ATTACHMENT C: FIELD DATASHEETS

Waters of the U.S. Data Sheet

Project: MLS Compensatory SWM		**Feature ID:** 31000	**Stream Order:** 1
Date: 2/17/21	**State:** MD	**Photos:** 3 US 4 DS	
Crew: EB JS	**County:** Montgomery	**Last Flag Number:** 4	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral
○ TNW (Subject to ebb and flow)	○ TNW – Perennial (Flowing year round)	✓ RPW – Seasonal (must flow at least 3 months a year)	○ Non-RPW draining uplands
	○ RPW – Perennial (Flowing year round)		○ Non-RPW erosional feature
			○ Non-RPW with abutting wetland
			○ Non-RPW with adjacent wetland
			○ Non-RPW wetland adjacent or abutting upstream (outside of study area)

Describe rational for hydrologic class: hydric soils, bed+banks, observed flow

Hydrologic Connectivity –	Upstream: None	Downstream: Outside SA	Adjacent/Abutting: None

Feature Description: ***(check all that apply)***

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 3'	✓ Silts	✓ Sands	☐ Muck	RB: Forest | maintained lawn
☐ Artificial (man-made)	Depth: 0.5 - 1'	✓ Cobbles	✓ Gravel	☐ Other:	
☐ Manipulated (man-altered)	Bank Erosion/stability: Moderate	☐ Bedrock	☐ Concrete		LB: Forest | emergent
☐ Other:		Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

Notes: Incised, begins @ headcut, exposed banks but mostly healed over

Weather/Precipitation Conditions:

During Field Visit	Inches of Rain Within Last Week
✓ No rain	○ 0-0.5
○ Light rain	○ 0.5-1
○ Heavy Rain	✓ >1

Monthly Drought Condition
NCDC Regional PDSI **Month:** Jan **Year:** 2021
http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
○	○	○	○	○	✓	○	○	○	○	○	○	○
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

Bed and Banks	Ordinary High Water Mark		
✓ Yes	✓ Clear, natural line impressed on the bank	✓ Sediment deposition	✓ Sediment sorting
☐ No	✓ Changes in the character of soil	☐ Water staining	✓ Scour
	☐ Shelving	✓ Presence of flood litter/debris	✓ Observed/predicted flow events
	✓ Vegetation matted down, bent, or absent	✓ Destruction of terrestrial veg.	☐ Abrupt change in plant community
	✓ Leaf litter disturbed	✓ Presence of wrack line	☐ Other:

Tidal tributary has: ***(check all that apply; include photos for each & list photo #)***

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
☐ Oil or scum line along shore objects	☐ Survey to available datum	☐ Water is clear
☐ Fine shell or debris deposits (foreshore)	☐ Physical markings	☐ Water is discolored
☐ Physical markings/characteristics	☐ Vegetation lines/changes in types	☐ Oily film
☐ Tidal gauges		☐ Other:

Notes:

HABITAT ASSESSMENT FIELD DATA SHEET—HIGH GRADIENT STREAMS (FRONT)

STREAM NAME 31OOO	LOCATION	
STATION #_____ RIVERMILE_____	STREAM CLASS Intermittent	
LAT _____ LONG _____	RIVER BASIN	
STORET #	AGENCY	
INVESTIGATORS EB, JS		
FORM COMPLETED BY CAS	DATE 2/17/2021 TIME 2:22 AM (PM)	REASON FOR SURVEY

	Habitat Parameter	Condition Category			
		Optimal	**Suboptimal**	**Marginal**	**Poor**
Parameters to be evaluated in sampling reach	**1. Epifaunal Substrate/ Available Cover**	Greater than 70% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).	40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).	20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
	SCORE 1	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 (1) 0
	2. Embeddedness	Gravel, cobble, and boulder particles are 0-25% surrounded by fine sediment. Layering of cobble provides diversity of niche space.	Gravel, cobble, and boulder particles are 25-50% surrounded by fine sediment.	Gravel, cobble, and boulder particles are 50-75% surrounded by fine sediment.	Gravel, cobble, and boulder particles are more than 75% surrounded by fine sediment.
	SCORE 11	20 19 18 17 16	15 14 13 12 (11)	10 9 8 7 6	5 4 3 2 1 0
	3. Velocity/Depth Regime	All four velocity/depth regimes present (slow-deep, slow-shallow, fast-deep, fast-shallow). (Slow is < 0.3 m/s, deep is > 0.5 m.)	Only 3 of the 4 regimes present (if fast-shallow is missing, score lower than if missing other regimes).	Only 2 of the 4 habitat regimes present (if fast-shallow or slow-shallow are missing, score low).	Dominated by 1 velocity/ depth regime (usually slow-deep).
	SCORE 1	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 (1) 0
	4. Sediment Deposition	Little or no enlargement of islands or point bars and less than 5% of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 5-30% of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 30-50% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 50% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
	SCORE 6	20 19 18 17 16	15 14 13 12 11	10 9 8 7 (6)	5 4 3 2 1 0
	5. Channel Flow Status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
	SCORE 2	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 (2) 1 0

HABITAT ASSESSMENT FIELD DATA SHEET—HIGH GRADIENT STREAMS (BACK)

Parameters to be evaluated broader than sampling reach	Habitat Parameter	Condition Category			
		Optimal	**Suboptimal**	**Marginal**	**Poor**
	6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.
	SCORE 15	20 19 18 17 16	(15) 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
	7. Frequency of Riffles (or bends)	Occurrence of riffles relatively frequent; ratio of distance between riffles divided by width of the stream <7:1 (generally 5 to 7); variety of habitat is key. In streams where riffles are continuous, placement of boulders or other large, natural obstruction is important.	Occurrence of riffles infrequent; distance between riffles divided by the width of the stream is between 7 to 15.	Occasional riffle or bend; bottom contours provide some habitat; distance between riffles divided by the width of the stream is between 15 to 25.	Generally all flat water or shallow riffles; poor habitat; distance between riffles divided by the width of the stream is a ratio of >25.
	SCORE 2	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 (2) 1 0
	8. Bank Stability (score each bank) Note: determine left or right side by facing downstream.	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30-60% of bank in reach has areas of erosion; high erosion potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.
	SCORE 3 (LB)	Left Bank 10 9	8 7 6	5 4 (3)	2 1 0
	SCORE 2 (RB)	Right Bank 10 9	8 7 6	5 4 3	(2) 1 0
	9. Vegetative Protection (score each bank)	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.	Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.
	SCORE 3 (LB)	Left Bank 10 9	8 7 6	5 4 (3)	2 1 0
	SCORE 3 (RB)	Right Bank 10 9	8 7 6	5 4 (3)	2 1 0
	10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.	Width of riparian zone 12-18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6-12 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters: little or no riparian vegetation due to human activities.
	SCORE 5 (LB)	Left Bank 10 9	8 7 6	(5) 4 3	2 1 0
	SCORE 4 (RB)	Right Bank 10 9	8 7 6	5 (4) 3	2 1 0

Total Score 58

WAS 3622

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS compensatory SWM		**Feature ID:** 32 L	**Use Class:** Perennial
Date: 12/29/2020	**State:** MD	**Photos:** WAS-3622_Photo 3-32L	
Crew: ES, MM	**County:** Montgomery	**Last Flag Number:** 32L 1 A/B - 4 A/B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow:

Hydrologic Connectivity – Upstream: out of LOD | Downstream: out of LOD | Adjacent/Abutting: N/A

Ditch Information: N/A ✓	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate			Vegetation Cover Type (MBSS)
Natural Channel Shape	Width: 15 ft	Silts	✓ Sands	Muck	RB: Forested
✓ Artificial (man-made)	Depth: 2 ft	✓ Cobbles	✓ Gravel	Other:	LB: None (Rock / Riprap)
✓ Manipulated (man-altered)	Bank Erosion/stability: Man-made - failing	✓ Bedrock	Concrete		*Notes:*
Other:					
		Side slope: ✓ ≥1:1 ☐ 2:1 ☐ 3:1 ☐ ≤4:1			

General Notes: Both banks have been altered. Downstream Right - block wall. Downstream left - Riprap and Road embankment material.

Weather/Precipitation Conditions:

Rain		
During visit	Last 48hrs	Last week
✓ No rain	✓ 0-0.1	✓ 0-0.5
Light rain	0.1-0.5	✓ 0.5-1
Heavy Rain	> 0.5	>1

Monthly Drought Condition NCDC Regional PDSI
http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php **Month:** Nov ✓ **Year:** 2020

-6	-5	-4	-3	-2	-1	0	1	2	(3)	4	5	6
Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark							
Clear, natural line impressed on the bank		Sediment deposition	✓	Water staining		Abrupt change in plant community	
Changes in the character of soil		Presence of wrack line		Shelving		Destruction of terrestrial veg.	
Presence of flood litter/debris		Leaf litter disturbed		Sediment sorting		Observed/predicted flow events	
Vegetation matted down, bent, or absent		Scour		Other: Edge of placed material			

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (FRONT)

STREAM NAME 32L		LOCATION	
STATION # _____ RIVERMILE _____		STREAM CLASS Perennial (I-P)	
LAT 38.9700 LONG -77.1312		RIVER BASIN Potomac	
STORET #		AGENCY	
INVESTIGATORS ES, MM			
FORM COMPLETED BY ES, MM	DATE 12/29/2020 TIME _____ AM PM	REASON FOR SURVEY	

Parameters to be evaluated in sampling reach

Habitat Parameter	Condition Category			
	Optimal	Suboptimal	Marginal	Poor
1. Epifaunal Substrate/ Available Cover	Greater than 50% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).	30-50% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).	10-30% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 10% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
SCORE 18	20 19 (18) 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
2. Pool Substrate Characterization	Mixture of substrate materials, with gravel and firm sand prevalent; root mats and submerged vegetation common.	Mixture of soft sand, mud, or clay; mud may be dominant; some root mats and submerged vegetation present.	All mud or clay or sand bottom; little or no root mat; no submerged vegetation.	Hard-pan clay or bedrock; no root mat or vegetation.
SCORE 18	20 19 (18) 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
3. Pool Variability	Even mix of large-shallow, large-deep, small-shallow, small-deep pools present.	Majority of pools large-deep; very few shallow.	Shallow pools much more prevalent than deep pools.	Majority of pools small-shallow or pools absent.
SCORE 16	20 19 18 17 (16)	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
4. Sediment Deposition	Little or no enlargement of islands or point bars and less than <20% of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 20-50% of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 50-80% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 80% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
SCORE 13	20 19 18 17 16	15 14 (13) 12 11	10 9 8 7 6	5 4 3 2 1 0
5. Channel Flow Status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
SCORE 11	20 19 18 17 16	15 14 13 12 (11)	10 9 8 7 6	5 4 3 2 1 0

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (BACK)

Parameters to be evaluated broader than sampling reach

Habitat Parameter	Condition Category			
	Optimal	Suboptimal	Marginal	Poor
6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.
SCORE 8	20 19 18 17 16	15 14 13 12 11	10 9 **(8)** 7 6	5 4 3 2 1 0
7. Channel Sinuosity	The bends in the stream increase the stream length 3 to 4 times longer than if it was in a straight line. (Note - channel braiding is considered normal in coastal plains and other low-lying areas. This parameter is not easily rated in these areas.)	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	Channel straight; waterway has been channelized for a long distance.
SCORE 7	20 19 18 17 16	15 14 13 12 11	10 9 8 **(7)** 6	5 4 3 2 1 0
8. Bank Stability (score each bank)	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30-60% of bank in reach has areas of erosion; high erosion potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.
SCORE 5 (LB)	Left Bank 10 9	8 7 6	**(5)** 4 3	2 1 0
SCORE 5 (RB)	Right Bank 10 9	8 7 6	**(5)** 4 3	2 1 0
9. Vegetative Protection (score each bank) Note: determine left or right side by facing downstream.	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.	Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.
SCORE 2 (LB)	Left Bank 10 9	8 7 6	5 4 3	**(2)** 1 0
SCORE 2 (RB)	Right Bank 10 9	8 7 6	5 4 3	**(2)** 1 0
10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.	Width of riparian zone 12-18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6-12 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters: little or no riparian vegetation due to human activities.
SCORE 0 (LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 **(0)**
SCORE 1 (RB)	Right Bank 10 9	8 7 6	5 4 3	2 **(1)** 0

Total Score 106

WAS 3622

RK&K Waters of the U.S. Data Sheet

Version 2.1 - August 2019

Project: MLS Compensatory SWA		**Feature ID:** 32M	**Use Class:** Perennial (E-P)
Date: 12/29/2020	**State:** MD	**Photos:** WAS-3622-Photo 4. 32M	
Crew: ES, MM	**County:** Montgomery	**Last Flag Number:** 32M, 1A/B to 2 A/B	

Feature Hydrologic Class (check one):

Tidal	Perennial	Intermittent	Ephemeral	Other
TNW	TNW	Tributary	Tributary	Impoundment
	✓ Tributary	Ditch	Ditch	POW

Describe rationale for hydrologic class, including flow:

Hydrologic Connectivity – Upstream: Piped | Downstream: Piped under Road | Adjacent/Abutting: N/A

Ditch Information: N/A ✓	Roadside Ditch	Direct Flow to TNW	Abutting a Wetland	Within a Wetland	Relocated Tributary
	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
	Toe of slope	Symmetrical	Const. Uplands	Between Wetlands	*Documentation:*
	Yes / No	Yes / No	Yes / No	Yes / No	

Feature Description: *(check all that apply)*

Shape (with respect to OHW)		Substrate				Vegetation Cover Type (MBSS)
✓ Natural Channel Shape	Width: 3 ft	✓ Silts	Sands	✓ Muck		RB: Herbaceous
✓ Artificial (man-made)	Depth: 4 inches	Cobbles	Gravel	Other:		LB: Scrub-Shrub
Manipulated (man-altered)	Bank Erosion/stability:	Bedrock	Concrete			*Notes:*
Other:	Moderate					
		Side slope: ☐ ≥1:1 ☐ 2:1 ✓ 3:1 ☐ ≤4:1				

General Notes: Short, open channel portion of a Re-directed/piped tributary.

Weather/Precipitation Conditions:

Rain			Monthly Drought Condition NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php Month: Nov Year: 2020												
During visit	Last 48hrs	Last week													
✓ No rain	✓ 0-0.1	0-0.5										(3)			
Light rain	0.1-0.5	✓ 0.5-1	-6	-5	-4	-3	-2	-1	0	1	2		4	5	6
Heavy Rain	> 0.5	>1	Severe Drought			Moderate Drought		Normal			Moderately Wet		Severely Wet		

Non-tidal tributary has: *(check all that apply)*

Ordinary High Water Mark							
Clear, natural line impressed on the bank		Sediment deposition	✓	Water staining		Abrupt change in plant community	
✓ Changes in the character of soil		Presence of wrack line		Shelving		Destruction of terrestrial veg.	
✓ Presence of flood litter/debris	✓	Leaf litter disturbed		Sediment sorting		Observed/predicted flow events	
✓ Vegetation matted down, bent, or absent		Scour		Other:			

Tidal tributary has: *(check all that apply)*

High Tide Line	Mean High Water Mark indicated by:	Chemical Characteristics
Oil or scum line along shore objects	Survey to available datum	Water is clear
Fine shell or debris deposits (foreshore)	Physical markings	Water is discolored
Physical markings/characteristics	Vegetation lines/changes in types	Oily film
Tidal gauges		Other:

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (FRONT)

STREAM NAME 32 M	LOCATION
STATION # _____ RIVERMILE _____	STREAM CLASS Perennial (I-P)
LAT 38.9698 LONG -77.1305	RIVER BASIN Potomac
STORET #	AGENCY
INVESTIGATORS ES, MM	
FORM COMPLETED BY ES, MM	DATE 12/29/2020 TIME _____ AM PM — REASON FOR SURVEY

Parameters to be evaluated in sampling reach

Habitat Parameter	Condition Category			
	Optimal	Suboptimal	Marginal	Poor
1. Epifaunal Substrate/ Available Cover	Greater than 50% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).	30-50% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).	10-30% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 10% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
SCORE 4	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 (4) 3 2 1 0
2. Pool Substrate Characterization	Mixture of substrate materials, with gravel and firm sand prevalent; root mats and submerged vegetation common.	Mixture of soft sand, mud, or clay; mud may be dominant; some root mats and submerged vegetation present.	All mud or clay or sand bottom; little or no root mat; no submerged vegetation.	Hard-pan clay or bedrock; no root mat or vegetation.
SCORE 2	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 (2) 1 0
3. Pool Variability	Even mix of large-shallow, large-deep, small-shallow, small-deep pools present.	Majority of pools large-deep; very few shallow.	Shallow pools much more prevalent than deep pools.	Majority of pools small-shallow or pools absent.
SCORE 2	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 (2) 1 0
4. Sediment Deposition	Little or no enlargement of islands or point bars and less than <20% of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 20-50% of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 50-80% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 80% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
SCORE 3	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 (3) 2 1 0
5. Channel Flow Status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
SCORE 5	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	(5) 4 3 2 1 0

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (BACK)

Parameters to be evaluated broader than sampling reach

Habitat Parameter	Condition Category			
	Optimal	Suboptimal	Marginal	Poor
6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.
SCORE 4	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 (4) 3 2 1 0
7. Channel Sinuosity	The bends in the stream increase the stream length 3 to 4 times longer than if it was in a straight line. (Note - channel braiding is considered normal in coastal plains and other low-lying areas. This parameter is not easily rated in these areas.)	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	Channel straight; waterway has been channelized for a long distance.
SCORE 2	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 (2) 1 0
8. Bank Stability (score each bank)	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30-60% of bank in reach has areas of erosion; high erosion potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.
SCORE 3 (LB)	Left Bank 10 9	8 7 6	5 4 (3)	2 1 0
SCORE 3 (RB)	Right Bank 10 9	8 7 6	5 4 (3)	2 1 0
9. Vegetative Protection (score each bank) Note: determine left or right side by facing downstream.	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.	Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.
SCORE 4 (LB)	Left Bank 10 9	8 7 6	5 (4) 3	2 1 0
SCORE 1 (RB)	Right Bank 10 9	8 7 6	5 4 3	2 (1) 0
10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.	Width of riparian zone 12-18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6-12 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters: little or no riparian vegetation due to human activities.
SCORE 4 (LB)	Left Bank 10 9	8 7 6	5 (4) 3	2 1 0
SCORE 1 (RB)	Right Bank 10 9	8 7 6	5 4 3	2 (1) 0

Total Score 38