper bank; upstream LWD has shifted and is parallel with another piece of installed LWD downstream of 00 +400'; no scour present along rock toe.</p>	
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**Location:**  
Station 00-400'

**Photo Number:** 17      **Date:** 6/22/2021

**Direction Photo Taken:**  
North

**Description:**  
Downstream view of location; predominantly native vegetation along top of rock toe, erosion control fabric exposed on upper bank; upstream LWD has shifted and is parallel with another piece of installed LWD downstream of 00 +400'; no scour present along rock toe.



**Location:**  
Station 00-450'


**Photo Title:** 18      **Date:** 6/22/2021

**Direction Photo Taken:**  
Northwest


**Description:**  
45 degree bank angle; native vegetation along top of rock toe-4 sycamores, and 1 silver maple; some large trees present; small patches of invasive knotweed present ~25% cover; no at risk trees present; no erosion control fabric exposed at top of bank and around tree bases; no geocell exposed, grasses present; no scour present along rock toe.





<p><b>Location:</b> Station 00-500'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 19                              6/22/2021</p> <hr/>	
<p><b>Direction Photo Taken:</b> Northwest</p> <hr/>	
<p><b>Description:</b> 45 degree bank angle; native vegetation along top of rock toe-jewelweed (~30% cover), elderberry, raspberry, elm sapling; some large trees present-sycamore, invasive Japanese knotweed ~25% cover; no at risk trees present; no erosion control fabric or geocell exposed; no scour present along rock toe.</p>	

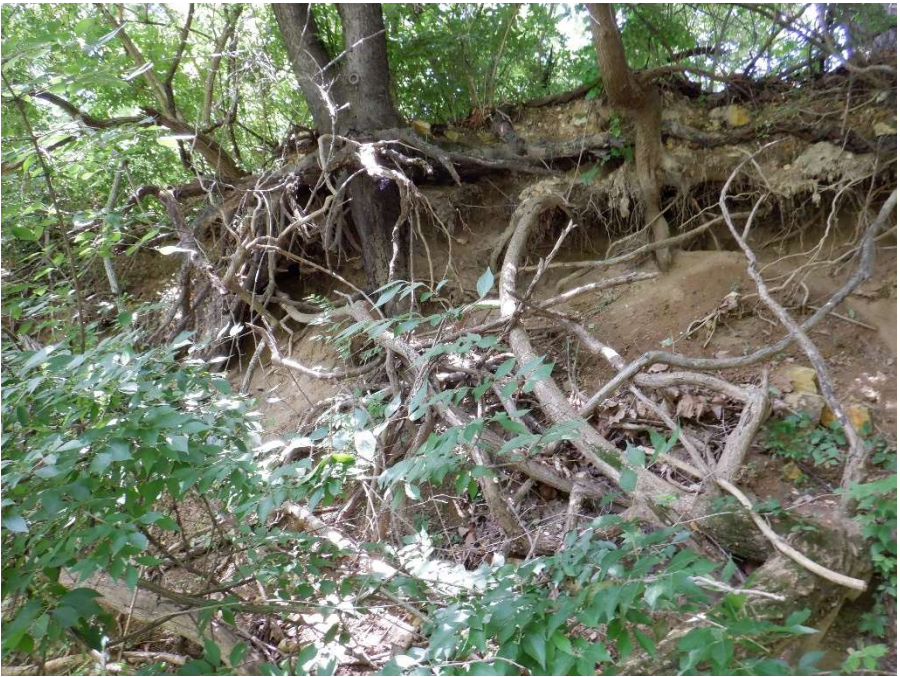
<p><b>Location:</b> Station 00-500'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 20                              6/22/2021</p> <hr/>	
<p><b>Direction Photo Taken:</b> North</p> <hr/>	
<p><b>Description:</b> Downstream view of location; no at risk trees present; no erosion control fabric or geocell exposed ; no scour present along rock toe.</p>	


<p><b>Location:</b> Station 00-500'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 21                      6/22/2021</p> <hr/> <p><b>Direction Photo Taken:</b> West</p> <hr/> <p><b>Description:</b> Upstream view of location; native vegetation along top of rock toe; no at risk trees present; no erosion control fabric or geocell exposed; no scour present along rock toe.</p>	 A photograph showing an upstream view of a river. The water is calm and reflects the surrounding greenery. The right bank is a steep, rocky toe covered with dense, lush vegetation, including tall trees and thick undergrowth. The sky is bright and clear.
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<p><b>Location:</b> Station 00-550'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 22                      6/22/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Northwest</p> <hr/> <p><b>Description:</b> 70 degree bank angle; lower bank consists mostly of exposed roots; several large trees with exposed roots hanging over the river-silver maple and sycamore, invasive honeysuckle is at risk; section was not remediated; entire lower bank shows large amounts of scour.</p>	 A close-up photograph of a riverbank. The bank is steep and shows significant scour, with many exposed tree roots hanging over the water. The vegetation is dense, including large trees like silver maple and sycamore, and some invasive honeysuckle. The water is shallow and clear, reflecting the surrounding greenery.
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<p><b>Location:</b> Station 00-600'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 23                              6/22/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Northwest</p> <hr/> <p><b>Description:</b> 75 degree bank angle; lower bank consists mostly of exposed roots; many exposed roots along the lower bank, at risk trees include: silver maple, hackberry, and sycamore; section was not remediated; entire lower bank shows large amounts of scour.</p>	
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<p><b>Location:</b> Station 00-650'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 24                              6/22/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Northwest</p> <hr/> <p><b>Description:</b> 85 degree bank angle; Bank consists mostly of exposed roots, strip of jewelweed at toe of slope; at risk trees present along the upper bank- hackberry, invasive honeysuckle and black locust; section was not remediated; entire bank shows large amounts of scour; exposed soil at toe.</p>	
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<p><b>Location:</b> Station 00-650'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 25                      6/22/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Northwest</p> <hr/> <p><b>Description:</b> 85 degree bank angle; bank consists mostly of exposed roots; at risk trees present along the upper bank; section was not remediated.</p>	 A photograph showing a steep, eroded bank with a dense network of exposed tree roots. The roots are light brown and gnarled, extending from the top of the bank down towards the water level. There is some green vegetation at the top of the bank.
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<p><b>Location:</b> Station 00-700'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 26                      6/22/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Northwest</p> <hr/> <p><b>Description:</b> 90 degree bank angle; bank consists mostly of exposed roots, with some vegetation growing on slope; At risk trees present along the upper bank- hackberry, invasive honeysuckle and black locust; Section was not remediated; Entire bank shows large amounts of scour. Exposed soil at toe.</p>	 A photograph showing a steep bank with exposed roots and a body of water in the foreground. The bank is covered with dense green vegetation, including trees and shrubs. The water is dark and reflects the surrounding greenery. A person in a blue shirt is partially visible on the right side of the image.
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<p><b>Location:</b> Station 00-750'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 27                      6/22/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Northwest</p> <hr/> <p><b>Description:</b> 90 degree bank angle; Beginning of second remediated area; upstream bank; ~90 degrees, downstream bank; ~45 degrees; upper bank upstream of the remediation consists mostly of exposed roots, invasive Japanese knotweed ~2% cover, also present is black locust, Jewelweed ~10% cover, willow ~25% cover, and pokeweed ~20% cover; at risk trees present upstream of rock toe-Catalpa; large amounts of scour above rock toe.</p>	
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<p><b>Location:</b> Station 00-750'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 28                      6/22/2021</p> <hr/> <p><b>Direction Photo Taken:</b> West</p> <hr/> <p><b>Description:</b> Upstream view of location; beginning of second remediated area; at risk trees present upstream of rock toe-Catalpa; Beginning of second remediated section; Large amounts of scour above rock toe.</p>	
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<p><b>Location:</b> Station 00-750'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 29                      6/22/2021</p> <hr/> <p><b>Direction Photo Taken:</b> North</p> <hr/> <p><b>Description:</b> Downstream view of location; beginning of second remediated area; at risk trees present upstream of rock toe; beginning of second remediated section; large amounts of scour above rock toe.</p>	
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<p><b>Location:</b> Station 00-800'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 30                      6/22/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Northwest</p> <hr/> <p><b>Description:</b> 40 degree bank angle; planted vegetation well established above rock toe- no invasive knotweed observed. elms ~15% cover, sycamore sapling at toe, wingstem and grasses also observed; no at risk trees present; no geocell exposed; no erosion control fabric exposed; LWD intact; no scour present along rock toe.</p>	
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<p><b>Location:</b> Station 00-800'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 31                              6/22/2021</p> <hr/> <p><b>Direction Photo Taken:</b> North</p> <hr/> <p><b>Description:</b> Downstream view of location; planted vegetation well established above rock toe; no at risk trees present; no geocell exposed; no erosion control fabric exposed; LWD intact; no scour present along rock toe.</p>	
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<p><b>Location:</b> Station 00-850'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 32                              6/22/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Northwest</p> <hr/> <p><b>Description:</b> 25 degree bank angle; lower bank; ~25 degrees, ~upper bank; ~30 degrees, box elder and red maple saplings, invasive ailanthus sapling observed. Jewelweed becoming established; no at risk trees present; erosion control fabric primarily covered in vegetation; LWD moved from its installed position. The root ball side of the installed LWD has pivoted downstream from its original position and is now angled into the river. No scour present along rock toe.</p>	
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<p><b>Location:</b> Station 00-850'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 33                      6/22/2021</p> <hr/> <p><b>Direction Photo Taken:</b> West</p> <hr/> <p><b>Description:</b> Upstream view of location; planted vegetation well established above rock toe; no at risk trees present; erosion control fabric primarily covered in vegetation; LWD moved from its installed position. No scour present along rock toe.</p>	 A photograph showing an upstream view of a river. The water is calm and reflects the surrounding green trees and sky. On the right bank, there is a rocky toe with a log structure (LWD) partially submerged. The vegetation is dense and appears well-established.
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<p><b>Location:</b> Station 00-850'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 34                      6/22/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Northeast</p> <hr/> <p><b>Description:</b> Downstream view of location; planted vegetation well established above rock toe; no at risk trees present; Erosion control fabric primarily covered in vegetation; LWD moved from its installed position. The root ball side of the installed LWD has pivoted downstream from its original position and is now angled into the river; no scour present along rock toe.</p>	 A photograph showing a downstream view of the same river. The water is slightly more turbulent. A person in a red shirt is standing in the water near a rocky bank. A log structure (LWD) is visible, with its root ball side pivoted downstream and angled into the river. The surrounding vegetation is dense and green.
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<p><b>Location:</b> Station 00-880'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 35                              6/22/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Northwest</p> <hr/> <p><b>Description:</b> 20 degree bank angle; Planted vegetation well established above rock toe. Catalpa and sycamore saplings and large sycamore. Invasive knotweed ~ 25% cover; no woody plants adjacent to edge of water; erosion control fabric covered in vegetation; sediment filling around shifted LWD; no scour present along rock toe and lower bank.</p>	
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<p><b>Location:</b> Station 00-880'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 36                              6/22/2021</p> <hr/> <p><b>Direction Photo Taken:</b> North</p> <hr/> <p><b>Description:</b> Downstream view of location; planted vegetation well established above rock toe; no woody plants adjacent to edge of water; erosion control fabric covered in vegetation; downstream end of LWD is at a 45 degree angle from bank about 10-15 feet from the water's edge; no scour present along rock toe and lower bank.</p>	
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Attachment B - Waynesboro Off-Site Cap Areas

Inspection Record Sheet

Maintenance Plan

Location and property owner name: City Shops BMA		
Item	Status/Maintenance Needs	Repairs Needed?
Access Roads	NA	NA
Trails	Stairs intact	1
Drainage Structures	Drainage structures intact	1
Outfall Structures	City of Waynesboro Outfall structures not impacting bank stability	1
Rip-Rap Protection	Stone toe intact	1
Cap System Vegetative Cover	Plantings healthy the cap system is primarily covered in vegetation. Some invasive vegetation present.	1
Cap System Geosynthetics	Cap system is intact	1
Cap System Slope Stability	Slope is consistent and stable along remediation	1
Cap System Subsidence	None observed	1
Fencing and Gates	Fencing and gates intact	1

Notes:

1. Functioning properly; no repairs needed
2. Repairs needed (describe why, what, and where), but not time critical
3. Time critical repair needed (describe what and where)

Comments:


LWD shifted downstream at 400' and 880'


Inspected by: Katie Bartling, Rebecca Indeck and Sarah Bartle Date: June 22, 2021

Attachment C  
Allied Ready Mix BMA


Station (#)	Undercutting				Exposed Roots		At Risk Trees		Installed Stabilization Features Intact				Local Scour			Overall Change Since Previous Inspection				
	Approximate Bank Angle (Degrees)	Consistent Grade (Y/N) <sup>1</sup>	Notes	Photo # (Attachment C)	Exposed Roots (L, M, H) <sup>2</sup>	Notes	Photo # (Attachment C)	At Risk Trees Percent (Y/N) <sup>3</sup>	Notes	Photo # (Attachment C)	Rock Toe/LWD (Y/N) <sup>4</sup>	Geocell (Y/N) <sup>5</sup>	Erosion Control Fabric (Y/N) <sup>6</sup>	Notes	Photo # (Attachment C)	Scour Present (Y/N) <sup>7</sup>	Notes	Photo # (Attachment C)	(Y/N)	Notes
00 + 30	20	Y	None.	1	None.	Invasive Japanese Knotweed ~ 25% cover; Canada. Pileweed and invasive Honeyuckle also present.	1,2	N	No woody plants adjacent to edge of water.	1,2	Y (Rock Toe)	NA	NA	No fabric or geocell installed. Upstream of remediation.	1,2	N	Some scour associated with foot traffic along bank.	1,2	Y	Vegetation is becoming established at water edge.
00 + 00	45	Y	None.	3	None.	Slope hydroseeded Spring 2020. Vegetation established on slope. No evidence of live stakes. Jewelweed ~ 30% cover. Pileweed, Curly Dock, large Elderberry shrub, grasses ~ 65% cover. One Invasive Allenthus sapling.	3,4	N	No at risk trees present.	3,4	Y (Rock Toe)	Y	Y	Vegetation too thick to observe fabric or geocell exposure.	3,4	Y	Some scour associated with foot traffic along bank. Sand deposition above Rock Toe.	3,4	Y	No evidence of growth from live stakes. Slope hydroseeded Spring 2020. Thick vegetation established on slope.
00 + 50	50	Y	None.	5	None.	Slope hydroseeded Spring 2020. Minimal vegetation adjacent to water. No evidence of live stakes. Elderberry ~ 25% cover. Cut Leaf Coneflower ~ 5% cover. Jewelweed and Dogwoods ~ 25% cover. grasses ~ 55% cover.	5,6	N	No at risk trees present.	5,6	Y (Rock Toe)	Y (Exposed at Rock Toe.)	Y	Vegetation too thick to observe fabric or geocell exposure.	5,6	Y	Scour present where fabric is torn. Sand deposition at toe of bank.	5,6	N	None.
00 + 100	50	Y	None.	7	None.	Slope hydroseeded Spring 2020. Native herbaceous vegetation established. Live stakes ~ 30% established. Also observed was Box Elder, Jewelweed at toe ~ 25% cover. Invasive Allenthus sapling. Silver Maple, Willow, Dogwoods ~ 15% cover, and grasses making up the remaining cover.	7,8,9	N	No at risk trees present.	7,8,9	Y (Rock Toe)	Y	Y	Improved weir that was previously present has been removed.	7,8,9	N	Scour at Rock Toe.	7,8,9	Y	Thick vegetation established on slope. Improved weir has been removed.
00 + 150	50	Y	None.	10	None.	Native herbaceous vegetation adjacent to water. Live stakes ~ 60% established. Also present - Elderberry ~ 30% cover. Dogwood ~ 50% cover. Sycamore, Elm, Jewelweed, and Willow.	10	N	No at risk trees present.	10	Y (Rock Toe)	Y (Was placed but not visible.)	Y	No erosion control fabric or geocell exposed.	10	N	Sand deposition at toe of bank.	10	Y	No erosion control fabric or geocell exposed.
00 + 200	50	Y	None.	11	None.	Native herbaceous vegetation established. Live stakes ~ 70% established. Dogwoods and Willow, Elderberry ~ 60% cover. Jewelweed and Willow ~ 10% cover. Intermixed grasses, and Dogwoods.	11	N	No at risk trees present.	11	Y (Rock Toe)	Y	Y	No erosion control fabric or geocell exposed.	11	N	Sand deposition at toe of bank.	11	N	None.
00 + 250	50	Y	None.	12	None.	Native herbaceous vegetation established. Live stakes ~ 60% established. Sycamore sapling at top of slope. grasses ~ 70% cover. Willow, Elderberry ~ 20% cover. Jewelweed and Dogwood ~ 25% cover.	12	N	No at risk trees present.	12	Y (Rock Toe)	Y	Y	No erosion control fabric or geocell exposed. No exposed soil.	12	N	Sand deposition at toe of bank.	12	N	None.
00 + 300	40	Y	None.	13	None.	Native herbaceous vegetation established. Live stakes ~ 50% established. Trampled grasses from improvised path on upstream portion of slope.	13,14	N	No at risk trees present.	13,14	Y (Rock Toe)	Y (Was placed but not visible.)	Y (Was placed but is not visible.)	Rock Toe intact, outfall and drainage features intact. Trampled vegetation from improvised path.	13,14	N	Sand and gravel deposition at toe of bank.	13,14	N	None.
00 + 350	40	Y	None.	15	None.	Native herbaceous vegetation established. Live stakes ~ 50% established. Dogwoods and Elderberry. Pedestrian path at toe.	15	N	No at risk trees present.	15	Y (Rock Toe)	Y	Y	No erosion control fabric or geocell exposed.	15	N	Sand deposition at toe of bank.	15	N	None.
00 + 400	50	Y	None.	16	None.	Native vegetation established. Large patches of invasive Knotweed present on both sides of the outfall. Sycamore, Maple - sapling at toe, mostly grasses ~ 80% cover, and Willow.	16	N	No at risk trees present.	16	Y (Rock Toe)	Y	Y	No erosion control fabric or geocell exposed.	16	N	Sand deposition at toe of bank.	16	Y	No erosion control fabric or geocell exposed. Large patches of invasive Knotweed present on both sides of outfall.
00 + 450	50	Y	None.	17	None.	Bank completely covered in native vegetation. Live stakes ~ 50% established. Nettles, Jewelweed, Elderberry ~ 30% cover. Catalpa sapling at toe.	17,18	N	No at risk trees present.	17,18	Y (Rock Toe)	Y	Y	No erosion control fabric exposed. No geocell exposed.	17,18	N	Sand deposition at toe of bank.	17,18	N	None.
00 + 500	40	Y	None.	19	None.	Bank completely covered in native vegetation. Live stakes ~ 50% established. dead Sycamore with crack in trunk at top of slope. Elderberry ~ 5% cover.	19	N	No at risk trees present.	19	Y (Rock Toe)	Y	Y	No erosion control fabric exposed. No geocell exposed.	19	N	Sand deposition at toe of bank.	19	N	None.
00 + 550	30	N	Lower bank ~ 20 degrees Upper bank ~ 40 degrees	20	None.	Bank completely covered in native vegetation. Live stakes ~ 50% established. Grasses ~ 75% cover. Elderberry ~ 30% cover. small Sycamore and Maple establishing at toe of slope. Catalpa sapling. Jewelweed and Curly Dock at toe.	20,21	N	No at risk trees present.	20,21	Y (Rock Toe)	Y	Y	No erosion control fabric exposed. No geocell exposed.	20,21	N	Sand deposition at toe of bank.	20,21	N	None.
00 + 600	30	N	Lower bank ~ 20 degrees Upper bank ~ 40 degrees	22	None.	Bank completely covered in native vegetation. Live stakes ~ 50% established. grasses are dominant. Sycamores at top of slope. Soft bush, nettles and Maples at toe of slope.	22	N	No at risk trees present.	22	Y (Rock Toe)	Y	Y	No erosion control fabric exposed. No geocell exposed.	22	N	Sand deposition at toe of bank.	22	N	None.
00 + 650	30	N	Lower bank ~ 20 degrees Upper bank ~ 40 degrees	23	None.	Bank completely covered in native vegetation. Live stakes ~ 50% established. grasses ~ 80% cover. Soft tree Barkub, mint, small Maples at toe of slope.	23	N	No at risk trees present.	23	Y (Rock Toe)	Y	Y	No erosion control fabric exposed. No geocell exposed.	23	N	Sand deposition at toe of bank.	23	Y	Narrow pedestrian path at toe.
00 + 700	30	N	Lower bank ~ 20 degrees Upper bank ~ 40 degrees	24	None.	Bank completely covered in native vegetation. Live stakes ~ 50% established. small Sycamores, Willow, and Maples at toe of slope. Nettles, grasses are dominant.	24,25,26	N	No at risk trees present.	24,25,26	Y (Rock Toe)	Y	Y	No erosion control fabric exposed. No geocell exposed.	24,25,26	N	Sand deposition at toe of bank.	24,25,26	N	None.
00 + 750	30	N	Lower bank ~ 20 degrees Upper bank ~ 40 degrees	27	None.	Bank completely covered in native vegetation. Live stakes ~ 50% established. Trampled vegetation from walking path to river. Grasses are dominant, along with nightshade and nettles. 5 large Sycamores on bank. Red Maples at toe of slope.	27,28	N	No at risk trees present in remediated area.	27,28	Y (Rock Toe)	Y	Y	No erosion control fabric exposed. No geocell exposed. Improved access path observed.	27,28	N	None.	27,28	Y	Trampled vegetation from walking path to river.
00 + 1250	20	N	Non-remediated upstream section ~ 80 degrees Remediated section ~ 40 degrees.	29	H	Exposed roots just upstream of remediated bank. Large patches of invasive Knotweed present by riprap edge upstream (~ 80% cover). Jewelweed ~ 15% cover. Increased pedestrian access and a new rope swing chair hanging from Box Elder over water.	29,30	Y	One large box elder tree just upstream of remediated bank. Scour under box elder.	29,30	Y (Rock Toe)	Y	Y	Entirely rip rap portion of bank. remediation downstream.	29,30	Y	Scour under box elder tree and upstream of remediated section.	29,30	Y	Increased pedestrian access and a hanging rope swing chair hanging from at risk Box Elder tree. Large patches of invasive Knotweed by riprap upstream.
00 + 1300	20	Y	Fortified tributary channel.	31	None.	No exposed roots. Invasive Japanese Knotweed present ~ 80% cover. Jewelweed at ~ 20% cover. also present are Willow, Elderberry, and Sycamore saplings.	31,32	N	No at risk trees present.	31,32	Y (Rock Toe)	Y	Y	Entirely rip rap portion of bank.	31,32	N	Sediment deposition by Rock Toe.	31,32	N	None.
00 + 1350	50	Y	None.	33	None.	Native herbaceous vegetation established. Live stakes ~ 50% established. Box Elder dominant. small patch of Knotweed ~ 2% cover. Jewelweed and grasses are dominant ~ 90% cover. large Silver Maple at top of slope.	33	N	No at risk trees present.	33	Y (Rock Toe)	Y	Y	No erosion control fabric or geocell exposed.	33	N	None.	33	N	None.
00 + 1400	50	Y	None.	34	None.	Native herbaceous vegetation established. live stakes ~ 50% established. Catalpa saplings present on slope. no Knotweed. Curly Dock, Jewelweed and grasses are ~ 95% cover. Catalpa sapling at risk.	34,35	Y	Catalpa sapling.	34,35	Y (Rock Toe)	Y	Y	No erosion control fabric or geocell exposed.	34,35	N	None.	34,35	Y	Catalpa sapling at risk.
00 + 1450	80	N	Lower bank ~ 45 degrees Upper bank ~ 80 degrees	36	None.	Native herbaceous vegetation establishing. live stakes ~ 50% established. mature Black Walnut cover canopy. grasses are dominant ~ 95% cover.	36,37	N	No at risk trees present.	36,37	Y (Rock Toe)	Y	Y	Erosion control fabric ~ 40% exposed. No geocell exposed. Rip rap fortified bank abutment intact.	36,37	Y	Slight scour at rock toe. Erosion observed downstream of station.	36,37	Y	Inconsistent grade and slight scour at toe of slope.
00 + 1500	90	Y	Bank heavily undercut downstream of remediation.	38	H	Severe root exposure downstream of remediated bank. Erosion is too severe for vegetation to establish around Rock Toe. Vegetation established at top of slope is dominated by mature Black Walnut, Sycamores, Honeyuckle bush, no Knotweed present.	38	Y	High density of at risk trees downstream of remediated bank.	38	None.	NA	NA	No fabric or geocell installed. Downstream of remediation.	38	Y	Heavy erosion present downstream of remediated BMA.	38	Y	Erosion is too severe for vegetation establishment at toe of slope. However has vegetation established at top of slope.


1. Inspection station is described as the distance (ft) upstream (+) or downstream (-) from the start of the BMA (B) for example, Station 00 + 50 is 50 feet downstream from the start of the BMA.  
2. A significant deviation from continuous bank slope or break in grade may be used as an indicator of undercutting; consistent bank grade is evaluated as Y (yes) or N (no).  
3. The extent to which roots are exposed may provide a relative measure of the magnitude of apparent erosion; extent of exposed roots is evaluated as L (low), M (moderate), H (high), or NA (not applicable - no exposed roots).  
4. At risk trees (i.e., trees that lean towards the river) typically have a greater potential to fall into the river and dislodge the bank soil and erosion control products. Remediated areas above the tree presence of at risk trees is evaluated as Y (yes), N (no), or NA (not applicable - no installed features to monitor).  
5. Installed rock toe and large woody debris (LWD) features are monitored to ensure that they are anchored and determine whether material has sloughed, or been eroded, or moved downstream; these installed features are evaluated as Y (yes), N (no), or NA (not applicable - no installed features to monitor).  
6. Installed geocell and erosion control fabric are monitored to ensure that they are intact and determine whether material is exposed or visible; these installed features are evaluated as Y (yes), N (no), or NA (not applicable - no installed features to monitor).  
7. The presence of local scour is assessed at the toe and center of the bank, per inspection station, as well as approximately 25 feet upstream and downstream of the start and end of the BMA; the presence of scour is evaluated as Y (yes) or N (no).


<p><b>Location:</b> 00-20'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 1                              6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Southeast</p> <hr/> <p><b>Description:</b> ~ 20 degree bank angle; invasive Japanese knotweed - 25% cover; catalpa, pokeweed and invasive honeysuckle also present; no woody plants adjacent to edge of water; no fabric or geocell installed; upstream of remediation; some scour associated with foot traffic along bank.</p>	 A photograph showing a riverbank with dense, green vegetation. In the background, a portion of a dark-colored building is visible. The water in the foreground is slightly rippled and reflects the sky.
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<p><b>Location:</b> 00-20'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 2                              6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> East</p> <hr/> <p><b>Description:</b> ~ 20 degree bank angle; invasive Japanese knotweed - 25% cover; catalpa, pokeweed and invasive honeysuckle also present; no woody plants adjacent to edge of water; no fabric or geocell installed; upstream of remediation; some scour associated with foot traffic along bank.</p>	 A photograph showing a wide view of a riverbank with dense, green vegetation. The water is calm and reflects the sky. The background shows more trees and a clear blue sky.
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<p><b>Location:</b> 00+00'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 3                              6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Southeast</p> <hr/> <p><b>Description:</b> ~ 45 degree bank angle; slope hydroseeded Spring 2020; vegetation established on slope; no evidence of live stakes, jewelweed ~30% cover; pokweed, curly dock, large elderberry shrub, grasses ~65% cover; one invasive ailanthus sapling; no at-risk trees present; vegetation too thick to observe fabric or geocell exposure; some scour associated with foot traffic along bank; sand deposition above rock toe.</p>	
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<p><b>Location:</b> 00+00'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 4                                      6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> East</p> <hr/> <p><b>Description:</b> ~ 45 degree bank angle; slope hydroseeded Spring 2020; vegetation established on slope; no evidence of live stakes, no at-risk trees present; vegetation too thick to observe fabric or geocell exposure; some scour associated with foot traffic along bank; sand deposition above rock toe.</p>	
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<p><b>Location:</b> 00+50'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 5                              6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Southeast</p> <hr/> <p><b>Description:</b> ~50 degree bank angle; slope hydroseeded Spring 2020; Minimal vegetation adjacent to water; no evidence of livestakes; elderberry ~25% cover, cutleaf coneflower ~5% cover, jewelweed and dogwoods ~25% cover, grasses ~55% cover; no at-risk trees present; vegetation too thick to observe fabric or geocell exposure; scour present where fabric is torn; sand deposition at toe of bank.</p>	
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<p><b>Location:</b> 00+50'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 6                                      6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> East</p> <hr/> <p><b>Description:</b> ~50 degree bank angle; slope hydroseeded Spring 2020; Minimal vegetation adjacent to water; no evidence of livestakes; no at-risk trees present; vegetation too thick to observe fabric or geocell exposure; scour present where fabric is torn; sand deposition at toe of bank.</p>	
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**Location:**  
00+100'

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**Photo Number:**      **Date:**  
7                              6/23/2021

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**Direction Photo Taken:**  
Southeast

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**Description:**  
~ 50 degree bank angle; slope hydroseeded Spring 2020; native herbaceous vegetation adjacent to water; live stakes 30% established; also observed was box elder, jewelweed at toe ~25% cover, invasive ailanthus sapling, silver maples, willows, dogwoods ~15% cover, and grasses making up the remaining cover; no at-risk trees present; improvised weir that was previously present has been removed; scour at rock toe.



**Location:**  
00+100'

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**Photo Title:**              **Date:**  
8                              6/23/2021

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**Direction Photo Taken:**  
South

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**Description:**  
~ 50 degree bank angle; downstream view of location; slope hydroseeded Spring 2020; native herbaceous vegetation adjacent to water; Live stakes 30% established; No at-risk trees present; improvised weir that was previously present has been removed; scour at rock toe.



**Location:**  
00+100'

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**Photo Number:**      **Date:**  
9                              6/23/2021

---

**Direction Photo Taken:**  
East

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**Description:**  
~ 50 degree bank angle;  
upstream view of location;  
slope hydroseeded Spring  
2020; native herbaceous  
vegetation adjacent to water;  
Live stakes 30% established;  
No at-risk trees present;  
improvised weir that was  
previously present has been  
removed; scour at rock toe.



**Location:**  
00+150'

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**Photo Title:**              **Date:**  
10                              6/23/2021

---

**Direction Photo Taken:**  
Southeast

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**Description:**  
~ 50 degree bank angle;  
native herbaceous vegetation  
adjacent to water; live stakes  
60% established; elderberry  
~30% cover, dogwood ~30%  
cover, sycamore, elm,  
jewelweed, willows; no at-  
risk trees present; no erosion  
control fabric or geocell  
exposed; sand deposition at  
toe of bank.



**Location:**  
00+200'

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**Photo Number:**      **Date:**  
11                              6/23/2021

---

**Direction Photo Taken:**  
Southeast

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**Description:**  
~ 50 degree bank angle;  
native herbaceous vegetation  
established; live stakes 70%  
established-dogwoods and  
willows; elderberry ~60%  
cover, jewelweed and  
willows ~10% cover,  
intermixed grasses, and  
dogwoods; no at-risk trees  
present; no erosion control  
fabric or geocell exposed;  
sand deposition at toe of  
bank.



**Location:**  
00+250'

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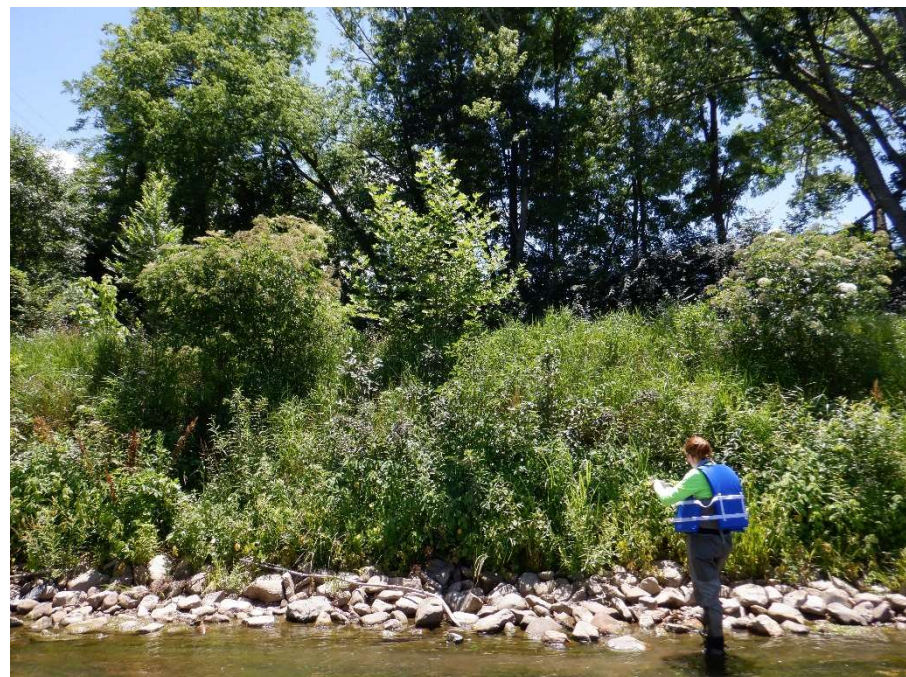
**Photo Title:**              **Date:**  
12                              6/23/2021

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**Direction Photo Taken:**  
Southeast

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**Description:**  
~ 50 degree bank angle;  
native herbaceous vegetation  
established; live stakes 60%  
established; sycamore  
sapling at top of slope,  
grasses ~70% cover, willows,  
elderberry ~20% cover,  
jewelweed and dogwood  
~25% cover; no at-risk trees  
present; no erosion control  
fabric or geocell exposed; no  
exposed soil; sand deposition  
at toe of bank.



**Location:**  
00+300'

---

**Photo Number:**      **Date:**  
13                              6/23/2021

---

**Direction Photo Taken:**  
Southeast

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**Description:**  
~ 40 degree bank angle;  
native herbaceous vegetation  
established; live stakes 50%  
established; trampled grasses  
from improvised path on  
upstream portion of slope;  
no at-risk trees present; rock  
toe intact, outfall and  
drainage features intact;  
sand and gravel deposition at  
toe of bank.



**Location:**  
00+300'

---

**Photo Title:**              **Date:**  
14                              6/23/2021

---

**Direction Photo Taken:**  
East

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**Description:**  
~ 40 degree bank angle;  
downstream view of location;  
native herbaceous vegetation  
established; live stakes 50%  
established; no at-risk trees  
present; rock toe intact; sand  
and gravel deposition at toe  
of bank.



**Location:**  
00+350'

---

**Photo Number:**      **Date:**  
15                              6/23/2021

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**Direction Photo Taken:**  
Southeast

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**Description:**  
~ 40 degree bank angle;  
native herbaceous vegetation  
established; live stakes 50%  
established; dogwoods and  
elderberry; pedestrian path  
at toe; no at-risk trees  
present; no erosion control  
fabric or geocell exposed;  
sand deposition at toe of  
bank.



**Location:**  
00+400'

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**Photo Title:**              **Date:**  
16                              6/23/2021

---

**Direction Photo Taken:**  
Southeast

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**Description:**  
~ 50 degree bank angle;  
native vegetation  
established; large patches of  
invasive knotweed present  
on both sides of the outfall;  
sycamore, maples-saplings at  
toe, mostly grasses ~80%  
cover, willows; no at-risk  
trees present; no erosion  
control fabric or geocell  
exposed; sand deposition at  
toe of bank.



**Location:**  
00+450'

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**Photo Number:**      **Date:**  
17                              6/23/2021

---

**Direction Photo Taken:**  
Southeast

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**Description:**  
~ 50 degree bank angle; bank completely covered in native vegetation; live stakes 50% established; nettle, jewelweed, elderberry ~30% cover, catalpa sapling at toe; no at-risk trees present; no erosion control fabric exposed; no geocell exposed; sand deposition at toe of bank.



**Location:**  
00+450'

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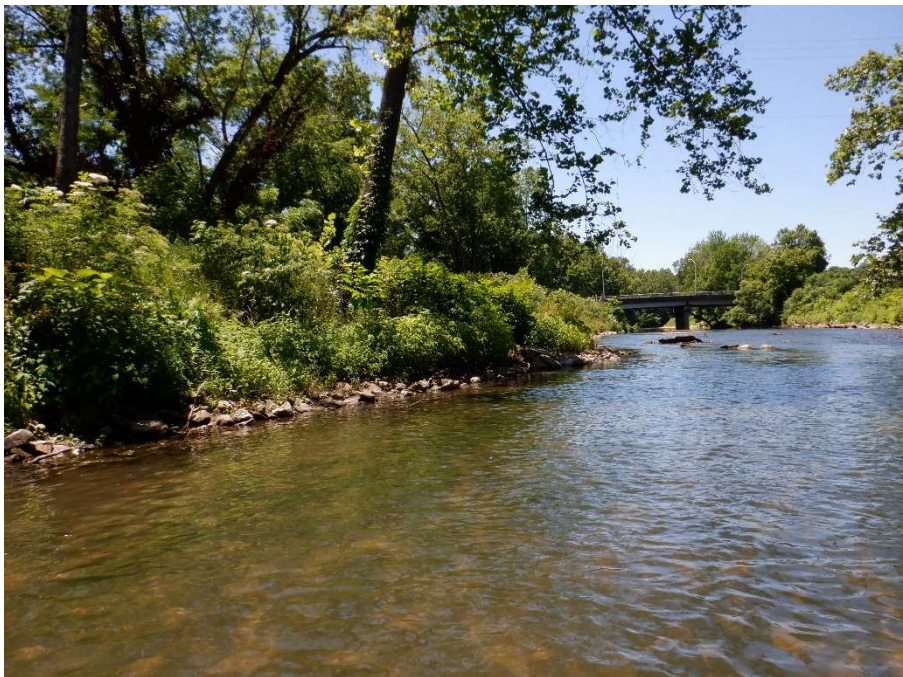
**Photo Title:**              **Date:**  
18                              6/23/2021

---

**Direction Photo Taken:**  
South

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**Description:**  
~ 50 degree bank angle; upstream view of location; bank completely covered in native vegetation; live stakes 50% established; no at-risk trees present; no erosion control fabric exposed; no geocell exposed; sand deposition at toe of bank.





**Location:**  
00+500'

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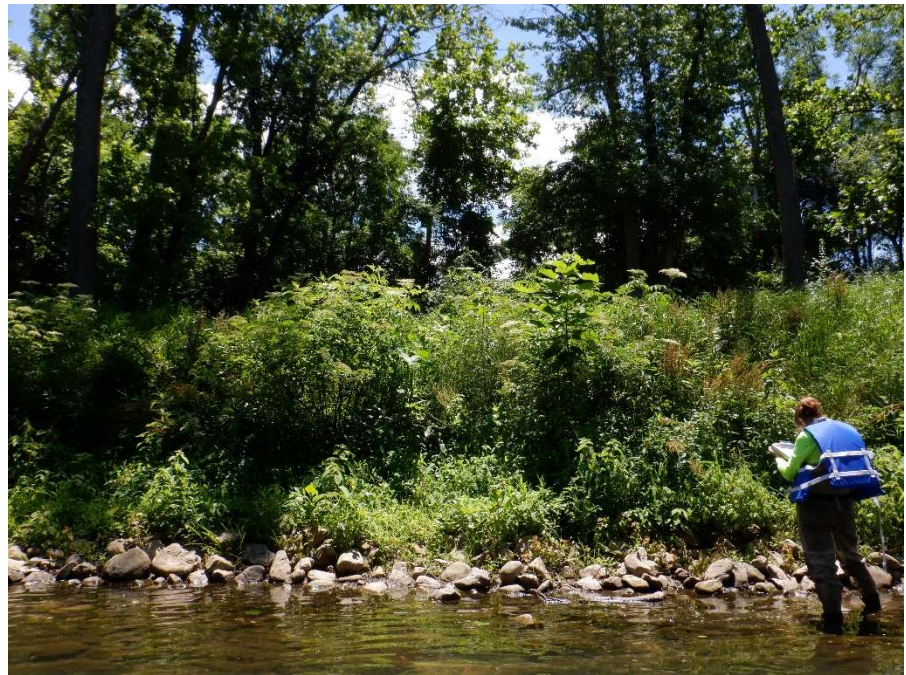
**Photo Number:**      **Date:**  
19                              6/23/2021

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**Direction Photo Taken:**  
Southeast

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**Description:**  
~ 40 degree bank angle; bank completely covered in native vegetation; live stakes 50% established; dead sycamore with crack in trunk at top of slope; elderberry ~5% cover; no at-risk trees present; no erosion control fabric exposed; no geocell exposed; sand deposition at toe of bank.



**Location:**  
00+550'

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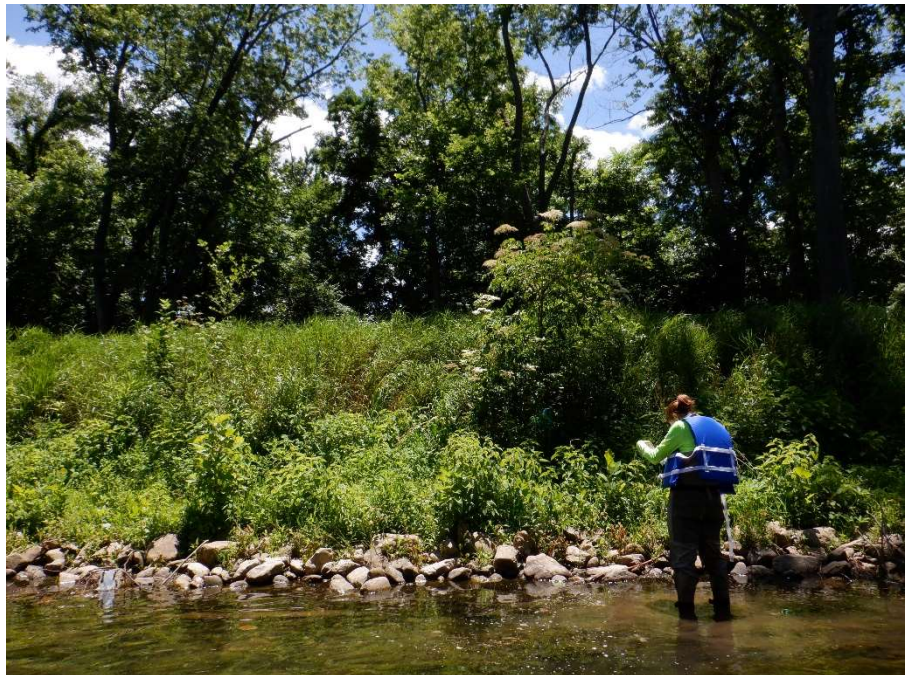
**Photo Title:**              **Date:**  
20                              6/23/2021

---

**Direction Photo Taken:**  
Southeast

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**Description:**  
~ 30 degree bank angle; bank completely covered in native vegetation; live stakes 50% established; grasses ~75% cover, elderberry ~30% cover, small sycamore and maples establishing at toe of slope, catalpa sapling, jewelweed and curly dock at toe; no at-risk trees present; no erosion control fabric exposed; no geocell exposed; sand deposition at toe of bank.



**Location:**  
00+550'

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**Photo Number:**      **Date:**  
21                      6/23/2021

---

**Direction Photo Taken:**  
East

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**Description:**  
~ 30 degree bank angle; bank completely covered in native vegetation; live stakes 50% established; no at-risk trees present; no erosion control fabric exposed; no geocell exposed; sand deposition at toe of bank.



**Location:**  
00+600'

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**Photo Title:**              **Date:**  
22                      6/23/2021

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**Direction Photo Taken:**  
Southeast

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**Description:**  
~ 30 degree bank angle; bank completely covered in native vegetation; live stakes 50% established, grasses are dominant, syacmores at top of slope, soft rush, nettle and maples at toe of slope; no at-risk trees present; no erosion control fabric exposed; no geocell exposed; sand deposition at toe of bank.



**Location:**  
00+650'

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**Photo Number:**      **Date:**  
23                              6/23/2021

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**Direction Photo Taken:**  
Southeast

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**Description:**  
~ 30 degree bank angle; bank completely covered in native vegetation; live stakes 50% established, grasses ~80% cover, soft stem bulrush, mint, small maples at toe of slope; no at-risk trees present; no erosion control fabric exposed; no geocell exposed; sand deposition at toe of bank.



**Location:**  
00+700'

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**Photo Title:**              **Date:**  
24                              6/23/2021


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**Direction Photo Taken:**  
Southeast

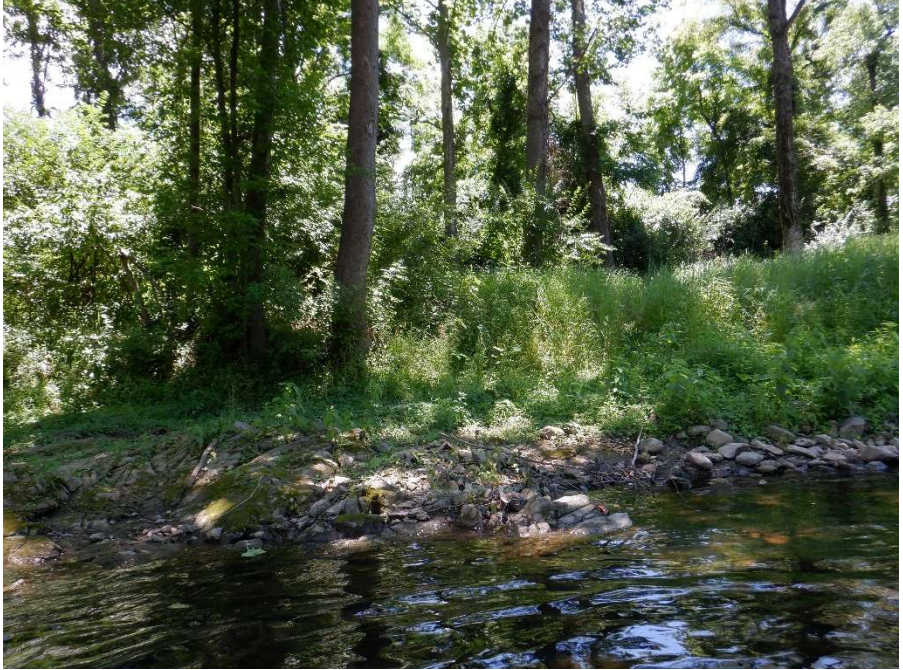
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**Description:**  
~ 30 degree bank angle; bank completely covered in native vegetation; live stakes 50% established, small sycamores, willows, and maples at toe of slope, nettle, grasses are dominant; no at-risk trees present; no erosion control fabric exposed; no geocell exposed; sand deposition at toe of bank.



<p><b>Location:</b> 00+700'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 25                              6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> East</p> <hr/> <p><b>Description:</b> ~ 30 degree bank angle; downstream view of location; bank completely covered in native vegetation; live stakes 50% established; no at-risk trees present; no erosion control fabric exposed; no geocell exposed; sand deposition at toe of bank.</p>	
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<p><b>Location:</b> 00+700'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 26                              6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> South</p> <hr/> <p><b>Description:</b> ~ 30 degree bank angle; upstream view of location; bank completely covered in native vegetation; live stakes 50% established; no at-risk trees present; no erosion control fabric exposed; no geocell exposed; sand deposition at toe of bank.</p>	
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<p><b>Location:</b> 00+750'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 27                              6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Southeast</p> <hr/> <p><b>Description:</b> ~ 30 degree bank angle; bank completely covered in native vegetation; live stakes 50% established; trampled vegetation from walking path to river; grasses are dominant, along with nightshade and nettles, 5 large sycamores on bank, red maples at toe of slope; no at-risk trees present in remediated area; no erosion control fabric exposed; no geocell exposed; improvised access path observed.</p>	
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<p><b>Location:</b> 00+750'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 28                              6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Southeast</p> <hr/> <p><b>Description:</b> ~ 30 degree bank angle; no at-risk trees present in remediated area; improvised access path observed.</p>	
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**Location:**  
00+1250'

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**Photo Number:**      **Date:**  
29                              6/23/2021

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**Direction Photo Taken:**  
Southeast

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**Description:**  
~ 20 degree bank angle; exposed roots just upstream of remediated bank; large patches of invasive knotweed present by riprap edge upstream (~85% cover), jewelweed ~15% cover, increased pedestrian access and a new rope swing chair hanging from box elder over water; scour under box elder tree and upstream of remediated section.



**Location:**  
00+1250'

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**Photo Title:**              **Date:**  
30                              6/23/2021

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**Direction Photo Taken:**  
East

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**Description:**  
~ 20 degree bank angle; downstream view of location; exposed roots just upstream of remediated bank; one large box elder tree just upstream of remediated bank; entirely rip rap portion of bank; remediation downstream; scour under box elder tree and upstream of remediated section.



**Location:**  
00+1300'

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**Photo Number:**      **Date:**  
31                              6/23/2021

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**Direction Photo Taken:**  
Southeast

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**Description:**  
~ 20 degree bank angle; no exposed roots; invasive Japanese knotweed present ~80% cover, jewelweed at 20% cover, also present are willows, elderberry, and sycamore saplings; no at-risk trees present; entirely rip rap portion of bank; sediment deposition by rock toe.



**Location:**  
00+1300'

---

**Photo Title:**              **Date:**  
32                              6/23/2021


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**Direction Photo Taken:**  
East

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**Description:**  
~ 20 degree bank angle; downstream view of location; no exposed roots; invasive Japanese knotweed present ~80% cover, jewelweed at 20% cover, also present are willows, elderberry, and sycamore saplings; no at-risk trees present; entirely rip rap portion of bank; sediment deposition by rock toe.





<p><b>Location:</b> 00+1350'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 33                              6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Southeast</p> <hr/> <p><b>Description:</b> ~ 50 degree bank angle; native herbaceous vegetation established; live stakes 50% established, box elder dominant, small patch of knotweed ~2% cover. Jewelweed and grasses are dominant ~90% cover, large silver maple at top of slope; no at-risk trees present; no erosion control fabric or geocell exposed.</p>	
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<p><b>Location:</b> 00+1400'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 34                              6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Southeast</p> <hr/> <p><b>Description:</b> ~ 50 degree bank angle; native herbaceous vegetation established; live stakes 50% established, catalpa saplings present on slope, no knotweed, curly dock, jewelweed and grasses are 95% cover; catalpa sapling at risk; no erosion control fabric or geocell exposed.</p>	
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<p><b>Location:</b> 00+1400'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 35                              6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> East</p> <hr/> <p><b>Description:</b> ~ 50 degree bank angle; downstream view of location; native herbaceous vegetation established; live stakes 50% established, catalpa saplings present on slope, no knotweed, curly dock, jewelweed and grasses are 95% cover; catalpa sapling at risk; no erosion control fabric or geocell exposed.</p>	
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<p><b>Location:</b> 00+1450'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 36                              6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> South</p> <hr/> <p><b>Description:</b> ~ 80 degree bank angle; native herbaceous vegetation establishing; live stakes 50% established, mature Black walnuts create canopy, grasses are dominant ~95% cover; no at-risk trees present; erosion control fabric 40% exposed ; no geocell exposed; Rip rap fortified bank abutment intact; slight scour at rock toe; erosion observed downstream of station.</p>	
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<p><b>Location:</b> 00+1450'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 37                              6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Southeast</p> <hr/> <p><b>Description:</b> ~ 80 degree bank angle; native herbaceous vegetation establishing; live stakes 50% established; no at-risk trees present; erosion control fabric 40% exposed ; no geocell exposed; Rip rap fortified bank abutment intact; slight scour at rock toe; erosion observed downstream of station.</p>	
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<p><b>Location:</b> 00+1500'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 38                              6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Southeast</p> <hr/> <p><b>Description:</b> ~ 90 degree bank angle; severe root exposure downstream of remediated bank; erosion is too severe for vegetation to establish around rock toe; vegetation established at top of slope is dominated by mature black walnuts, sycamores, honeysuckle bush, no knotweed present; high density of at risk trees downstream of remediated bank; no fabric or geocell installed; downstream of remediation; heavy erosion present downstream of remediated BMA.</p>	
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Attachment C - Waynesboro Off-Site Cap Areas

Inspection Record Sheet

Maintenance Plan

Location and property owner name: Allied Ready Mix BMA		
Item	Status/Maintenance Needs	Repairs Needed?
Access Roads	Some washout of gravel access road near fortified tributary channel; access road beginning to become overgrown	1
Trails	NA	1
Drainage Structures	Drainage structures intact	1
Outfall Structures	Outfall structures intact	1
Rip-Rap Protection	Stone toe is intact	1
Cap System Vegetative Cover	Installed live stakes 40-70% established along the bank; native vegetation has covered much of the erosion control fabric, particularly in the downstream portion of the BMA. Excessive foot traffic appears to hamper growth and caused localized bare areas upstream.	1
Cap System Geosynthetics	Erosion control fabric significantly exposed in 00+1450 on and vegetation appears healthy and well established.	1
Cap System Slope Stability	Slope is generally consistent and stable along the remediated portion of the BMA. Heavy erosion present downstream of the last remediated section of the BMA	1
Cap System Subsidence	No cap system subsidence observed	1
Fencing and Gates	Fencing and gates intact	1

Notes:

1. Functioning properly; no repairs needed
2. Repairs needed (describe why, what, and where), but not time critical
3. Time critical repair needed (describe what and where)

Comments:

Inspected by: Katie Bartling, Rebecca Indeck and Sarah Bartle Date: June 23, 2021

Attachment D  
Shiloh Baptist Church BMA

Station (#)	Undercutting				Exposed Roots			At Risk Trees		Installed Stabilization Features Intact				Local Scour			Overall Change Since Previous Inspection			
	Approximate Bank Angle (Degrees)	Consistent Grade (Y/N)	Notes	Photo # (Attachment D)	Exposed Roots (L/M/H) <sup>1</sup>	Notes	Photo # (Attachment D)	At Risk Trees Present (Y/N) <sup>2</sup>	Notes	Photo # (Attachment D)	Rock Toe/LWD (Y/N) <sup>3</sup>	Geocell (Y/N) <sup>4</sup>	Erosion Control Fabric (Y/N) <sup>5</sup>	Notes	Photo # (Attachment D)	Scour Present (Y/N)	Notes	Photo # (Attachment D)	Y/N	Notes
00-25	30	Y	None.	1	M	Significant vegetation; Exposed roots along bank; Slippery Elm; Invasive Knotweed ~30%; Access pathways present.	1	N	No at risk trees present.	1	N	NA	NA	Upstream of remediation.	1	Y	Minimal scour present.	1	N	None.
00-00	30	Y	None.	2,3,4	N	Significant vegetation established; Live stakes and plantings ~30% established; Invasive Knotweed ~3% cover.	2,3,4	N	No trees adjacent to edge of water.	2,3,4	Y (Rock Toe)	Y	Y	No geocell exposed; Culvert just upstream of outfall.	2,3,4	N	No evidence of sediment deposition.	2,3,4	Y	Invasive Knotweed abundant downstream of outfall.
00-50	65	Y	None.	5	N	Herbaceous vegetation establishing; Live stakes not established; Jewelweed and many Elms establishing; No invasive vegetation; Sediment deposition observed.	5,6	N	Saplings adjacent to edge of water.	5,6	Y (Rock Toe)	Y	Y	No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover. Rock Toe intact.	5,6	N	Evidence of sediment deposition.	5,6	Y	Dense herbaceous vegetation cover.
00-100	50	N	Lower bank: ~40 degrees Upper bank: ~60 degrees	7	N	Herbaceous vegetation establishing; Grasses are dominant; Live stakes not established; Public access path observed; Jewelweed and Elms at toe; No invasive vegetation.	7,8	N	No trees adjacent to edge of water.	7,8	Y (Rock Toe)	Y	Y	No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover. Small patches of exposed soil.	7,8	N	Evidence of sediment deposition.	7,8	Y	Dense herbaceous vegetation cover.
00-150	50	N	Lower bank: ~40 degrees Upper bank: ~60 degrees Above GW: ~60 degrees	9,10	N	Herbaceous vegetation establishing; live stakes not established; jewelweed, elms establishing; no knotweed.	9,10	N	No trees adjacent to edge of water.	9,10	Y (Rock Toe)	Y	Y	No fabric exposed.	9,10	N	Evidence of sediment deposition.	9,10	Y	Geocell exposed (5' x 7').
00-200	65	Y	None.	11	N	Herbaceous vegetation establishing; Live stakes establishing; Herbaceous vegetation establishing above Greenway; Planted saplings and shrubs intact; Elms, Oaks, Catalpa, and Jewelweed.	11	N	Weakened Catalpa adjacent to edge of water.	11	Y (Rock Toe)	Y	Y	No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover.	11	N	Evidence of sediment deposition.	11	Y	Dense herbaceous vegetation establishing.
00-250	55	N	Lower bank: ~45 degrees Upper bank: ~65 degrees Above GW: ~70 degrees	12,13	N	Herbaceous vegetation establishing; Live stakes establishing; Herbaceous vegetation establishing above Greenway; Planted saplings and shrubs intact; Minimal invasive Knotweed establishing in Rock Toe.	12,13,14	N	No trees adjacent to edge of water.	12,13,14	Y (Extreme Rock Toe)	Y	Y	No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover; Greenway is intact. Drainage pipe to river.	12,13,14	N	Evidence of sediment deposition.	12,13,14	Y	Dense herbaceous vegetation establishing; Minimal Knotweed growing in Rock Toe.
00-300	65	N	Lower bank: ~45 degrees Upper bank: ~60 degrees Above GW: ~70 degrees	15	N	Herbaceous vegetation establishing; Live stakes establishing; Grasses dominant above Rock Toe; Herbaceous vegetation establishing above Greenway; Planted saplings and shrubs intact; Minimal invasive Knotweed establishing in Rock Toe ~2% cover.	15,16	N	No trees adjacent to edge of water.	15,16	Y (Rock Toe)	Y	Y	No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover.	15,16	N	Evidence of sediment deposition.	15,16	Y	Dense herbaceous vegetation establishing; minimal Knotweed growing in Rock Toe.
00-350	50	Y	None.	17	N	Grasses establishing around outfall; Saplings and shrub plantings intact and establishing; Grasses are dominant; Jewelweed, Elderberry, Virginia Creeper and Elms; Invasive Knotweed ~2% cover.	17	N	No trees adjacent to edge of water.	17	Y (Rock Toe)	Y	Y	Entirely ripped; Large plastic corrugated pipe and Armor flex mat installed and intact.	17	N	Gravel deposition at outfall; sediment deposits at 00-325; No scour.	17	Y	Grasses establishing around outfall; Sediment deposition at 00-325.
00-400	50	N	Lower bank: ~45 degrees Upper bank: ~60 degrees	18	N	Dense herbaceous vegetation establishing; Saplings and shrub plantings intact and establishing; Jewelweed, Black Walnut, Box Elder, Sycamore saplings; No Knotweed.	18,19	N	No at risk trees present.	18,19	Y (Rock Toe)	Y	Y	No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover.	18,19	N	Evidence of sediment deposition between rocks.	18,19	Y	Dense herbaceous vegetation establishing and sediment deposition observed.
00-450	50	N	Lower bank: ~45 degrees Upper bank: ~55 degrees	20	N	Dense herbaceous vegetation established; Saplings and shrub plantings intact and establishing; Grasses are dominant; Elderberry is dominant in shrub stratum; Sparse Knotweed in Rock Toe ~1% cover. Patches of exposed soil.	20,21	N	Catalpa saplings adjacent to edge of water. Not at risk yet.	20,21	Y (Rock Toe)	Y	Y	No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover.	20,21	N	Evidence of sediment deposition. Patches of exposed soil on bank.	20,21	Y	Dense herbaceous vegetation establishing; Evidence of sediment deposition; Sparse Knotweed in Rock Toe.
00-500	55	N	Lower bank: ~45 degrees Upper bank: ~65 degrees	22	N	Dense herbaceous vegetation established; Saplings and shrub plantings intact and establishing; No live stake growth; Elderberry ~10% cover; Huckleberry ~10% cover. Knotweed extent has expanded and is now ~20% cover.	22	N	No at risk trees present.	22	Y (Rock Toe)	Y	Y	No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover.	22	N	Evidence of sediment deposition.	22	Y	Dense herbaceous vegetation establishing; Sparse Knotweed in Rock Toe.
00-550	50	N	Lower bank: ~60 degrees Upper bank: ~70 degrees	23	N	Dense herbaceous vegetation establishing; grasses are dominant; Jewelweed at toe of slope; Bank failed in 2020 - was repaired and replanted with grass mix.	23	N	No trees adjacent to edge of water.	23	Y (Rock Toe)	Y	Y	No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover.	23	N	Evidence of sediment deposition.	23	Y	Dense herbaceous vegetation establishing.
00-600	45	Y	None.	24	N	Dense herbaceous vegetation establishing; Saplings and shrub plantings intact and establishing; Arrowwood Viburnum; Sparse Knotweed in Rock Toe; Black Walnuts and Sycamores; Jewelweed at toe of slope.	24	N	Possible sycamore at future risk adjacent to edge of water.	24	Y (Rock Toe)	Y	Y	No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover.	24	N	Evidence of sediment deposition.	24	Y	Dense herbaceous vegetation establishing; Sparse Knotweed in Rock Toe.
00-650	65	N	Lower bank: ~60 degrees Upper bank: ~70 degrees	25	N	Dense herbaceous vegetation established; Saplings and shrub plantings intact and establishing; Growth observed on Willow live stakes; sparse Knotweed in Rock Toe; Cherry sapling; 3 Sycamore trees; Jewelweed and grasses dominant.	25	Y	Sycamore.	25	Y (Rock Toe)	Y	Y	No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover.	25	N	Evidence of sediment deposition.	25	Y	Dense herbaceous vegetation establishing; evidence of sediment deposition; Sparse Knotweed in Rock Toe.
00-700	50	Y	None.	26	N	Herbaceous vegetation establishing; Saplings and shrub plantings intact and establishing; Slight scour on bank; Jewelweed and grasses dominant; ~1% Honeysuckle; Willow live stakes establishing.	26,27,28	N	No trees adjacent to edge of water.	26,27,28	Y (Rock Toe)	Y	Y	No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover. Surface water runoff at top of bank.	26	N	Evidence of sediment deposition.	26	Y	Dense herbaceous vegetation establishing; Sparse Knotweed in Rock Toe.
00-750	60	Y	None.	29	N	Dense herbaceous vegetation established; Grasses are dominant; ~95% cover; Jewelweed and Elderberry; No live stake growth; Saplings and shrub plantings intact and establishing.	29	N	Possible sycamore at future risk adjacent to edge of water.	29	Y (Rock Toe)	Y	Y	No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover; Rock Toe intact.	29	N	Evidence of sediment deposition.	29	Y	Dense herbaceous vegetation establishing.
00-800	65	Y	None.	30	N	Dense herbaceous vegetation established; Grasses are dominant; No live stakes observed; Jewelweed ~20% cover; Saplings and shrub plantings intact and establishing; Sparse Knotweed in Rock Toe.	30	N	No at risk trees present.	30	Y (Rock Toe)	N	Y	No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover.	30	N	Evidence of sediment deposition.	30	Y	Dense herbaceous vegetation establishing; Sparse Knotweed in Rock Toe.
00-850	65	Y	None.	31	N	Dense herbaceous vegetation established; grasses are dominant; elms, honeysuckle, jewelweed, goldenrod, pokeberry, elderberry; saplings and shrub plantings intact and establishing.	31	N	Possible sycamore at future risk adjacent to edge of water.	31	Y (Rock Toe)	N	Y	No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover. Rock Toe intact.	31	N	Evidence of sediment deposition.	31	Y	Dense herbaceous vegetation establishing.
00-900	70	Y	None.	32	N	Dense herbaceous vegetation established; Grasses are ~95% cover; 2 large Black Walnuts; Locust sapling; Pokeberry; Jewelweed at toe; Saplings and shrub plantings intact and establishing.	32	N	No trees adjacent to edge of water.	32	Y (Rock Toe)	Y	Y	No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover. No bare soil.	32	N	Evidence of sediment deposition at toe of slope.	32	Y	Dense herbaceous vegetation establishing.
00-950	65	N	Lower bank: ~70 degrees Upper bank: ~60 degrees	33	N	Dense herbaceous vegetation established; Grasses are dominant; Jewelweed, Pokeweed, large Black Walnut, Silver Maple; saplings and shrub plantings intact and establishing; Sparse Knotweed in Rock Toe.	33	N	No at risk trees present.	33	Y (Rock Toe)	Y	Y	No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover.	33	N	No evidence of sediment deposition.	33	Y	Dense herbaceous vegetation establishing; sparse Knotweed in Rock Toe.
00-975	60	Y	End of remediation.	34	N	Dense herbaceous vegetation established; Non-remediated area has established vegetative cover; Sycamore saplings; Chokeberry, Boneat, Honeysuckle; grasses are dominant. No Knotweed.	34,35,36	Y	Exposed roots and at risk trees present downstream of remediation.	34,35,36	Y (Rock Toe)	Y	Y	No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover within remediation.	34,35,36	Y	No evidence of sediment deposition; scour present downstream of remediation.	34,35,36	Y	Dense herbaceous vegetation establishing and sparse Knotweed in Rock Toe within remediated area.
Shiloh Baptist Church Parking Lot	5	Y	None.	37,38,39,40	NA	No exposed roots around parking lot. Shrubs, herbaceous vegetation, and grasses growing around perimeter and are being maintained except around the south edge.	37,38,39,40	N	No trees around perimeter of parking lot.	37,38,39,40	NA	NA	NA	Parking lot and stairway intact.	37,38,39,40	N	None.	37,38,39,40	Y	Second season for parking lot inspection.

Notes:  
 1. Inspection station is described as the distance (feet) upstream (-) or downstream (+) from the start of the BMA (00); for example, Station 00 + 50' is 50 feet downstream from the start of the BMA.  
 2. A significant deviation from continuous bank slope or break in grade may be used as an indicator of undercutting; consistent bank grade is evaluated as Y (yes) or N (no).  
 3. The extent to which roots are exposed may provide a relative measure of the magnitude of apparent erosion; extent of exposed roots is evaluated as L (low), M (moderate), H (high), or NA (not applicable- no exposed roots).  
 4. At-risk trees (i.e., trees that lean towards the river) typically have a greater potential to fall into the river and dislodge the bank soil and erosion control products immediately around and above the tree; presence of at-risk trees is evaluated as Y (yes) or N (no).  
 5. Installed rock toe and large woody debris (LWD) features are monitored to ensure that they are anchored and determine whether material has sloughed, or been eroded, or moved downstream; these installed features are evaluated as Y (yes, intact), N (no, not intact), or NA (not applicable- no installed features to monitor).  
 6. Installed geocell and erosion control fabric are monitored to ensure that they are intact and determine whether material is exposed or visible; these installed features are evaluated as Y (yes, intact), N (no, not intact), or NA (not applicable- no installed features to monitor).  
 7. The presence of local scour is assessed at the toe and center of the bank, per inspection station, as well as approximately 25 feet upstream and downstream of the start and end of the BMA; the presence of scour is evaluated as Y (yes) or N (no).

**Location:**  
00-25'

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**Photo Number:**      **Date:**  
1                              6/23/2021

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**Direction Photo Taken:**  
West

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**Description:**  
~ 30 degree bank angle; minimal vegetation; exposed roots along bank; access pathways present; no at-risk trees present; upstream of remediation; minimal scour present. Invasive knotweed covers ~30% of the bank.



**Location:**  
00+00'

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**Photo Title:**              **Date:**  
2                              6/23/2021


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**Direction Photo Taken:**  
West


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**Description:**  
~ 30 degree bank angle; Significant vegetation established; Live stakes and plantings 30% established; invasive knotweed ~5% cover; no trees adjacent to edge of water; No geocell or erosion fabric exposed; culvert just upstream of remediation; Evidence of sediment deposition.




<p><b>Location:</b> 00+00'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 3                              6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Southwest</p> <hr/> <p><b>Description:</b> ~ 30 degree bank angle; Significant vegetation established; Live stakes and plantings 30% established; invasive knotweed ~5% cover; no trees adjacent to edge of water; No geocell or erosion fabric exposed; culvert just upstream of remediation; Evidence of sediment deposition.</p>	
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<p><b>Location:</b> 00+00'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 4                              6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> North</p> <hr/> <p><b>Description:</b> ~ 30 degree bank angle; Significant vegetation established; Live stakes and plantings 30% established; invasive knotweed ~5% cover; no trees adjacent to edge of water; No geocell or erosion fabric exposed; culvert just upstream of remediation; Evidence of sediment deposition.</p>	
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<p><b>Location:</b> 00+50'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 5                              6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> West</p> <hr/> <p><b>Description:</b> ~65 degree bank angle; Herbaceous vegetation established; live stakes not established; Jewelweed and many elms establishing; No invasive veg; sediment deposition observed. No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover. Rock toe intact. Evidence of sediment deposition.</p>	 A photograph showing a riverbank with a dense line of green vegetation, including tall grasses and shrubs. A line of grey rocks forms a toe along the water's edge. In the background, there are large, leafy trees and a portion of a building is visible under a clear blue sky.
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<p><b>Location:</b> 00+50'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 6                                  6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Southwest</p> <hr/> <p><b>Description:</b> ~65 degree bank angle; Herbaceous vegetation established; live stakes not established; Jewelweed and many elms establishing; No invasive veg; sediment deposition observed. No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover. Rock toe intact. Evidence of sediment deposition.</p>	 A photograph of a riverbank with dense green vegetation. A building with a dark roof is partially obscured by the trees in the background. The water in the foreground is dark and shows some ripples.
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<p><b>Location:</b> 00+100'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 7                              6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> West</p> <hr/> <p><b>Description:</b> ~ 50 degree bank angle; Lower bank; ~40 degrees Upper bank; ~60 degrees; Herbaceous vegetation establishing; grasses are dominant; live stakes not established; public access path observed; jewelweed and elms at toe; no invasive veg; No trees adjacent to edge of water; No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover. Small patches of exposed soil; Evidence of sediment deposition</p>	
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<p><b>Location:</b> 00+100'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 8                                  6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Southwest</p> <hr/> <p><b>Description:</b> ~ 50 degree bank angle; Lower bank; ~40 degrees Upper bank; ~60 degrees; Herbaceous vegetation establishing; grasses are dominant; live stakes not established; public access path observed; jewelweed and elms at toe; no invasive veg; No trees adjacent to edge of water; No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover. Small patches of exposed soil; Evidence of sediment deposition</p>	
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**Location:**  
00+150'

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**Photo Number:**      **Date:**  
9                              6/23/2021

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**Direction Photo Taken:**  
West

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**Description:**  
~ 50 degree bank angle; Lower bank; ~40 degrees Upper bank; ~60 degrees Above Greenway Trail; ~60 degrees; Herbaceous vegetation establishing; live stakes not established; Jewelweed, elms establishing; no knotweed; No trees adjacent to edge of water; no fabric or geocell exposed;



**Location:**  
00+150'

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**Photo Title:**              **Date:**  
10                              6/23/2021

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**Direction Photo Taken:**  
West

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**Description:**  
~ 50 degree bank angle; Lower bank; ~40 degrees Upper bank; ~60 degrees Above Greenway Trail (GW); ~60 degrees; Herbaceous vegetation establishing; live stakes not established; Jewelweed, elms establishing; no knotweed; No trees adjacent to edge of water; no fabric or geocell exposed;



**Location:**  
00+200'

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**Photo Number:**      **Date:**  
11                              6/23/2021

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**Direction Photo Taken:**  
West

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**Description:**  
~ 65 degree bank angle;  
Herbaceous vegetation  
establishing; live stakes  
establishing; herbaceous  
vegetation establishing above  
Greenway; planted saplings and  
shrubs intact; elms, oaks,  
catalpa, and jewelweed; catalpa  
saplings adjacent to edge of  
water; No erosion control fabric  
or geocell exposed due to dense  
herbaceous vegetation cover



**Location:**  
00+250'

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**Photo Title:**              **Date:**  
12                              6/23/2021

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**Direction Photo Taken:**  
West

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**Description:**  
~55 degree bank angle; Lower  
bank; ~45 degrees Upper bank;  
~65 degrees Above GW; ~70  
degrees; Herbaceous vegetation  
establishing; live stakes  
establishing; herbaceous  
vegetation establishing above  
Greenway; planted saplings and  
shrubs intact; minimal invasive  
knotweed establishing in rock  
toe; No trees adjacent to edge  
of water; No erosion control  
fabric or geocell exposed due to  
dense herbaceous vegetation  
cover. Greenway is intact.  
Drainage pipe to river; Evidence  
of sediment deposition.



**Location:**  
00+250'

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**Photo Number:**      **Date:**  
13                              6/23/2021

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**Direction Photo Taken:**  
West

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**Description:**  
~55 degree bank angle; Lower bank; ~45 degrees Upper bank; ~65 degrees Above GW; ~70 degrees; Herbaceous vegetation establishing; live stakes establishing; herbaceous vegetation establishing above Greenway; planted saplings and shrubs intact; minimal invasive knotweed establishing in rock toe; No trees adjacent to edge of water; No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover. Greenway is intact. Drainage pipe to river; Evidence of sediment deposition.



**Location:**  
00+250'

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**Photo Title:**              **Date:**  
14                              6/23/2021


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**Direction Photo Taken:**  
North


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**Description:**  
No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover. Greenway is intact. Drainage pipe to river; Evidence of sediment deposition.



<p><b>Location:</b> 00+300'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 15                      6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> North</p> <hr/> <p><b>Description:</b> ~ 65 degree bank angle; Lower bank; ~45 degrees Upper bank; ~80 degrees Above GW; ~70 degrees; Herbaceous vegetation establishing; live stakes establishing; grasses dominant above rock toe; herbaceous vegetation establishing above Greenway; planted saplings and shrubs intact; minimal invasive knotweed establishing in rock toe~2% cover; No trees adjacent to edge of water;</p>	
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<p><b>Location:</b> 00+300'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 16                      6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> West</p> <hr/> <p><b>Description:</b> No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover; Evidence of sediment deposition.</p>	
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<p><b>Location:</b> 00+350'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 17                              6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> NA</p> <hr/> <p><b>Description:</b> ~ 50 degree bank angle; Grasses establishing around outfall; saplings and shrub plantings intact and establishing; grasses are dominant, jewelweed, elderberry, virginia creeper and elms; Invasive knotweed ~2% cover; No trees adjacent to edge of water; large plastic corrugated pipe and armorflex mat installed and intact; gravel deposition at outfall; sediment deposits at +325; no scour observed.</p>	
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<p><b>Location:</b> 00+400'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 18                              6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> West</p> <hr/> <p><b>Description:</b> ~ 50 degree bank angle; Lower bank; ~45 degrees Upper bank; ~50 degrees; Dense herbaceous vegetation established; saplings and shrub plantings intact and establishing; pokeberry, Black walnut, box elder, sycamore saplings, no knotweed; No at-risk trees present</p>	
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**Location:**  
00+400'

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**Photo Number:**      **Date:**  
19                              6/23/2021

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**Direction Photo Taken:**  
Northwest

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**Description:**  
No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover; Evidence of sediment deposition between rocks



**Location:**  
00+450'

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**Photo Title:**              **Date:**  
20                              6/23/2021

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**Direction Photo Taken:**  
West

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**Description:**  
~ 50 degree bank angle; Lower bank; ~45 degrees  
Upper bank; ~55 degrees  
Dense herbaceous vegetation established; saplings and shrub plantings intact and establishing; grasses are dominant; Elderberry is dominant in shrub stratum; sparse knotweed in rock toe  
~1% cover.



**Location:**  
00+450'

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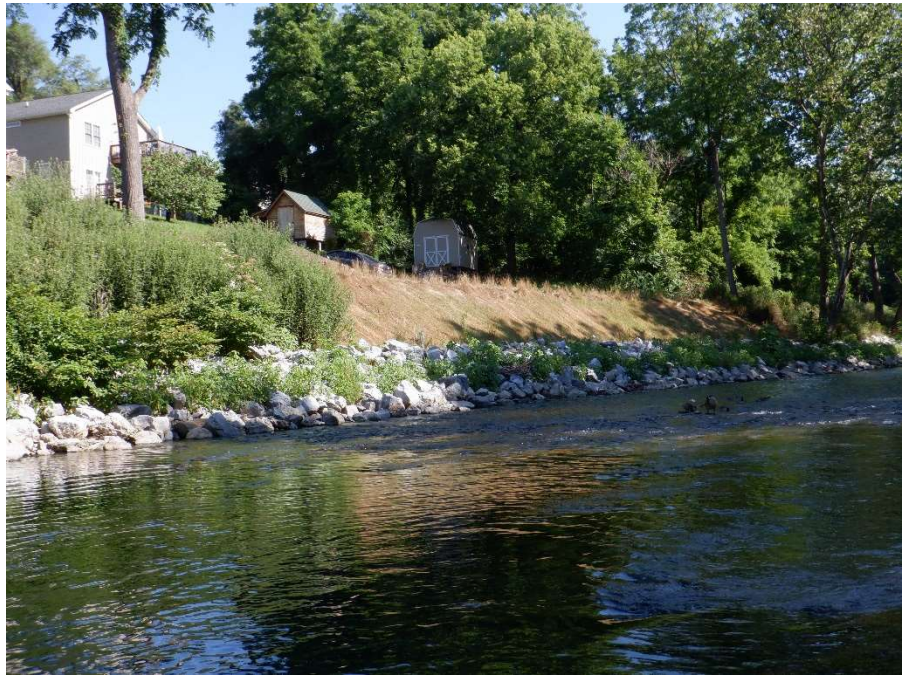
**Photo Number:**      **Date:**  
21                              6/23/2021

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**Direction Photo Taken:**  
West

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**Description:**  
Patches of exposed soil. Catalpa saplings adjacent to edge of water- could possibly be at risk in the future. No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover. Evidence of sediment deposition. Patches of exposed soil on bank.



**Location:**  
00+500'

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**Photo Title:**              **Date:**  
22                              6/23/2021

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**Direction Photo Taken:**  
West

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**Description:**  
~ 55 degree bank angle; Lower bank; ~45 degrees Upper bank; ~65 degrees; Dense herbaceous vegetation established; saplings and shrub plantings intact and establishing; No livestock growth; Elderberry ~10% cover; Thistle ~60% cover; Knotweed extent is at 35% cover; No at-risk trees present; No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover; Evidence of sediment deposition.





**Location:**  
00+550'

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**Photo Number:** 23      **Date:** 6/23/2021

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**Direction Photo Taken:**  
West

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**Description:**  
~ 65 degree bank angle; Lower bank; ~60 degrees Upper bank; ~70 degrees; Dense herbaceous vegetation establishing, grasses are dominant; jewelweed at toe of slope; bank failed in 2020- was repaired and replanted with grass mix; No trees adjacent to edge of water; No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover; Evidence of sediment deposition



**Location:**  
00+600'

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**Photo Title:** 24      **Date:** 6/23/2021


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**Direction Photo Taken:**  
West

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**Description:**  
~ 45 degree bank angle; Dense herbaceous vegetation establishing; saplings and shrub plantings intact and establishing-arrowwood Viburnum; sparse knotweed in rock toe; Black walnuts and sycamore; jewelweed at toe of slope; Possible sycamore at future risk adjacent to edge of water; No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover; Evidence of sediment deposition



<p><b>Location:</b> 00+650'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 25                              6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> West</p> <hr/> <p><b>Description:</b> ~ 65 degree bank angle; Lower bank; ~60 degrees Upper bank; ~70 degrees; Dense herbaceous vegetation establishing; saplings and shrub plantings intact and establishing; growth observed on willow livestakes; sparse knotweed in rock toe; cherry sapling; 2 sycamore trees; jewelweed and grasses dominant; At risk Sycamore tree; No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover.</p>	
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<p><b>Location:</b> 00+700'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 26                              6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> West</p> <hr/> <p><b>Description:</b> ~ 50 degree bank angle; Herbaceous vegetation establishing; saplings and shrub plantings intact and establishing; slight scour on bank; Jewelweed and grasses dominant; 1% honeysuckle; willow livestakes establishing; No at risk trees.</p>	
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**Location:**  
00+700'

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**Photo Number:**      **Date:**  
27                              6/23/2021

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**Direction Photo Taken:**  
Southwest

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**Description:**  
No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover. Surface water runoff at top of bank; Evidence of sediment deposition



**Location:**  
00+700'

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**Photo Title:**              **Date:**  
28                              6/23/2021


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**Direction Photo Taken:**  
Northwest


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**Description:**  
~ 50 degree bank angle;  
Herbaceous vegetation establishing; saplings and shrub plantings intact and establishing; slight scour on bank; Jewelweed and grasses dominant; 1% honeysuckle; willow livestakes establishing; No at risk trees.

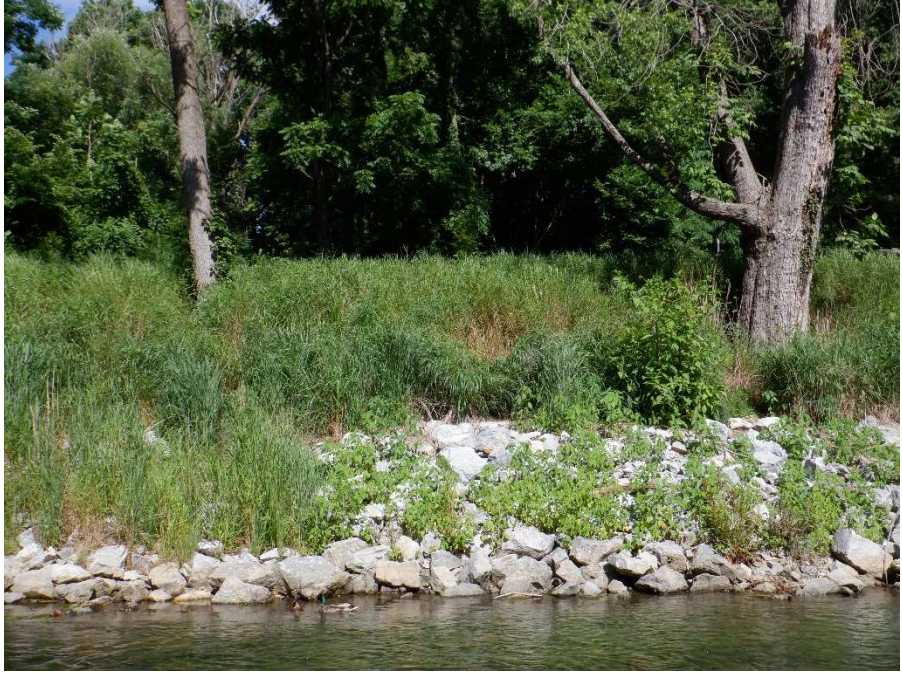



<p><b>Location:</b> 00+750'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 29                      6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> West</p> <hr/> <p><b>Description:</b> ~ 60 degree bank angle; Dense herbaceous vegetation established; grasses are dominant ~95% cover; Jewelweed and elderberry; no livestake growth; saplings and shrub plantings intact and establishing; Sycamore possibly at future risk; No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover; rock toe intact; Evidence of sediment deposition</p>	 A photograph showing a riverbank with a rocky toe. The bank is covered in dense herbaceous vegetation, including tall grasses and various shrubs. A large tree trunk is visible on the left side of the bank. The water is calm and reflects the surrounding greenery.
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<p><b>Location:</b> 00+800'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 30                              6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> West</p> <hr/> <p><b>Description:</b> ~ 65 degree bank angle; Dense herbaceous vegetation established; grasses are dominant; no livestakes observed; jewelweed ~25% cover; saplings and shrub plantings intact and establishing; sparse knotweed in rock toe; No at-risk trees present; No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover</p>	 A photograph showing a riverbank with a rocky toe. The bank is covered in dense herbaceous vegetation, including tall grasses and various shrubs. A large tree trunk is visible on the left side of the bank. The water is calm and reflects the surrounding greenery.
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<p><b>Location:</b> 00+850'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 31                              6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> West</p> <hr/> <p><b>Description:</b> ~ 65 degree bank angle; Dense herbaceous vegetation established; grasses are dominant; elms, honeysuckle, jewelweed, goldenrod, pokeberry, elderberry; saplings and shrub plantings intact and establishing; Possible sycamore at future risk, adjacent to edge of water; No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover. Rock toe intact; Evidence of sediment deposition</p>	
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<p><b>Location:</b> 00+900'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 32                              6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> West</p> <hr/> <p><b>Description:</b> ~ 70 degree bank angle; Dense herbaceous vegetation established; grasses are 95% cover; 2 large black walnuts, locust sapling, pokeberry, jewelweed at toe; saplings and shrub plantings intact and establishing; No trees adjacent to edge of water; No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover. No bare soil; Evidence of sediment deposition at toe of slope.</p>	
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<p><b>Location:</b> 00+950'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 33                              6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> West</p> <hr/> <p><b>Description:</b> ~ 65 degree bank angle; Lower bank; ~70 degrees Upper bank; ~60 degrees; Dense herbaceous vegetation established; grasses are dominant; jewelweed, pokeweed, large black walnut, silver maple, saplings and shrub plantings intact and establishing; sparse knotweed in rock toe; No at-risk trees present; No erosion control fabric or geocell exposed due to dense herbaceous vegetation cover; No evidence of sediment deposition</p>	 A photograph showing a riverbank with a rocky toe. The bank is covered in dense herbaceous vegetation, including tall grasses and various weeds. A large tree trunk is visible on the right side of the bank. The water is calm and reflects the surrounding greenery.
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<p><b>Location:</b> 00+975'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 34                              6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> West</p> <hr/> <p><b>Description:</b> ~ 60 degree bank angle; end of remediation; Dense herbaceous vegetation established; non remediated area has established vegetative cover- sycamore saplings, chokeberry, boneset, honeysuckle, grasses are dominant</p>	 A photograph showing a riverbank with a rocky toe. The bank is covered in dense herbaceous vegetation, including tall grasses and various weeds. A large tree trunk is visible on the right side of the bank. The water is calm and reflects the surrounding greenery.
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**Location:**  
00+975'

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**Photo Number:**      **Date:**  
35                              6/23/2021

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**Direction Photo Taken:**  
Northwest

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**Description:**  
~ 60 degree bank angle;  
downstream view of location; .  
No knotweed; Exposed roots  
and at risk trees present  
downstream of remediation; No  
erosion control fabric or geocell  
exposed due to dense  
herbaceous vegetation cover  
within remediation; No  
evidence of sediment  
deposition; scour present  
downstream of remediation.



**Location:**  
00+975'

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**Photo Title:**              **Date:**  
36                              6/23/2021

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**Direction Photo Taken:**  
South

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**Description:**  
~ 60 degree bank angle;  
upstream view of location;  
end of remediation(dense  
herbaceous vegetation  
establishing and sparse  
knotweed in rock toe within  
remediated area)



**Location:**  
Parking Lot

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**Photo Number:**      **Date:**  
37                              6/23/2021

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**Direction Photo Taken:**  
Northwest

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**Description:**  
No exposed roots around parking lot; shrubs, herbaceous vegetation, and grasses growing around perimeter and are being maintained except around the south edge; no trees around perjimeter of parking lot; parking lot and stairway intact.



**Location:**  
Parking Lot

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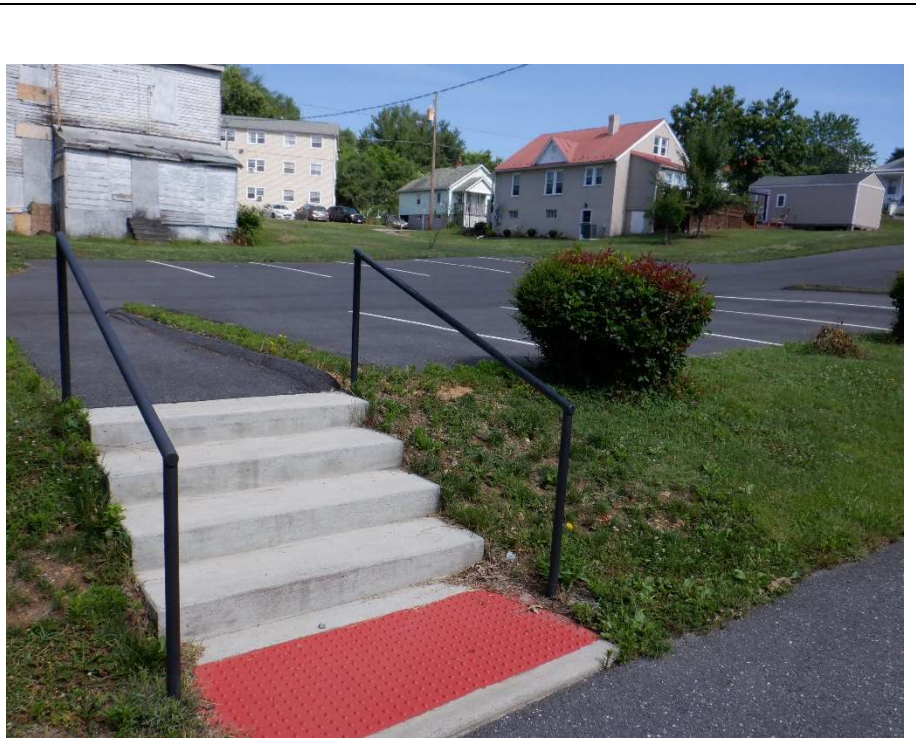
**Photo Title:**              **Date:**  
38                              6/23/2021

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**Direction Photo Taken:**  
Northwest

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**Description:**  
No exposed roots around parking lot; shrubs, herbaceous vegetation, and grasses growing around perimeter and are being maintained except around the south edge; no trees around perjimeter of parking lot; parking lot and stairway intact.





<p><b>Location:</b> Greenway</p>	
<p><b>Photo Number:</b> 39      <b>Date:</b> 6/23/2021</p>	
<p><b>Direction Photo Taken:</b> West</p>	
<p><b>Description:</b> Exposed drainage pipe along GW trail. Good herbaceous cover adjacent to trail. May need future maintenance to ensure overhanging vegetation is trimmed.</p>	

## Attachment D - Waynesboro Off-Site Cap Areas

### Inspection Record Sheet

#### Maintenance Plan

Location and property owner name: <b>Shiloh Baptist Church BMA</b>		
Item	Status/Maintenance Needs	Repairs Needed?
Access Roads	NA	NA
Trails	Surface runoff from behind Shiloh Baptist Church and beginning of Riverside Drive.	2
Drainage Structures	Drainage structures intact	1
Outfall Structures	Outfall structures intact	1
Rip-Rap Protection	Rip-rap intact	1
Cap System Vegetative Cover	Plantings and live stakes healthy and establishing; installed plantings removed from 00+25 to Shiloh Church property line have been replaced and are intact as of 2021. At risk trees located at 00+650 and outside remediated area from 00+975.	1
Cap System Geosynthetics	Torn fabric and exposed geocell at 00+450' in 2020 has been repaired and now has patches of exposed soil.	2
Cap System Slope Stability	Slope is consistent and stable along remediation	1
Cap System Subsidence	None observed	1
Fencing and Gates	Fencing and gates intact. Landowner/city installed gates in upper reach.	1

#### Notes:

1. Functioning properly; no repairs needed
2. Repairs needed (describe why, what, and where), but not time critical
3. Time critical repair needed (describe what and where)

#### Comments:


Inspected by: Katie Bartling, and Rebecca Indeck and Sarah Bartle


Date: June 22, 2021


Attachment E  
North Park BMA


Station # <sup>1</sup>	Undercutting				Exposed Roots		At Risk Trees		Installed Stabilization Features Intact				Local Scour		Overall Change Since Previous Inspection					
	Approximate Bank Angle (Degree)	Consistent Grade (Y/N) <sup>2</sup>	Notes	Photo # (Attachment E)	Exposed Roots (L/M/H) <sup>3</sup>	Notes	Photo # (Attachment D)	At Risk Trees Present (Y/N) <sup>4</sup>	Notes	Photo # (Attachment E)	Rock Toe (L/W) (Y/N) <sup>5</sup>	Geocell (Y/N) <sup>6</sup>	Erosion Control Fabric (Y/N) <sup>7</sup>	Notes	Photo # (Attachment D)	Scour Present (Y/N) <sup>8</sup>	Notes	Photo # (Attachment D)	Y/N	Notes
00-25	60	N	Upper Bank: ~30 degrees Bank: ~70 degrees Lower Bank: ~20 degrees	1	H	Roots exposed at toe of slope. Honeyuckle bush, 3 mature Walnut trees, Wing Stem, patches of exposed soil.	1,2	None	None	1,2	N	N	N	Un-remediated.	1,2	Y	Scour present at toe of slope.	1,2	N	None.
00-30	50	N	Upper Bank: ~30 degrees Bank: ~70 degrees Lower Bank: ~20 degrees	3	None	No exposed roots. No knothead present. Grasses are dominant ~70-80% cover. Black Walnut, Sycamore are present.	3,4	Y	Sycamore is possibly at risk.	3,4	Y	N	Y	Patches of fabric visible.	3,4	N	No scour.	3,4	Y	Increased vegetation cover.
00-50	40	N	Lower Bank: ~45 degrees Bank: ~20 degrees	5	M	Sycamore roots exposed. Jeeleweed is established at toe of slope. Grasses are becoming established.	5	None	None	5	Y	N	Y	Fabric exposed in large patches ~35%.	5	N	No scour.	5	Y	Increased vegetation cover and exposed fabric.
00-100	60	N	Lower Bank: ~40 degrees Bank: ~10 degrees	6	None	No exposed roots. 3 Sycamores on bank, Jeeleweed at toe of slope. Native grasses are dominant ~80% cover. Goldenrods ~10%.	6,7,8	None	None	6,7,8	Y	N	Y	Patches of exposed fabric ~15%.	6,7,8	N	No scour.	6,7,8	Y	Increased vegetation cover and exposed fabric.
00-150	60	N	~10 degrees at toe of slope	9	None	Jeeleweed at toe of slope. Walnut and Catalpa trees. Native grasses are dominant ~95% cover.	9	None	None	9	Y	Y	Y	Patches of geocell exposed ~5% overall. No exposed fabric.	9	N	No scour.	9	Y	Increased vegetation cover.
00-200	60	N	~10 degrees at toe of slope	10	None	Oats ~100% cover, other grasses are ~50% cover. Jeeleweed dominant at toe of slope.	10	N	No trees present.	10	Y	Y	Y	Patch of exposed soil/fabric ~5% overall.	10	N	No scour.	10	Y	Increased vegetation cover.
00-250	60	N	~10 degrees at toe of slope	11	None	Grasses are dominant.	11	N	No trees present.	11	Y	Y	Y	Fabric exposed above Rock Toe ~20% overall. ~2% exposed on bank.	11	N	No scour.	11	Y	Increased vegetation cover.
00-300	60	N	~10 degrees at toe of slope	12	None	Black Walnut tree with Poison Ivy Vine, Oats ~100% cover. Jeeleweed ~10% cover at toe of slope.	12,13,14	Y	No at risk trees.	12,13,14	Y	Y	Y	Exposed fabric ~10% overall at top of slope.	12,13,14	N	No scour.	12,13,14	Y	Increased vegetation cover.
00-350	50	N	~25 degrees at toe of slope	15	None	Oats are dominant, ~70% cover. Large patches of exposed fabric. Jeeleweed at toe ~2% cover.	15	N	No at risk trees.	15	Y	Y	Y	Large patches of exposed fabric ~30% cover.	15	N	No scour.	15	Y	Large patches of exposed fabric.
00-400	40	N	Bank: ~40 degrees Lower Bank: ~20 degrees	16	None	3 Walnut trees, Invasive Knothead ~100% cover overall and Poison Ivy around Black Walnuts.	16	N	No at risk trees.	16	Y	Y	Y	Exposed fabric ~20%.	16	N	No scour.	16	Y	Increased vegetation cover. Large patches of exposed fabric.
00-450	30	N	Bank: ~30 degrees Lower Bank: ~20 degrees	17	None	Dominated by grasses. Jeeleweed at toe ~25% cover, planted Dogwoods are establishing, no growth on live stakes.	17	N	No at risk trees.	17	Y	Y	Y	Exposed soil lag and fabric ~15%.	17	N	No scour.	17	Y	Increased vegetation cover.
00-500	45	Y	None	18	None	Dominated by grasses. Jeeleweed at toe ~25% cover, grasses are dominant. Planted Dogwoods and Birch trees are establishing, no growth on live stakes.	18	None	No at risk trees.	18	Y	Y	Y	Exposed fabric on slope is ~45% cover. Cor logs and stakes are also exposed.	18	N	No scour.	18	Y	Increased vegetation cover.
00-550	40	Y	None	19	None	Grasses are dominant ~80% cover. Planted Paw Paw and Red Maple tree. Some Invasive Honeyuckle establishing. Exposed fabric ~25% cover.	19	None	No at risk trees.	19	Y	Y	Y	Exposed fabric and Cor log on slope ~35% cover.	19	N	No scour.	19	Y	Increased vegetation cover.
00-600	45	Y	None	20	None	Grasses ~45% cover on bank. Black Walnut tree. Jeeleweed established at toe of slope. Planted Birch tree. Patches of Invasive Honeyuckle.	20	None	No at risk trees.	20	Y	Y	Y	Exposed fabric ~50% cover.	20	N	No scour.	20	Y	Increased vegetation cover.
00-650	45	N	Bank: ~45 degrees Lower Bank: ~20 degrees	21	None	Black Walnut tree. Planted Red Maple.	21	None	No at risk trees.	21	Y	Y	Y	Exposed fabric ~50% cover, cor log also exposed.	21	N	No scour.	21	Y	Increased vegetation cover.
00-700	45	N	Bank: ~45 degrees Lower Bank: ~20 degrees	22	None	2 Black Walnuts with Poison Ivy, Jeeleweed ~35% cover at toe. Grasses are dominant.	22,23,24	None	No at risk trees.	22,23,24	Y	Y	Y	Exposed fabric ~70%.	22,23,24	N	No scour.	22,23,24	Y	Increased vegetation cover.
00-750	45	N	Bank: ~45 degrees Lower Bank: ~20 degrees	25	None	2 planted Sycamores. Grasses dominant. Closer spacing for planted saplings.	25	None	No at risk trees.	25	Y	Y	Y	Exposed fabric ~20%.	25	N	No scour.	25	Y	Increased vegetation cover.
00-800	45	N	Upper Bank: ~45 degrees Lower Bank: ~20 degrees	26	None	Planted Sycamores, maples and birch trees, grasses are dominant.	26	None	No at risk trees.	26	Y	Y	Y	Exposed fabric ~40%.	26	N	No scour.	26	Y	Increased vegetation cover.
00-850	35	N	Bank: ~35 degrees Lower Bank: ~20 degrees	27	None	Growth observed on willow live stakes; Sycamore, Elderberry and 2 Paw Paw trees are healthy.	27	None	No at risk trees.	27	Y	Y	Y	Exposed fabric ~30%.	27	N	No scour.	27	Y	Increased vegetation cover.
00-900	50	Y	None	28	None	Native grasses are dominant.	28	None	No at risk trees.	28	Y	Y	Y	Exposed fabric ~5%.	28	N	No scour.	28	Y	Increased vegetation cover.
00-950	35	N	Bank: ~35 degrees Lower Bank: ~20 degrees	29	None	Native Grasses are dominant. Planted Dogwoods and Sycamore.	29	None	No at risk trees.	29	Y	Y	Y	Exposed fabric ~5%.	29	N	No scour.	29	Y	Increased vegetation cover.
00-1000	45	N	Bank: ~45 degrees Lower Bank: ~20 degrees	30	None	Sweet Pea ~100% cover. Invasive Crown Vetch ~2% cover. Native grasses are dominant.	30	None	No at risk trees.	30	Y	Y	Y	Exposed fabric ~5%.	30	N	No scour.	30	Y	Increased vegetation cover.
00-1050	40	N	Bank: ~40 degrees Lower Bank: ~20 degrees	31	None	Native grasses are dominant ~85% cover.	31,32	None	No at risk trees.	31,32	Y	Y	Y	Exposed fabric ~5%.	31,32	N	No scour.	31,32	Y	Increased vegetation cover.
00-1100	55	Y	None	33	None	Invasive Knothead ~90% cover. Native Peaberry ~20. Invasive Honeyuckle ~15%. Oats and grasses throughout. Yucca plants.	33,34	None	No at risk trees.	33,34	Y	Y	Y	Exposed fabric ~25% cover.	33,34	N	No scour.	33,34	Y	Increased vegetation cover.
00-1150	50	Y	None	35	None	Fallen Sycamore, vegetative cover ~100%.	35	None	No at risk trees.	35	Y	Y	Y	No exposed fabric.	35	N	No scour.	35	Y	Increased vegetation cover.
00-1200	50	Y	None	36	L	Exposed roots ~5%. Invasive Honeyuckle, Black Walnut, Silver Maple, Red Maple, established vegetation cover.	36	None	No at risk trees.	36	Y	Y	Y	No exposed fabric.	36	N	No scour.	36	Y	Increased vegetation cover.
00-1250	65	Y	None	37	None	Silver Maple, vegetation cover ~100% cover. Exposed. Pedestrian access path.	37,38	None	No at risk trees.	37,38	Y	Y	Y	No exposed fabric.	37,38	N	No scour.	37,38	Y	Increased vegetation cover.
00-1300	65	Y	None	39	H	Un-remediated. Exposed roots.	39	Yes	Sycamore, Silver Maple.	39	N	N	N	Un-remediated section. Exposed roots.	39	Y	Scour present at toe of slope.	39	Y	At risk trees.
00-1350	70	Y	None	40	H	Un-remediated. Exposed roots. Invasive Honeyuckle along bank.	40	Yes	Silver Maple.	40	N	N	N	Un-remediated section. Exposed roots.	40	Y	Scour under roots.	40	Y	Exposed roots.
00-1400	65	Y	None	41	H	Un-remediated section. Exposed roots of Black Walnut, Red Maple, Pedestrian path/access.	41	Yes	Black Walnut, Red Maple.	41	N	N	N	Un-remediated section. Exposed roots.	41	Y	Minimal scour under roots. Exposed rocks and gravel.	41	Y	Increased scour.
00-1450	65	Y	None	42	H	Un-remediated section. Exposed roots of Black Walnut, Invasive Honeyuckle.	42	Yes	Black Walnut.	42	N	N	N	Un-remediated section. Exposed roots.	42	Y	Minimal scour under roots. Exposed rocks and gravel.	42	Y	Increased scour and at risk tree.
00-1500	55	Y	None	43	H	Black Walnut, Sycamore, Invasive Honeyuckle.	43	None	None	43	N	N	N	Un-remediated section. Exposed roots.	43	Y	Scour under roots, gravel and pebbles at toe.	43	Y	Increased scour and at risk tree.
00-1550	60	Y	None	44	L	Exposed roots and soil. Vegetation cover ~50% overall, pedestrian access path.	44,45,46	None	None	44,45,46	N	N	Y	Exposed roots and soil, exposed fabric.	44,45,46	Y	Scour under toe of slope.	44,45,46	Y	Increased erosion.
00-1600	45	Y	None	47	None	Vegetation cover ~70%. Exposed fabric ~10% cover. Rock Toe ~48" wide, no scour, no roots.	47,48,49	None	None	47,48,49	Y	Y	Y	Exposed fabric.	47,48,49	N	No scour.	47,48,49	Y	Increased vegetation cover.
00-1650	45	Y	None	50	None	Vegetation cover adjacent to stairs ~95% cover, grasses, concrete Rock Toe intact, stairs intact.	50,51	None	None	50,51	Y	Y	Y	No exposed fabric.	50,51	N	No scour.	50,51	N	None.
00-1700	50	N	Bank: ~30 degrees Rock Toe: ~20 degrees	52	None	Same day repairs are scheduled for exposed geocell and fabric. 3 Sycamores, 20' wide rock toe. Pedestrian access path at toe of slope.	52,53,54,55	None	None	52,53,54,55	Y	Y	Y	Fabric exposed ~20%.	52,53,54,55	N	No scour.	52,53,54,55	Y	Same day repairs to exposed geocell and fabric.
00-1750	65	N	Bank: ~35 degrees Rock Toe: ~20 degrees	56	None	5 isolated patches of Invasive Knothead, Jeeleweed at toe of slope. Vegetation cover ~80%. Walnut saplings. Pedestrian access path at toe of slope.	56	None	None	56	Y	Y	Y	No exposed fabric.	56	N	No scour.	56	Y	New patches of Knothead.
00-1800	50	N	Bank: ~30 degrees Rock Toe: ~20 degrees	57	None	Sycamore tree- geocell and fabric exposed around roots. Pedestrian access path at toe of slope.	57	None	None	57	Y	Y	Y	Exposed fabric and geocell around base of Sycamore tree.	57	N	No scour.	57	Y	Same day repairs to occur at location of exposed geocell and fabric.
00-1850	30	N	Bank: ~30 degrees Rock Toe: ~20 degrees	58	None	Vegetation covers 95% of bank. Small Sycamore saplings are establishing, small patches of Invasive Knothead ~5%. Pedestrian access path at toe of slope.	58,59	None	None	58,59	Y	Y	Y	No exposed fabric.	58,59	N	No scour.	58,59	Y	Increased vegetation cover.
00-1900	30	N	Bank: ~30 degrees Rock Toe: ~20 degrees	60	None	Vegetation covers ~95% of bank. No Knothead observed. Jeeleweed at toe of slope. Slight scour at toe of stairs. Pedestrian access path at toe of slope.	60	None	None	60	Y	Y	Y	Small patches of exposed soil. Exposed fabric at toe of stairs.	60	Y	Slight scour at toe of stairs.	60	Y	Slight scour and increased vegetation cover.
00-1950	70	N	Bank: ~70 degrees Rock Toe: ~20 degrees	61	None	Willow live stakes are establishing. Jeeleweed at toe of slope. Culvert is in good condition, path of Invasive Knothead ~1%; no pedestrian pathway.	61	None	None	61	Y	Y	Y	Exposed fabric ~10%.	61	N	No scour.	61	Y	Patch of Knothead.
00-2000	75	N	Bank: ~75 degrees Rock toe: ~20 degrees	62	None	Vegetation cover ~95%. Exposed patches of soil ~2%.	62	None	None	62	Y	Y	Y	Exposed fabric ~2%.	62	N	No scour.	62	Y	Patch of exposed fabric, increased vegetation cover.
00-2050	60	N	Bank: ~60 degrees Rock Toe: ~20 degrees	63	None	Minimum growth on live stakes. Jeeleweed at toe of slope. Exposed soil ~5%.	63	None	None	63	Y	Y	Y	No exposed fabric, but exposed soil ~5%.	63	N	No scour.	63	Y	Growth on live stakes and newly exposed soil.
00-2100	70	Y	None	64	None	Native vegetation cover ~95%. Minimum growth on live stakes, no scour, no exposed roots; small patches of Invasive Knothead.	64	None	None	64	Y	Y	Y	None.	64	N	No scour.	64	Y	Growth on live stakes, small patches of Knothead.
00-2150	70	Y	None	65	None	Minimum growth on live stakes; Native vegetation cover ~95%. Grasses are dominant; small patches of Invasive Knothead; Jeeleweed and Blue Vervain at toe of slope. Exposed soil ~2%.	65	None	None	65	Y	Y	Y	None.	65	N	No scour.	65	Y	Native vegetation growth.
00-2200	60	Y	None	66	None	Native vegetation cover ~95%. Grasses are dominant; Black Walnut tree canopy base soil patch at base of Walnut. Rock Toe widens at downstream end ~18" wide.	66,67,68	None	None	66,67,68	Y	Y	Y	None.	66,67,68	N	No scour.	66,67,68	Y	Native vegetation growth.
00-2250	65	Y	None	69	None	Black Walnut- patch of soil at base, no scour, no Knothead, no exposed roots, significant native vegetation cover.	69	None	None	69	Y	Y	Y	None.	69	N	No scour.	69	Y	Native vegetation growth.
00-2300	60	Y	None	70	M	Exposed roots of Box Elder tree; Invasive Honeyuckle; Black Walnut. Water pipe box and pedestrian access at toe.	70	Yes	Box Elder.	70	Y	Y	Y	None.	70	Y	Scour under tree roots.	70	Y	Scour.
00-2350	65	Y	None	71	M	Invasive honeyuckle. Black Walnut exhibits exposed roots.	71,72	Yes	Black Walnut.	71,72	Y	Y	Y	~20% exposed soil.	71,72	Y	Significant scour under roots.	71,72	Y	Increased scour and at risk tree.
00-2380	70	Y	None	73	None	Invasive Honeyuckle alongside bridge abutment. Elm sapling and alanthus tree at risk. Jeeleweed at toe of slope.	73,74	Yes	Elm sapling and alanthus.	73,74	Y	Y	Y	~5% exposed soil.	73,74	Y	Minimum scour under roots.	73,74	Y	At risk trees, Jeeleweed at toe.

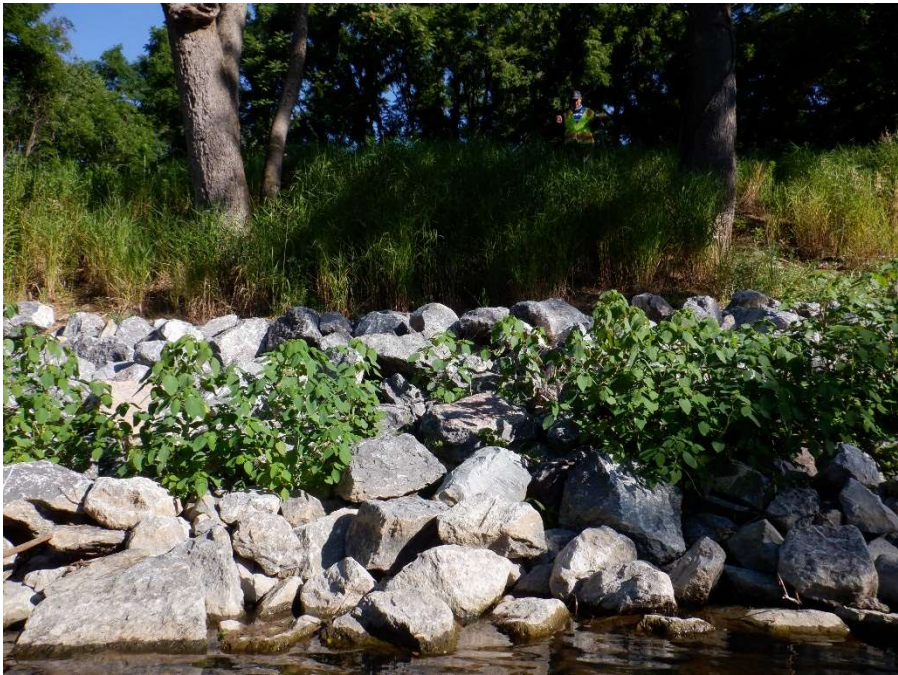
1. Inspection station is described as the distance (feet) upstream (U) or downstream (D) from the start of the BMA (DS), for example, Station 00-100 is 100 feet downstream from the start of the BMA.  
2. A significant deviation from continuous bank slope or break in grade may be used as an indicator of undercutting; consistent bank grade is evaluated as Y (yes) or N (no).  
3. The extent to which roots are exposed may provide a relative measure of the magnitude of apparent erosion, extent of exposed roots is evaluated as L (low), M (moderate), H (high), or NA (not applicable; no exposed roots).  
4. At risk trees (i.e., trees that lean towards the river) typically have a greater potential to fall into the river and dislodge the bank soil and erosion control fabric. The presence of at risk trees is evaluated as Y (yes) or N (no).  
5. Installed rock toe and large erodible debris (LVED) features are monitored to ensure that they are anchored and determine whether material is exposed or visible; these installed features are evaluated as Y (yes, intact), N (no, not intact), or NA (not applicable; no installed features to monitor).  
6. Installed geocell and erosion control fabric are monitored to ensure that they are intact and determine whether material is exposed or visible; these installed features are evaluated as Y (yes, intact), N (no, not intact), or NA (not applicable; no installed features to monitor).  
7. The presence of local scour is assessed at the toe and center of the bank, per inspection station, as well as approximately 25 feet upstream and downstream of the start and end of the BMA; the presence of scour is evaluated as Y (yes) or N (no).

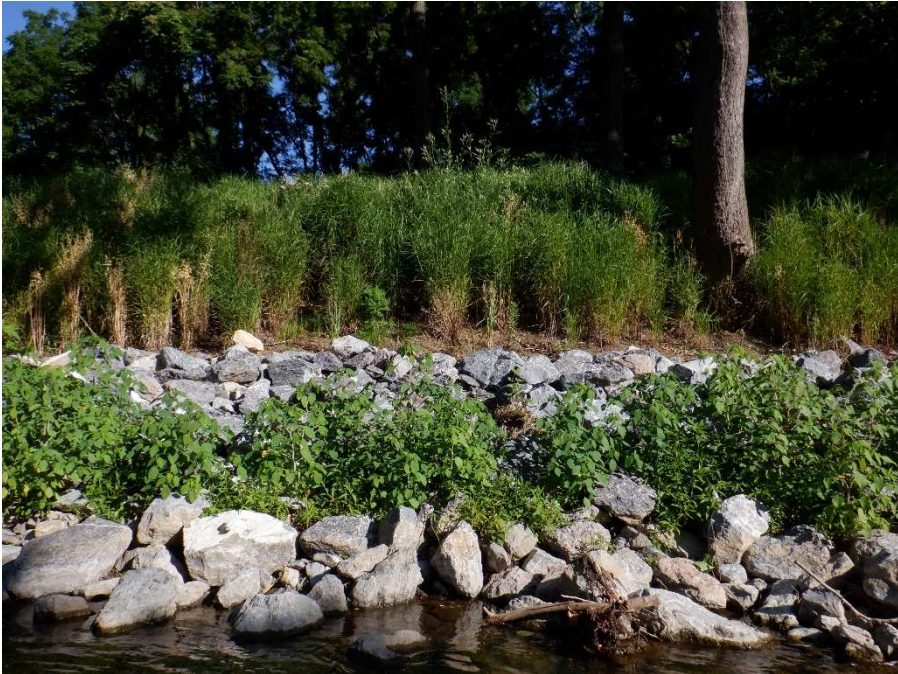
<p><b>Location:</b> 00-25'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 1                              6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Northwest</p> <hr/> <p><b>Description:</b> ~ 60 degree bank angle; upper Bank: 30 degrees- bank: 70 degrees - lower bank: 20 degrees; unremiated portion; roots exposed at toe of slope; honeysuckle bush, 3 mature walnut trees; wingstem, patches of exposed soil; no at risk trees; scour present at toe of slope.</p>	
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<p><b>Location:</b> 00-25'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 2                              6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> North</p> <hr/> <p><b>Description:</b> ~ 60 degree bank angle; downstream view of location; upper Bank: 30 degrees-bank: 70 degrees - lower bank: 20 degrees; unremiated portion; roots exposed at toe of slope; patches of exposed soil; no at risk trees; scour present at toe of slope.</p>	
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<p><b>Location:</b> 00+00</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 3                              6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Northwest</p> <hr/> <p><b>Description:</b> ~ 50 degree bank angle; upper bank: 10 degrees- bank: 70 degrees - lower Bank: 20 degrees; no exposed roots; no knotweed present; grasses are dominant ~75-80% cover, black walnuts and sycamore also present; sycamore is possibly at risk; patches of fabric visible; no scour.</p>	
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<p><b>Location:</b> 00+00</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 4                              6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> North</p> <hr/> <p><b>Description:</b> ~ 50 degree bank angle; downstream view of location; upper bank: 10 degrees- bank: 70 degrees - lower Bank: 20 degrees; no exposed roots; no knotweed present; grasses are dominant ~75-80% cover, black walnuts and sycamore also present; sycamore is possibly at risk; patches of fabric visible; no scour.</p>	
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<p><b>Location:</b> 00+50'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 5                              6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Northwest</p> <hr/> <p><b>Description:</b> ~ 40 degree bank angle; bank: 45 degrees - lower bank: 20 degrees; sycamore roots exposed; sewelweed is established at toe of slope; grasses are becoming established; no at risk trees; fabric exposed in large patches ~35%; no scour.</p>	 A photograph showing a rocky riverbank. The foreground is filled with large, grey, angular rocks. Behind the rocks, there is a dense growth of green vegetation, including what appears to be Jewelweed. In the background, there are several tall trees with green foliage, and a person in a green shirt is visible on a grassy slope. The sky is blue.
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<p><b>Location:</b> 00+100'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 6                                  6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Northwest</p> <hr/> <p><b>Description:</b> ~ 60 degree bank angle; lower bank: 10 degrees; no exposed roots; 3 Sycamores on bank, jewelweed at toe of slope; native grasses are dominant ~80% cover, goldenrods ~10%; no at risk trees; patches of exposed fabric ~15%; no scour.</p>	 A photograph showing a rocky riverbank. The foreground is filled with large, grey, angular rocks. Behind the rocks, there is a dense growth of green vegetation, including what appears to be Jewelweed. A large tree trunk is visible on the right side of the bank. The background shows more trees and a blue sky.
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**Location:**

00+100'

**Photo Number:      Date:**

7                      6/23/2021

**Direction Photo Taken:**

West

**Description:**

~ 60 degree bank angle;  
upstream view of location;  
bank: 60 degrees - lower  
bank: 10 degrees; no  
exposed roots; no at risk  
trees; patches of exposed  
fabric ~15%; no scour.



**Location:**

00+100'

**Photo Title:      Date:**

8                      6/23/2021

**Direction Photo Taken:**

North

**Description:**

~ 60 degree bank angle;  
downstream view of location;  
lower bank: 10 degrees; no  
exposed roots; no at risk  
trees; patches of exposed  
fabric ~15%; no scour.





**Location:**

00+150'

**Photo Number:      Date:**

9                      6/23/2021

**Direction Photo Taken:**

Northwest

**Description:**

~ 60 degree bank angle; 10 degrees at toe of slope; Jewelweed at toe of slope; walnut and catalpa trees; native grasses are dominant-95% cover; no at risk trees; patches of geocell exposed ~5% overall; no exposed fabric; no scour.



**Location:**

00+200'

**Photo Title:              Date:**

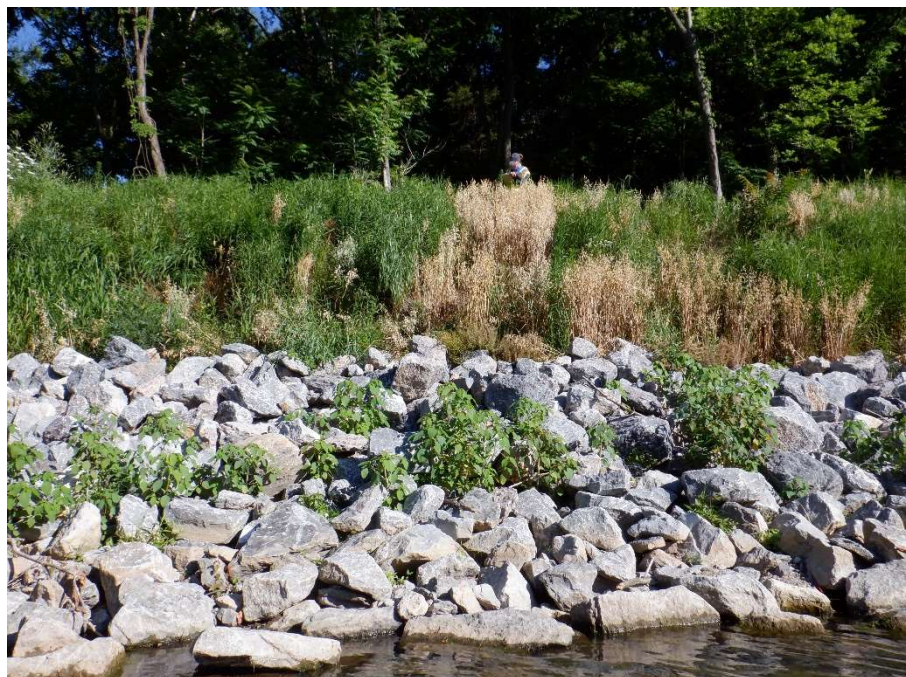
10                      6/23/2021

**Direction Photo Taken:**

Northwest

**Description:**

~ 60 degree bank angle; 10 degrees at toe of slope; oats ~50% cover, other grasses are 50% cover; jewelweed dominant at toe of slope; no trees present; patch of exposed soil/fabric ~5% overall; no scour.



**Location:**

00+250'

**Photo Number:**

11

**Date:**

6/23/2021

**Direction Photo Taken:**

Northwest

**Description:**

~ 60 degree bank angle; 10 degrees at toe of slope; grasses are dominant; no trees present; fabric exposed above rock toe 2% overall; 2% exposed on bank; no scour.



**Location:**

00+300'

**Photo Title:**

12

**Date:**

6/23/2021

**Direction Photo Taken:**

Northwest

**Description:**

~ 60 degree bank angle; 10 degrees at toe of slope; black walnut tree with poison ivy vine, oats ~100% cover; jewelweed 10% cover at toe of slope; no at risk trees; exposed fabric ~10% overall at top of slope; no scour.

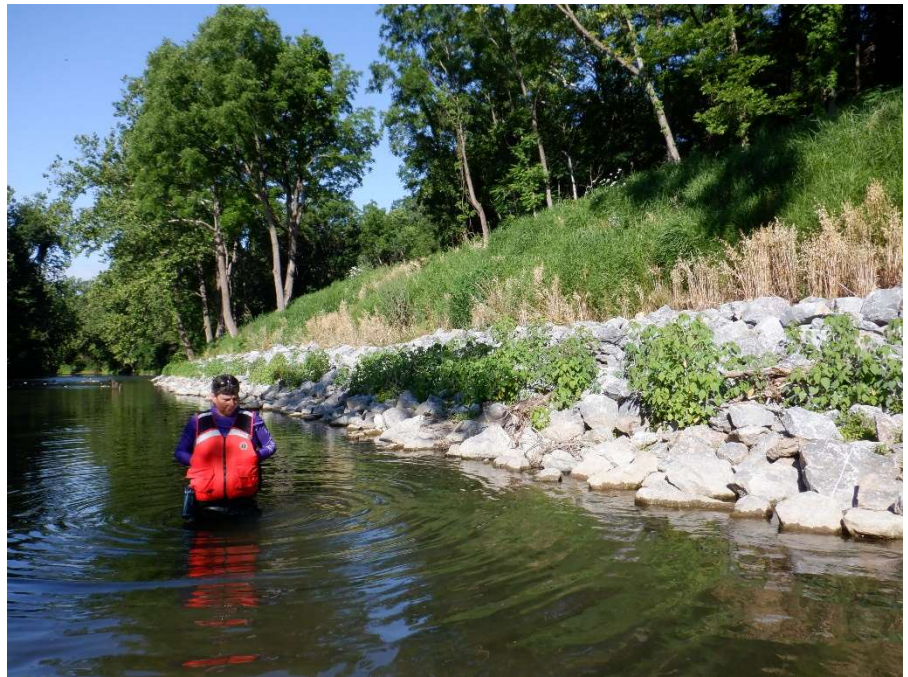


**Location:**  
00+300'

**Photo Number:** 13      **Date:** 6/23/2021

**Direction Photo Taken:**  
West

**Description:**  
~ 60 degree bank angle;  
upstream view of location; 10  
degrees at toe of slope; no at  
risk trees; exposed fabric  
~10% overall at top of slope;  
no scour.



**Location:**  
00+300'

**Photo Title:** 14      **Date:** 6/23/2021

**Direction Photo Taken:**  
North

**Description:**  
~ 60 degree bank angle;  
downstream view of location;  
10 degrees at toe of slope; no  
at risk trees; exposed fabric  
~10% overall at top of slope;  
no scour.



**Location:**

00+350'

**Photo Number:**

15

**Date:**

6/23/2021

**Direction Photo Taken:**

Northwest

**Description:**

~ 50 degree bank angle; 25 degrees at toe of slope; oats are dominant, ~70% cover; large patches of exposed fabric; jewelweed at toe ~5% cover; no at risk trees; large patches of exposed fabric ~30% cover; no scour.



**Location:**

00+400'

**Photo Title:**

16

**Date:**

6/23/2021

**Direction Photo Taken:**

Northwest

**Description:**

~ 40 degree bank angle; lower bank: 20 degrees; 3 walnut trees, invasive knotweed (10% cover overall) and poison ivy around based of walnuts; no at risk trees; exposed fabric ~20%; no scour.



**Location:**

00+450'

**Photo Number:**

17

**Date:**

6/23/2021

**Direction Photo Taken:**

Northwest

**Description:**

~ 30 degree bank angle;  
lower bank: 20 degrees;  
dominated by grasses,  
Jewelweed at toe ~25%  
cover, planted dogwoods are  
establishing, no growth on  
live stakes; no at risk trees;  
exposed coir log and fabric  
~15%; no scour.



**Location:**

00+500'

**Photo Title:**

18

**Date:**

6/23/2021

**Direction Photo Taken:**

Northwest

**Description:**

~ 45 degree bank angle;  
dominated by grasses,  
Jewelweed at toe ~5% cover,  
grasses are dominant;  
planted dogwoods and birch  
trees are establishing, no  
growth on live stakes; no at  
risk trees; exposed fabric on  
slope is ~45% cover; coir logs  
and stakes are also exposed;  
no scour.



**Location:**

00+550'

**Photo Number:**

19

**Date:**

6/23/2021

**Direction Photo Taken:**

Northwest

**Description:**

~ 40 degree bank angle;  
grasses are dominant ~60%  
cover; planted paw paw and  
red maple tree; some  
invasive honeysuckle  
establishing; exposed fabric  
~35% cover; no at risk trees;  
exposed fabric and coir log  
on slope ~35% cover; no  
scour.



**Location:**

00+600'

**Photo Title:**

20

**Date:**

6/23/2021

**Direction Photo Taken:**

Northwest

**Description:**

~ 45 degree bank angle;  
grasses ~45% cover on bank;  
black walnut tree; jewelweed  
established at toe of slope;  
planted birch tree; patches of  
invasive honeysuckle; no at  
risk trees; exposed fabric  
~50% cover; no scour.



**Location:**

00+650'

**Photo Number:**

21

**Date:**

6/23/2021

**Direction Photo Taken:**

Northwest

**Description:**

~ 45 degree bank angle;  
lower bank: 20 degrees; black  
walnut tree; planted red  
maple; no at risk trees;  
exposed fabric ~50% cover,  
coir log also exposed; no  
scour.



**Location:**

00+700'

**Photo Title:**

22

**Date:**

6/23/2021

**Direction Photo Taken:**

Northwest

**Description:**

~ 45 degree bank angle;  
lower bank: 10 degrees; 2  
black walnuts with poison  
ivy; jewelweed ~15% cover at  
toe; grasses are dominant; no  
at risk trees; exposed fabric  
~70%; no scour.



**Location:**  
00+700'

**Photo Number:** 23      **Date:** 6/23/2021

**Direction Photo Taken:**  
West

**Description:**  
~ 45 degree bank angle;  
upstream view of location;  
lower bank: 10 degrees; 2  
black walnuts with poison  
ivy; jewelweed ~15% cover at  
toe; grasses are dominant; no  
at risk trees; exposed fabric  
~70%; no scour.

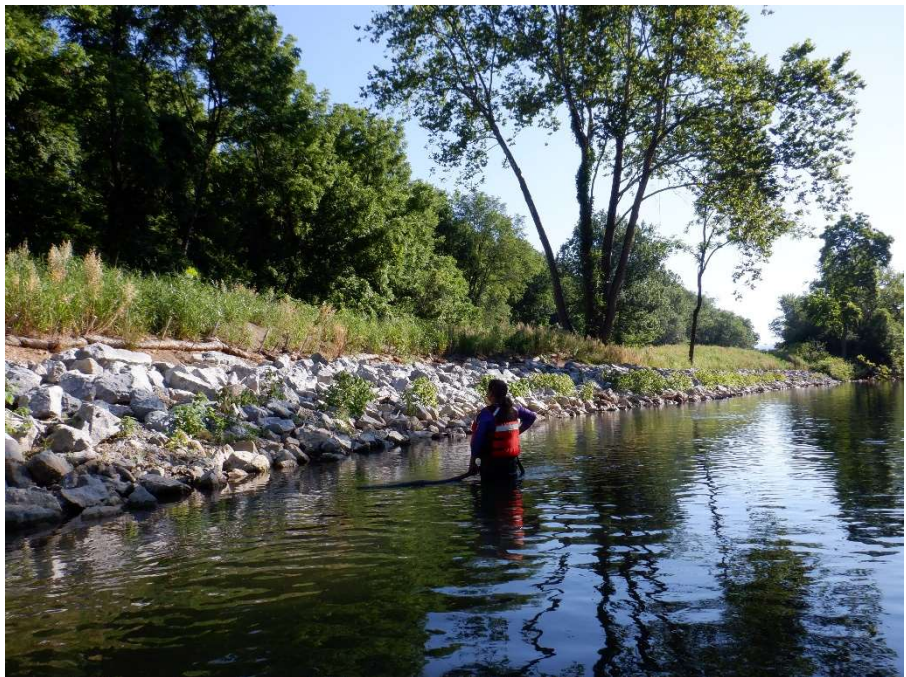


**Location:**  
00+700'

**Photo Title:** 24      **Date:** 6/23/2021

**Direction Photo Taken:**  
North

**Description:**  
~ 45 degree bank angle;  
downstream view of location;  
lower bank: 10 degrees; no  
at risk trees; exposed fabric  
~70%; no scour.





**Location:**

00+750'

**Photo Number:**

25

**Date:**

6/23/2021

**Direction Photo Taken:**

Northwest

**Description:**

~ 45 degree bank angle;  
lower bank: 20 degrees; 2  
planted sycamores; grasses  
dominant; closer spacing for  
planted saplings; no at risk  
trees; exposed fabric ~20%;  
no scour.



**Location:**

00+800'

**Photo Title:**

26

**Date:**

6/23/2021

**Direction Photo Taken:**

Northwest

**Description:**

~ 45 degree bank angle;  
upper bank: 45 degrees -  
lower bank: 20 degrees;  
planted sycamore, maples  
and birch trees; grasses are  
dominant ; no at risk trees;  
exposed fabric ~40%; no  
scour.



**Location:**

00+850'

**Photo Number:**

27

**Date:**

6/23/2021

**Direction Photo Taken:**

Northwest

**Description:**

~ 35 degree bank angle;  
lower bank: 10 degrees;  
growth observed on willow  
live stakes; sycamore,  
elderberry and 2 paw paw  
trees are healthy; no at risk  
trees; exposed fabric ~30%;  
no scour.



**Location:**

00+900'

**Photo Title:**

28

**Date:**

6/23/2021

**Direction Photo Taken:**

Northwest

**Description:**

~ 10 degree bank angle;  
native grasses are dominant;  
no at risk trees; exposed  
fabric ~5%; no scour.



**Location:**

00+950'

**Photo Number:**

29

**Date:**

6/23/2021

**Direction Photo Taken:**

Northwest

**Description:**

~ 35 degree bank angle;  
lower bank: 25 degrees;  
native grasses are dominant;  
planted dogwoods and  
sycamore; no at risk trees;  
exposed fabric ~5%; no  
scour.



**Location:**

00+1000'

**Photo Title:**

30

**Date:**

6/23/2021

**Direction Photo Taken:**

Northwest

**Description:**

~ 45 degree bank angle;  
lower bank: 25 degrees;  
sweet pea ~10% cover;  
invasive crown vetch ~ 2%  
cover; native grasses are  
dominant; no at risk trees;  
exposed fabric ~5%; no  
scour.



**Location:**

00+1050'

**Photo Number:**

31

**Date:**

6/23/2021

**Direction Photo Taken:**

Northwest

**Description:**

~ 40 degree bank angle;  
lower bank: 25 degrees;  
native grasses are dominant  
~85% cover; no at risk trees;  
exposed fabric ~5%; no  
scour.



**Location:**

00+1050'

**Photo Title:**

32

**Date:**

6/23/2021

**Direction Photo Taken:**

North

**Description:**

~ 40 degree bank angle;  
downstream view of location;  
lower bank: 25 degrees; no at  
risk trees; exposed fabric  
~5%; no scour.



**Location:**  
00+1100'

**Photo Number:**      **Date:**  
33                              6/23/2021

**Direction Photo Taken:**  
Northwest

**Description:**  
~ 55 degree bank angle;  
invasive knotweed ~60%  
cover; native pokeberry ~20%;  
invasive honeysuckle ~10%;  
oats and grasses throughout,  
yucca plants; no at risk trees;  
exposed fabric ~25% cover;  
no scour.



**Location:**  
00+1100'

**Photo Title:**              **Date:**  
34                              6/23/2021

**Direction Photo Taken:**  
West

**Description:**  
~ 55 degree bank angle;  
upstream view of location;  
no at risk trees; exposed  
fabric ~25% cover; no scour.



**Location:**  
00+1150'

**Photo Number:**      **Date:**  
35                              6/23/2021

**Direction Photo Taken:**  
Northwest

**Description:**  
~ 50 degree bank angle;  
fallen sycamore, vegetative  
cover ~100%; no at risk trees;  
no exposed fabric; no scour.

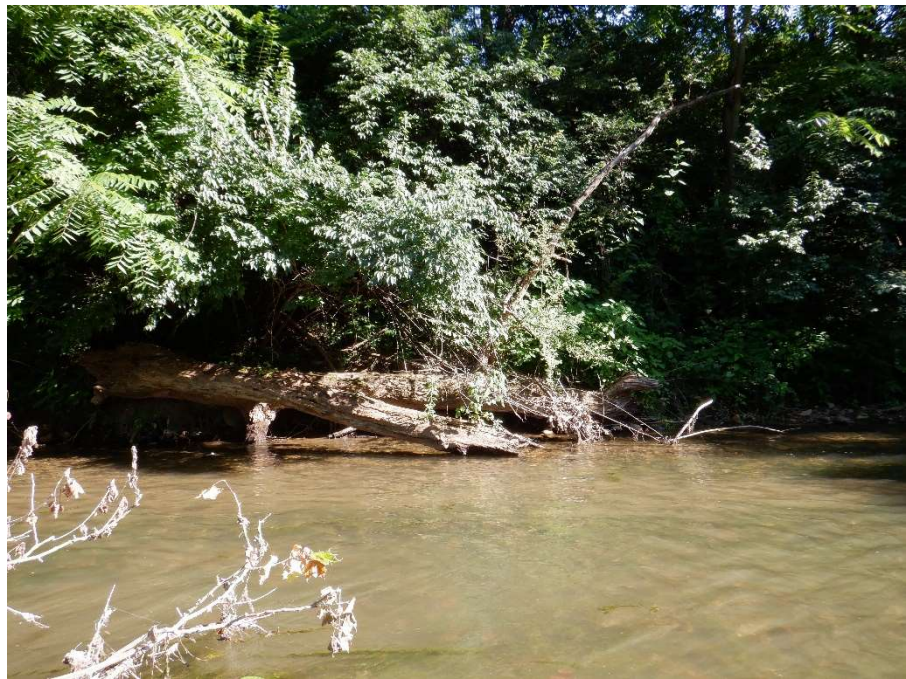


**Location:**  
00+1200'


**Photo Title:**              **Date:**  
36                              6/23/2021

**Direction Photo Taken:**  
Northwest

**Description:**  
~ 50 degree bank angle;  
exposed roots ~5%; invasive  
honeysuckle, black walnuts;  
silver maples; red maple,  
established vegetation cover;  
no at risk trees; no exposed  
fabric; no scour.



<p><b>Location:</b> 00+1250'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 37                          6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Northwest</p> <hr/> <p><b>Description:</b> ~ 65 degree bank angle; silver maple, vegetation cover ~100% cover; no at risk trees; no exposed fabric; no scour.</p>	
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<p><b>Location:</b> 00+1250'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 38                              6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Northwest</p> <hr/> <p><b>Description:</b> ~ 65 degree bank angle; pedestrian access path; no at risk trees; no exposed fabric; no scour.</p>	
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**Location:**  
00+1300'

**Photo Number:**      **Date:**  
39                              6/23/2021

**Direction Photo Taken:**  
Northwest

**Description:**  
~ 65 degree bank angle;  
unremediated section;  
exposed roots; sycamore,  
silver maple; exposed roots;  
scour present at toe of slope.



**Location:**  
00+1350'

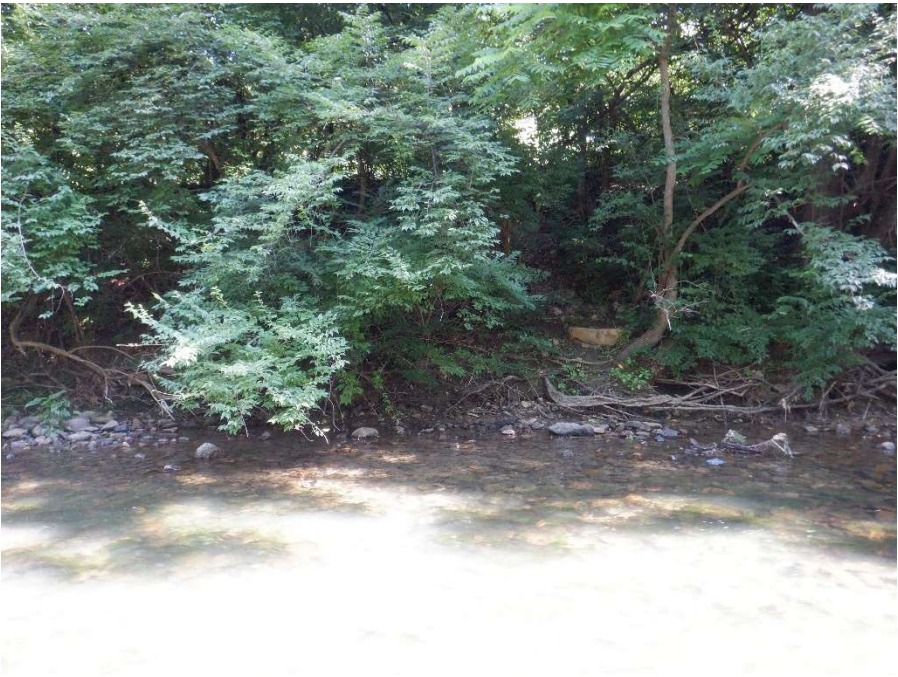
**Photo Title:**              **Date:**  
40                              6/23/2021


**Direction Photo Taken:**  
Northwest

**Description:**  
~ 70 degree bank angle;  
unremediated section;  
exposed roots; invasive  
honeysuckle along bank;  
silver maple; exposed roots;  
scour under roots.





<p><b>Location:</b> 00+1400'</p> <hr/> <p><b>Photo Number:</b>      <b>Date:</b> 41                      6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Northwest</p> <hr/> <p><b>Description:</b> ~ 65 degree bank angle; unremediated section; exposed roots of black walnut, red maple; pedestrian path/access; exposed roots; minimal scour under roots; exposed rocks and gravel.</p>	
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<p><b>Location:</b> 00+1450'</p> <hr/> <p><b>Photo Title:</b>              <b>Date:</b> 42                      6/23/2021</p> <hr/> <p><b>Direction Photo Taken:</b> Northwest</p> <hr/> <p><b>Description:</b> ~ 65 degree bank angle; unremediated section; exposed roots of black walnut, invasive honeysuckle; minimal scour under roots. exposed rocks and gravel.</p>	
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**Location:**  
00+1500'

**Photo Number:** 43  
**Date:** 6/23/2021

**Direction Photo Taken:**  
Northwest

**Description:**  
~ 55 degree bank angle; black walnut, sycamore, invasive honeysuckle; unremediated section; exposed roots; scour under roots, gravel and pebbles at toe.



**Location:**  
00+1550'

**Photo Title:** 44  
**Date:** 6/23/2021

**Direction Photo Taken:**  
Northwest

**Description:**  
~ 60 degree bank angle; exposed roots and soil; vegetation cover ~65% overall; pedestrian access path; exposed roots and soil, exposed fabric; scour under toe of slope.



**Location:**  
00+1550'

**Photo Number:**      **Date:**  
45                              6/23/2021

**Direction Photo Taken:**  
West

**Description:**  
~ 60 degree bank angle;  
exposed roots and soil;  
vegetation cover ~65%  
overall; exposed fabric; scour  
under toe of slope.



**Location:**  
00+1550'

**Photo Title:**              **Date:**  
46                              6/23/2021

**Direction Photo Taken:**  
North

**Description:**  
~ 60 degree bank angle;  
downstream view of location;  
exposed roots and soil;  
vegetation cover ~65%  
overall; pedestrian access  
path; exposed fabric; scour  
under toe of slope.



**Location:**  
00+1600'

**Photo Number:**      **Date:**  
47                      6/23/2021

**Direction Photo Taken:**  
Northwest

**Description:**  
~ 45 degree bank angle;  
vegetation cover ~90%;  
exposed fabric ~10% cover;  
rock toe is ~4ft. wide, no  
roots; exposed fabric; no  
scour.



**Location:**  
00+1600'

**Photo Title:**              **Date:**  
48                              6/23/2021

**Direction Photo Taken:**  
West

**Description:**  
~ 45 degree bank angle;  
upstream view of location;  
vegetation cover ~90%;  
exposed fabric ~10% cover;  
rock toe is ~4ft. wide, no  
roots; exposed fabric; no  
scour.



**Location:**  
00+1600'

**Photo Number:**      **Date:**  
49                              6/23/2021

**Direction Photo Taken:**  
North

**Description:**  
~ 45 degree bank angle;  
Vegetation cover ~90%;  
Exposed fabric ~10% cover;  
rock toe is ~4ft. Wide, no  
scour, no roots; Exposed  
fabric; No scour.



**Location:**  
00+1650'

**Photo Title:**              **Date:**  
50                              6/23/2021

**Direction Photo Taken:**  
Northwest

**Description:**  
~ 45 degree bank angle;  
vegetation cover adjacent to  
stairs~95% cover- grasses,  
coreopsis; rock toe intact;  
stairs intact; no exposed  
fabric; no scour.



**Location:**  
00+1650'

**Photo Number:**      **Date:**  
51                              6/23/2021

**Direction Photo Taken:**  
North

**Description:**  
~ 45 degree bank angle;  
downstream view of location;  
vegetation cover adjacent to  
stairs~95% cover- grasses,  
coreopsis; rock toe intact;  
stairs intact; no exposed  
fabric; no scour.



**Location:**  
00+1700'

**Photo Title:**              **Date:**  
52                              6/23/2021

**Direction Photo Taken:**  
West

**Description:**  
~ 50 degree bank angle; rock  
toe is 20 degrees; upstream  
view of location; same day  
repairs are scheduled for  
exposed geocell and fabric; 3  
sycamores; 2ft. wide rock  
toe; fabric exposed ~20%; no  
scour.



**Location:**  
00+1700'

**Photo Number:** 53      **Date:** 6/23/2021

**Direction Photo Taken:**  
Northwest

**Description:**  
~ 50 degree bank angle; rock toe is 20 degrees; same day repairs are scheduled for exposed geocell and fabric; 3 sycamores; 2ft. wide rock toe; pedestrian access path at toe of slope; fabric exposed ~20%; no scour.



**Location:**  
00+1700'

**Photo Title:** 54      **Date:** 6/23/2021

**Direction Photo Taken:**  
Southwest

**Description:**  
~ 50 degree bank angle; rock toe is 20 degrees; upstream view of location; same day repairs are scheduled for exposed geocell and fabric; 3 sycamores; 2ft. wide rock toe; pedestrian access path at toe of slope; fabric exposed ~20%; no scour.



**Location:**  
00+1700'

**Photo Number:** 55  
**Date:** 6/23/2021

**Direction Photo Taken:**  
Northeast

**Description:**  
~ 50 degree bank angle; rock toe is 20 degrees; downstream view of location; same day repairs are scheduled for exposed geocell and fabric; 3 sycamores; 2ft. wide rock toe; pedestrian access path at toe of slope; fabric exposed ~20%; no scour.



**Location:**  
00+1750'

**Photo Title:** 56  
**Date:** 6/23/2021

**Direction Photo Taken:**  
Northwest

**Description:**  
~ 65 degree bank angle; rock toe is 20 degrees; 5 isolated patches of invasive knotweed; jewelweed at toe of slope; vegetation cover ~80%; walnut saplings; pedestrian access path at toe of slope; no exposed fabric; no scour.





**Location:**  
00+1800'

**Photo Number:** 57      **Date:** 6/23/2021

**Direction Photo Taken:**  
Northwest

**Description:**  
~ 50 degree bank angle; rock toe is 20 degrees; sycamore tree- geocell and fabric exposed around roots; pedestrian access path at toe of slope; exposed fabric and geocell around base of sycamore tree; no scour.



**Location:**  
00+1850'

**Photo Title:** 58      **Date:** 6/23/2021

**Direction Photo Taken:**  
Northwest

**Description:**  
~ 30 degree bank angle; rock toe is 20 degrees; vegetation covers 95% of bank; small sycamore saplings are establishing, small patches of invasive knotweed ~5%; pedestrian access path at toe of slope; no exposed fabric; no scour.



**Location:**  
00+1850'

**Photo Number:**      **Date:**  
59                              6/23/2021

**Direction Photo Taken:**  
North

**Description:**  
~ 30 degree bank angle;  
downstream view of location;  
rock toe is 20 degrees;  
vegetation covers 95% of  
bank; small sycamore  
saplings are establishing,  
small patches of invasive  
knotweed ~5%; pedestrian  
access path at toe of slope;  
no exposed fabric; no scour.



**Location:**  
00+1900'

**Photo Title:**              **Date:**  
60                              6/23/2021

**Direction Photo Taken:**  
Northwest

**Description:**  
~ 30 degree bank angle; rock  
toe is 20 degrees; small  
patches of exposed soil;  
exposed fabric at toe of  
stairs; slight scour at toe of  
stairs.



**Location:**  
00+1950'

**Photo Number:**      **Date:**  
61                              6/23/2021

**Direction Photo Taken:**  
Northwest

**Description:**  
~ 70 degree bank angle; rock toe is 20 degrees; willow live stakes are establishing; jewelweed at toe of slope; culvert is in good condition; patch of invasive knotweed ~1%; no pedestrian pathway; exposed fabric 10%; No scour.



**Location:**  
00+2000'

**Photo Title:**              **Date:**  
62                              6/23/2021

**Direction Photo Taken:**  
Northwest

**Description:**  
~ 75 degree bank angle; rock toe is 20 degrees; vegetation cover ~95%, exposed patches of soil ~2%; exposed fabric 2%; no scour.



**Location:**  
00+2050'

**Photo Number:**      **Date:**  
63                              6/23/2021

**Direction Photo Taken:**  
Northwest

**Description:**  
~ 60 degree bank angle; rock toe is 20 degrees; minimum growth on live stakes; jewelweed at toe of slope; exposed soil ~5%; no exposed fabric, but exposed soil ~5%; no scour.



**Location:**  
00+2100'

**Photo Title:**              **Date:**  
64                              6/23/2021

**Direction Photo Taken:**  
Northwest

**Description:**  
~ 70 degree bank angle; native vegetation cover ~95%; minimum growth on livestakes, no scour, no exposed roots; small patches of invasive knotweed; no scour.



**Location:**  
00+2150'

**Photo Number:**      **Date:**  
65                              6/23/2021

**Direction Photo Taken:**  
Northwest

**Description:**  
~ 70 degree bank angle;  
minimum growth on live  
stakes; native vegetation  
cover 98%- grasses are  
dominant; small patches of  
invasive knotweed;  
jewelweed and blue vervain  
at toe of slope. exposed soil  
~2%; no scour.



**Location:**  
00+2200'

**Photo Title:**              **Date:**  
66                              6/23/2021

**Direction Photo Taken:**  
Northwest

**Description:**  
~ 60 degree bank angle;  
native vegetation cover 99%-  
grasses are dominant; black  
walnut tree canopy; bare soil  
patch at base of walnut; rock  
toe widens at downstream  
end ~8' wide; no scour.



**Location:**  
00+2200'

**Photo Number:**      **Date:**  
67                      6/23/2021

**Direction Photo Taken:**  
Wet

**Description:**  
~ 60 degree bank angle;  
upstream view of location;  
native vegetation cover 99%-  
grasses are dominant; black  
walnut tree canopy; bare soil  
patch at base of walnut; rock  
toe widens at downstream  
end ~8' wide; no scour.



**Location:**  
00+2200'

**Photo Title:**          **Date:**  
68                      6/23/2021

**Direction Photo Taken:**  
North

**Description:**  
~ 60 degree bank angle;  
downstream view of location;  
native vegetation cover 99%-  
grasses are dominant; black  
walnut tree canopy; bare soil  
patch at base of walnut; rock  
toe widens at downstream  
end ~8' wide; no scour.



**Location:**  
00+2250'

**Photo Number:** 69      **Date:** 6/23/2021

**Direction Photo Taken:**  
Northwest

**Description:**  
~ 65 degree bank angle;  
black walnut- patch of soil at  
base, no knotweed, no  
exposed roots, significant  
native veg cover; no scour.



**Location:**  
00+2300'

**Photo Title:** 70      **Date:** 6/23/2021

**Direction Photo Taken:**  
Northwest

**Description:**  
~ 60 degree bank angle;  
exposed roots of box elder  
tree; invasive honeysuckle;  
black walnut; water pipe box  
and pedestrian access at toe;  
box elder at risk; sScour  
under tree roots.



**Location:**  
00+2350'

**Photo Number:** 71      **Date:** 6/23/2021

**Direction Photo Taken:**  
Northwest

**Description:**  
~ 65 degree bank angle;  
invasive honeysuckle; black  
walnut exhibits exposed  
roots; black walder at risk;  
20% exposed soil; significant  
scour under roots.



**Location:**  
00+2350'

**Photo Title:** 72      **Date:** 6/23/2021

**Direction Photo Taken:**  
Northwest

**Description:**  
~ 65 degree bank angle;  
invasive honeysuckle; black  
walnut exhibits exposed  
roots; black walder at risk;  
20% exposed soil; significant  
scour under roots.





**Location:**  
00+2380'

**Photo Number:**      **Date:**  
73                              6/23/2021

**Direction Photo Taken:**  
Northwest

**Description:**  
~ 70 degree bank angle;  
invasve honeysuckle  
alongside bridge abuttment;  
elm sapling and ailanthus  
tree at risk; jewelweed at  
toe of slope; elm sapling and  
ailanthus at risk; 5% exposed  
soil; minimum scour under  
roots.



**Location:**  
00+2380'

**Photo Title:**              **Date:**  
74                              6/23/2021

**Direction Photo Taken:**  
West

**Description:**  
~ 70 degree bank angle;  
upstream view of location;  
invasve honeysuckle  
alongside bridge abuttment;  
elm sapling and ailanthus  
tree at risk; jewelweed at  
toe of slope; elm sapling and  
ailanthus at risk; 5% exposed  
soil; minimum scour under  
roots.



Attachment E - Waynesboro Off-Site Cap Areas

Inspection Record Sheet

Maintenance Plan

Location and property owner name: North Park BMA		
Item	Status/Maintenance Needs	Repairs Needed?
Access Roads	NA	NA
Trails	Gravel pathway and greenway in good condition, some pedestrian foot paths	1
Drainage Structures	None Observed	1
Outfall Structures	Outfall structures intact	1
Rip-Rap Protection	Rip-rap intact	1
Cap System Vegetative Cover	Installed live stakes and vegetation appear healthy and are establishing.	1
Cap System Geosynthetics	Erosion control fabric exposed with signs of wear in several areas was repaired in June of 2021.	1
Cap System Slope Stability	Slope is consistent and stable along remediation.	1
Cap System Subsidence	None observed	1
Fencing and Gates	Fencing and gates intact.	1

Notes:

1. Functioning properly; no repairs needed
2. Repairs needed (describe why, what, and where), but not time critical
3. Time critical repair needed (describe what and where)

Comments:

Inspected by: Katie Bartling and Sarah Bartle Date: June 24, 2021