Reach S-B32 Braid (Timber Mat Crossing) Perennial Spread D Webster County, West Virginia

Data	Included
Photos	\checkmark
SWVM Form	\checkmark
FCI Calculator and HGM Form	N/A – Perennial stream (not shadeable, slope <4%)
RBP Physical Characteristics Form	\checkmark
Water Quality Data	\checkmark
RBP Habitat Form	\checkmark
RBP Benthic Form	\checkmark
Benthic Identification Sheet	N/A – lack of habitat
Wolman Pebble Count	\checkmark
Reference Reach Software Pebble Count Data	\checkmark
Longitudinal Profile and Cross Sections	\checkmark

Spread D Stream S-B32-Braid (Timber Mat Crossing) Webster County



Photo Type: DS, US View Location, Orientation, Photographer Initials: Downstream Edge of ROW, Upstream View, AR/RH Lat: 38.405871 Long: -80.591069



Photo Type: DS, DS View Location, Orientation, Photographer Initials: Downstream Edge of ROW, Downstream View, RH/AR Lat: 38.405871 Long: -80.591069

Spread D Stream S-B32-Braid (Timber Mat Crossing) Webster County

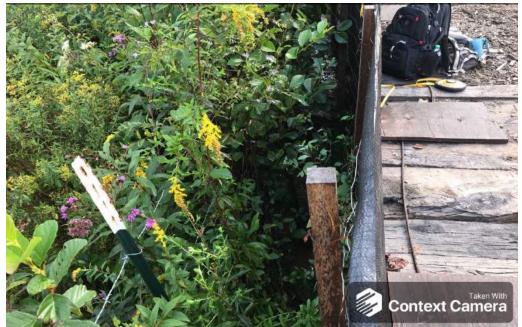


Photo Type: US View at Center Location, Orientation, Photographer Initials: Center ROW, Upstream View, RH/AR Lat: 38.405871 Long: -80.591069



Photo Type: DS View at Center Location, Orientation, Photographer Initials: ROW Center, Downstream View, RH/AR Lat: 38.405871 Long: -80.591069

Spread D Stream S-B32-Braid (Timber Mat Crossing) Webster County



Photo Type: US, US View Location, Orientation, Photographer Initials: Upstream Edge of ROW, Upstream View, RH/AR Lat: 38.405871 Long: -80.591069



Photo Type: US, DS View Location, Orientation, Photographer Initials: Upstream Edge of ROW, Downstream View, RH/AR Lat: 38.405871 Long: -80.591069

West Virginia Stream and Wetland Valuation Metric (SWVM) Version 2.1, September 2017

USACE FILE NO./ Project Name: (v2.1, Sept 2015)		Mountain	Valley Pipeline	IMPACT COORDINATES: (in Decimal Degrees)	Lat.	38.405871	Lon.	-80.591069	WEATHER: 90% cloud cover		DATE:	9/9/2021
IMPACT STREAM/SITE ID A (watershed size (acreage), u			S-B32-Braid Tim	ber Mat Crossing		MITIGATION STREAM CLA (watershed size {ac	SS./SITE ID AND S reage), unaltered or impa				Comments:	
STREAM IMPACT LENGTH:	22	FORM OF MITIGATION:	RESTORATION (Levels I-III)	MIT COORDINATES: (in Decimal Degrees)	Lat.		Lon.		PRECIPITATION PAST 48 HRS:		Mitigation Length:	
Column No. 1- Impact Existing	Condition (Det	bit)	Column No. 2- Mitigation Existing C	ondition - Baseline (Credit)		Column No. 3- Mitigatio Post Compl	on Projected at Five letion (Credit)	fears	Column No. 4- Mitigation Proj Post Completion (Column No. 5- Mitigation Projec	ted at Maturity (Credit)
Stream Classification:	Pere	nnial	Stream Classification:			Stream Classification:		0	Stream Classification:	0	Stream Classification:	0
Percent Stream Channel Slop	ре	1.3	Percent Stream Channel Slo	ope		Percent Stream Channe	el Slope	0	Percent Stream Channel SI	ope 0	Percent Stream Channel S	Slope 0
HGM Score (attach dat	ta forms):		HGM Score (attach o	data forms):		HGM Score (att	tach data forms):		HGM Score (attach da	ata forms):	HGM Score (attach o	data forms):
		Average		Average				Average		Average		Avera
ydrology iogeochemical Cycling abitat		o	Hydrology Biogeochemical Cycling Habitat	0		Hydrology Biogeochemical Cycling Habitat		0	Hydrology Biogeochemical Cycling Habitat	0	Hydrology Biogeochemical Cycling Habitat	0
PART I - Physical, Chemical and B	Biological Indic	ators	PART I - Physical, Chemical and	d Biological Indicators		PART I - Physical, Chemic	cal and Biological Ind	icators	PART I - Physical, Chemical and	Biological Indicators	PART I - Physical, Chemical and	d Biological Indicators
	Points Scale Range	Site Score		Points Scale Range Site Score			Points Scale Range	Site Score		Points Scale Range Site Score		Points Scale Range Site Sco
HYSICAL INDICATOR (Applies to all streams d	lassifications)		PHYSICAL INDICATOR (Applies to all streams of	classifications)		PHYSICAL INDICATOR (Applies to all str	reams classifications)		PHYSICAL INDICATOR (Applies to all streams	classifications)	PHYSICAL INDICATOR (Applies to all stream	s classifications)
EPA RBP (High Gradient Data Sheet)			USEPA RBP (Low Gradient Data Sheet)			USEPA RBP (High Gradient Data Shee			USEPA RBP (High Gradient Data Sheet)		USEPA RBP (High Gradient Data Sheet)	
	0-20	1	 Epifaunal Substrate/Available Cover 	0-20		1. Epifaunal Substrate/Available Cover			1. Epifaunal Substrate/Available Cover	0-20	 Epifaunal Substrate/Available Cover 	0-20
Embeddedness	0-20	1	2. Pool Substrate Characterization	0-20		2. Embeddedness	0-20		2. Embeddedness	0-20	2. Embeddedness	0-20
Velocity/ Depth Regime	0-20	1	3. Pool Variability	0-20		3. Velocity/ Depth Regime	0-20		3. Velocity/ Depth Regime	0-20	3. Velocity/ Depth Regime	0-20
Sediment Deposition	0-20	3	Sediment Deposition	0-20		4. Sediment Deposition	0-20		4. Sediment Deposition	0-20	4. Sediment Deposition	0-20
Channel Flow Status	0-20 0-1	2	5. Channel Flow Status	0-20 0.1		5. Channel Flow Status	0-20 0-1		5. Channel Flow Status	0-20 0.1	5. Channel Flow Status	0-20 0-1
Channel Alteration	0-20	11	Channel Alteration	0-20		Channel Alteration	0-20		Channel Alteration	0-20	Channel Alteration	0-20
Frequency of Riffles (or bends)	0-20	1	7. Channel Sinuosity	0-20		7. Frequency of Riffles (or bends)	0-20		7. Frequency of Riffles (or bends)	0-20	Frequency of Riffles (or bends)	0-20
Bank Stability (LB & RB)	0-20	6	8. Bank Stability (LB & RB)	0-20		8. Bank Stability (LB & RB)	0-20		8. Bank Stability (LB & RB)	0-20	8. Bank Stability (LB & RB)	0-20
Vegetative Protection (LB & RB)	0-20	4	9. Vegetative Protection (LB & RB)	0-20		9. Vegetative Protection (LB & RB)	0-20		9. Vegetative Protection (LB & RB)	0-20	9. Vegetative Protection (LB & RB)	0-20
. Riparian Vegetative Zone Width (LB & RB)	0-20	10	10. Riparian Vegetative Zone Width (LB & RB)	0-20		10. Riparian Vegetative Zone Width (LB & RE			10. Riparian Vegetative Zone Width (LB & RB)	0-20	10. Riparian Vegetative Zone Width (LB & RB)	0-20
otal RBP Score	Poor	40	Total RBP Score	Poor 0		Total RBP Score	Poor	0	Total RBP Score	Poor 0	Total RBP Score	Poor
ib-Total	POUL	0.2	Sub-Total	P001 0		Sub-Total	POOL	0	Sub-Total	0	Sub-Total	POOL
HEMICAL INDICATOR (Applies to Intermittent a	and Perennial Stre		CHEMICAL INDICATOR (Applies to Intermittent	and Perennial Streams)		CHEMICAL INDICATOR (Applies to Interr	mittent and Perennial Str		CHEMICAL INDICATOR (Applies to Intermitter		CHEMICAL INDICATOR (Applies to Intermitte	
VDEP Water Quality Indicators (General)			WVDEP Water Quality Indicators (General)			WVDEP Water Quality Indicators (Gen	neral)		WVDEP Water Quality Indicators (General)	WVDEP Water Quality Indicators (General	l)
ecific Conductivity			Specific Conductivity			Specific Conductivity			Specific Conductivity		Specific Conductivity	
	0-90	70.1		0-90			0-90			0-90		0-90
<=99 - 90 points												
1			рН			рн			pH		рн	
	0-80	6.6	1	5-90			5-90			5-90		5-90
6.0-8.0 = 80 points												→→→ ┣━━
0			DO			DO			DO		DO	
	10-30	1.85	1	10-30			10-30			10-30		10-30
<5.0 = 10 points									0.1.7.1.1		0.1.7.1.1	
ib-Total		0.9	Sub-Total	0		Sub-Total		0	Sub-Total	U	Sub-Total	
OLOGICAL INDICATOR (Applies to Intermitter	nt and Perennial S	Streams)	BIOLOGICAL INDICATOR (Applies to Intermitte	ent and Perennial Streams)		BIOLOGICAL INDICATOR (Applies to In	ntermittent and Perenn	ial Streams)	BIOLOGICAL INDICATOR (Applies to Interm	ittent and Perennial Streams)	BIOLOGICAL INDICATOR (Applies to Inter	nittent and Perennial Stream
V Stream Condition Index (WVSCI)	0-100 0-1		WV Stream Condition Index (WVSCI)	0-100 0-1		WV Stream Condition Index (WVSCI)	0-100 0-1		WV Stream Condition Index (WVSCI)	0-100 0-1	WV Stream Condition Index (WVSCI)	0-100 0-1
0	J-100 - 0-1		1	0-100 0-1			0-100 0-1			0-100 0-1		5-100 0-1
ub-Total		0	Sub-Total	0	1	Sub-Total		0	Sub-Total	0	Sub-Total	0
PART II - Index and Un	it Score		PART II - Index and	Unit Score	T	PART II - Index	and Unit Score		PART II - Index and U	nit Score	PART II - Index and	Unit Score
Index	Linear Feet	Unit Score	Index	Linear Feet Unit Score	1	Index	Linear Feet	Unit Score	Index	Linear Feet Unit Score	Index	Linear Feet Unit S

0.550

12.1

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET (FRONT)

STREAM NAME	LOCATION					
STATION # RIVERMILE	STREAM CLASS					
LAT LONG	RIVER BASIN	RIVER BASIN				
STORET #	AGENCY					
INVESTIGATORS						
FORM COMPLETED BY	DATE TIME	REASON FOR SURVEY				

WEATHER CONDITIONS	Now Past 24 hours Has there been a heavy rain in the last 7 days? Storm (heavy rain) rain (steady rain) showers (intermittent)
SITE LOCATION/MAP	Draw a map of the site and indicate the areas sampled (or attach a photograph)
	Timber Mat
	Away S
	LOD
STREAM CHARACTERIZATION	Stream Subsystem Stream Type Perennial Intermittent Tidal Stream Origin Coldwater Warmwater Glacial Spring-fed Catchment Area_km ² Non-glacial montane Mixture of origins Km ²

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET (BACK)

WATERSHED FEATURES RIPARIAN VEGETATION	Predominant Surrounding Landuse Forest Commercial Field/Pasture Industrial Agricultural Other Residential Indicate the dominant type and record the domin Trees Shrubs	Local Watershed NPS Pollution No evidence Some potential sources Obvious sources Jonant Species present Grasses Herbaceous
(18 meter buffer)	Dominant species present	Canopy Cover
FEATURES	Estimated Stream Widthm Sampling Reach Aream² Area in km² (m²x1000)km² Estimated Stream Depthm Surface Velocity (at thalweg)m/sec	Partly open Partly shaded Shaded High Water Mark m Proportion of Reach Represented by Stream Morphology Types Riffle % Ruffle % Rool % Channelized Yes No No
LARGE WOODY DEBRIS	LWDm ² Density of LWDm ² /km ² (LWD/ reac	ch area)
AQUATIC VEGETATION	Indicate the dominant type and record the domin Rooted emergent Floating Algae Rooted submergent Attached Algae Dominant species present Portion of the reach with aquatic vegetation	Rooted floating Free floating
water quality (ds, us) DS	Temperature0 C Specific Conductance Dissolved Oxygen pH Turbidity	Water Odors Normal/None Sewage Petroleum Chemical Fishy Other Water Surface Oils Slick Sheen Globs Flecks None Other
SEDIMENT/	WQ Instrument Used	Clear Slightly turbid Turbid Opaque Stained Other
SUBSTRATE	Normal Sewage Petroleum Chemical Anaerobic None Other	Deposits Sawdust Paper fiber Sand Sludge Sawdust Other Deposition Lpoking at stones which are not deeply embedded, are the undersides black in color? Yes No

INC	ORGANIC SUBSTRATE (should add up to			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)							
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type								
Bedrock			Detritus	sticks, wood, coarse plant							
Boulder	> 256 mm (10")			materials (CPOM)							
Cobble	64-256 mm (2.5"-10")		Muck-Mud	black, very fine organic							
Gravel	2-64 mm (0.1"-2.5")			(FPOM)							
Sand	0.06-2mm (gritty)		Marl	grey, shell fragments							
Silt	0.004-0.06 mm										
Clay	< 0.004 mm (slick)										

HABITAT ASSESSMENT FIELD DATA SHEET - HG - USE ON ALL STREAMS (FRONT)

STREAM NAME	LOCATION				
STATION # RIVERMILE	STREAM CLASS				
LAT LONG	RIVER BASIN				
STORET #	AGENCY				
INVESTIGATORS					
FORM COMPLETED BY	DATE TIME AM PM	REASON FOR SURVEY			

	Habitat		Condition	ı Category					
	Parameter	Optimal	Suboptimal	Marginal	Poor				
	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 <u>not</u> new fall and <u>not</u> 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	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0				
n sampling reach	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.				
ted i	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0				
Parameters to be evaluated in sampling reach	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).				
uram	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0				
Pa	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	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	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0				

Rapid Bioassessment Protocols For Use in Streams and Wadeable Rivers: Periphyton, Benthic Macroinvertebrates, and Fish, Second Edition - Form 2

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

Habitat		Condition	ı Category				
Parameter	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	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	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0			
 SCORE 8. Bank Stability (score each bank) Note: determine left or right side by facing downstream. SCORE (LB) SCORE (RB) 9. Vegetative Protection (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 (LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0			
SCORE (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 (LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0			
SCORE (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 (LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0			
SCORE(RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0			

Total Score _____

BENTHIC MACROINVERTEBRATE FIELD DATA SHEET

STREAM NAME		LOCATION							
STATION #	_ RIVERMILE	STREAM CLASS							
LAT	LONG	RIVER BASIN							
STORET #		AGENCY							
INVESTIGATORS			LOT NUMBER						
FORM COMPLETED	BY	DATE TIME	REASON FOR SURVEY						
HABITAT TYPES	Cobble% Sn	Indicate the percentage of each habitat type present Cobble% Snags% Vegetated Banks% Sand% Submerged Macrophytes% Other ()%							
SAMPLE COLLECTION	Indicate the number of jab	lected? wading fi ps/kicks taken in each habitat ty lags Vegetated B	anks Sand						
GENERAL COMMENTS									

QUALITATIVE LISTING OF AQUATIC BIOTA

Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare, 2 = Common, 3= Abundant, 4 = Dominant

Periphyton	0	1	2	3	4	Slimes	0	1	2	3	4
Filamentous Algae	0	1	2	3	4	Macroinvertebrates	0	1	2	3	4
Macrophytes	0	1	2	3	4	Fish	0	1	2	3	4

FIELD OBSERVATIONS OF MACROBENTHOS

Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare (1-3 organisms), 2 = Common (3-9 organisms), 3= Abundant (>10 organisms), 4 = Dominant (>50 organisms)

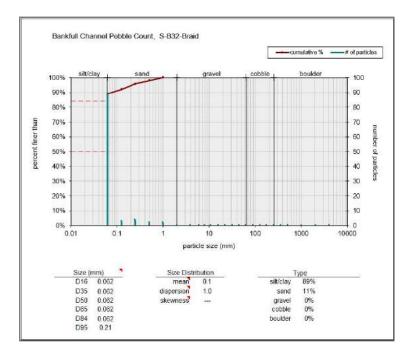
Porifera	0	1	2	3	4	Anisoptera	0	1	2	3	4	Chironomidae	0	1	2	3	4
Hydrozoa	0	1	2	3	4	Zygoptera	0	1	2	3	4	Ephemeroptera	0	1	2	3	4
Platyhelminthes	0	1	2	3	4	Hemiptera	0	1	2	3	4	Trichoptera	0	1	2	3	4
Turbellaria	0	1	2	3	4	Coleoptera	0	1	2	3	4	Other	0	1	2	3	4
Hirudinea	0	1	2	3	4	Lepidoptera	0	1	2	3	4						
Oligochaeta	0	1	2	3	4	Sialidae	0	1	2	3	4						
Isopoda	0	1	2	3	4	Corydalidae	0	1	2	3	4						
Amphipoda	0	1	2	3	4	Tipulidae	0	1	2	3	4						
Decapoda	0	1	2	3	4	Empididae	0	1	2	3	4						
Gastropoda	0	1	2	3	4	Simuliidae	0	1	2	3	4						
Bivalvia	0	1	2	3	4	Tabinidae	0	1	2	3	4						
						Culcidae	0	1	2	3	4						

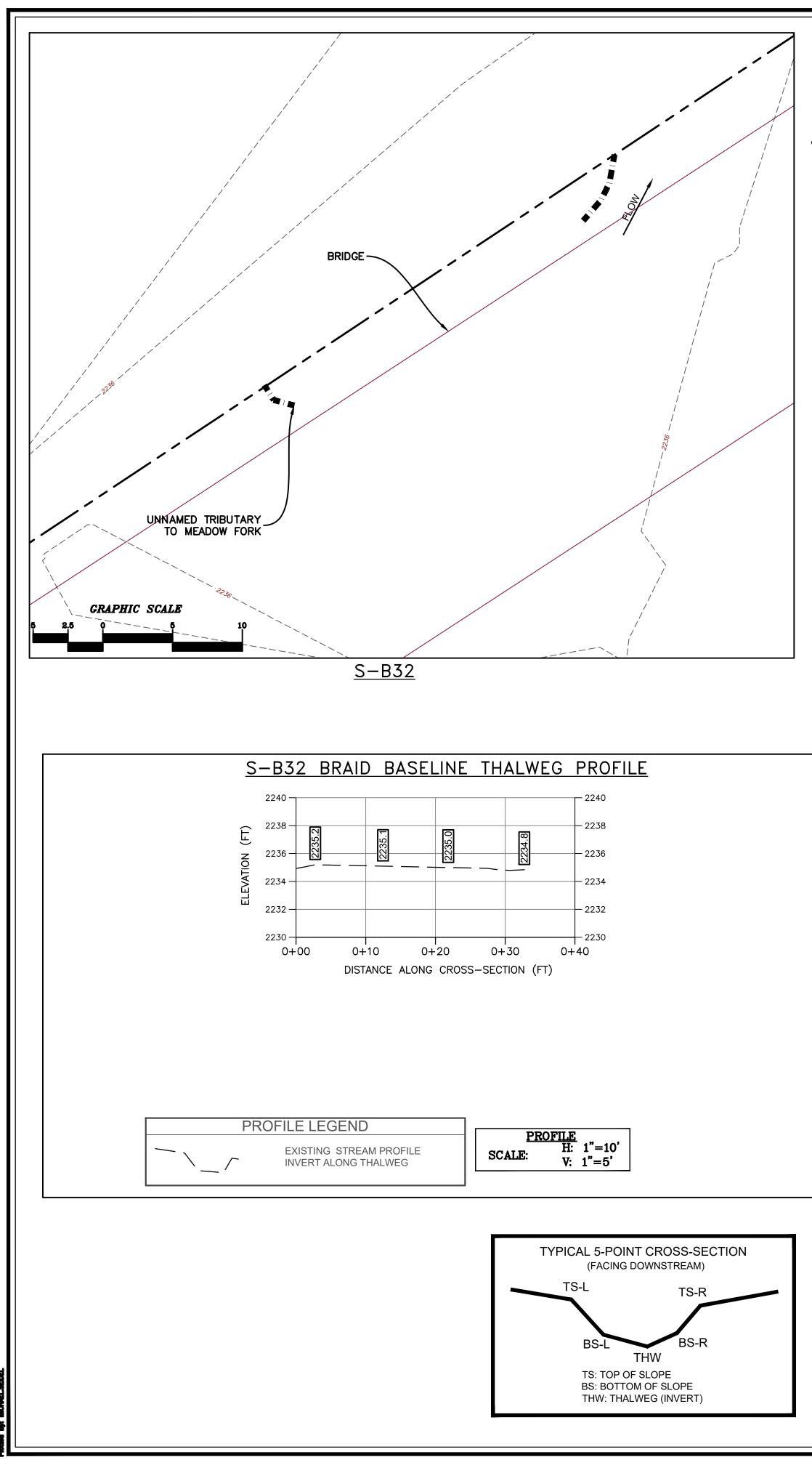
WOLMAN PEBBLE COUNT FORM

-

County:	Webster	Stream ID:	S-B32-Braid
Stream Name:	UNT to Meadow Fork		
HUC Code:		Basin:	
Survey Date:	9/9/2021		
Surveyors:	RH, AR	Impact:	11.89
Type:	Bankfull Channel		

PEBBLE COUNT									
Inches	PARTICLE	Millimeters		Particle Count	Total #	Item %	% Cum		
	Silt/Clay	< .062	S/C	▲ ▼	89	89.00	89.00		
	Very Fine	.062125	SAND	•	3	3.00	92.00		
	Fine	.12525		▲ ▼	4	4.00	96.00		
	Medium	.255		* *	2	2.00	98.00		
	Coarse	.50-1.0		▲ ▼	2	2.00	100.00		
.0408	Very Coarse	1.0-2		▲ ▼	0	0.00	100.00		
.0816	Very Fine	2 -4		▲ ▼	0	0.00	100.00		
.1622	Fine	4 -5.7		▲ ▼	0	0.00	100.00		
.2231	Fine	5.7 - 8		▲ ▼	0	0.00	100.00		
.3144	Medium	8 -11.3		▲ ▼	0	0.00	100.00		
.4463	Medium	11.3 - 16	GRAVEL	▲ ▼	0	0.00	100.00		
.6389	Coarse	16 -22.6		* *	0	0.00	100.00		
.89 - 1.26	Coarse	22.6 - 32		▲ ▼	0	0.00	100.00		
1.26 - 1.77	Vry Coarse	32 - 45		▲ ▼	0	0.00	100.00		
1.77 -2.5	Vry Coarse	45 - 64		* *	0	0.00	100.00		
2.5 - 3.5	Small	64 - 90	COBBLE	* •	0	0.00	100.00		
3.5 - 5.0	Small	90 - 128		* *	0	0.00	100.00		
5.0 - 7.1	Large	128 - 180		* *	0	0.00	100.00		
7.1 - 10.1	Large	180 - 256		* *	0	0.00	100.00		
10.1 - 14.3	Small	256 - 362	BOULDER	* •	0	0.00	100.00		
14.3 - 20	Small	362 - 512		* *	0	0.00	100.00		
20 - 40	Medium	512 - 1024		▲ ▼	0	0.00	100.00		
40 - 80	Large	1024 -2048		▲ ▼	0	0.00	100.00		
80 - 160	Vry Large	2048 -4096		▲ ▼	0	0.00	100.00		
	Bedrock		BDRK	* *	0	0.00	100.00		
				Totals:	100				
	Total Tally:								





t\u**tets\kinimi.sida\ogi\2021-09-09 - 3-672 & 3-672 6NU TOPO NP 100.36\3-622 ENUD - NP 100.35 -**Univ 300 20, 2021 - 7x30am SURVEY NOTES:

- 1. THIS MAP HAS BEEN ORIENTED TO NAD 1983 UTM ZONE 17N, AND VERTICALLY TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88), USING REAL TIME DGPS. FIELD LOCATIONS WERE COMPLETED ON SEPTEMBER 9, 2021.
- 2. EASEMENT LINES SHOWN ON PLAN VIEW WERE PROVIDED BY MOUNTAIN VALLEY PIPELINE.

3. SURVEY POINTS FOR CROSS SECTIONS AND THALWEG PROFILES COLLECTED IN 2021 HAVE BEEN USED IN COMBINATION WITH SURVEY POINTS COLLECTED PREVIOUSLY IN 2020 IN ORDER TO GENERATE THE PRE-CROSSING SURFACE SHOWN IN PLAN. DUE TO NATURAL EROSIONAL STREAM PROCESSES THAT CAN OCCUR OVER TIME, MINOR ADJUSTMENTS TO THE PROFILE ALIGNMENTS MAY HAVE BEEN REQUIRED IN ORDER TO GENERATE A CLEAN PRE-CROSSING SURFACE.

- 4. ALL SECTION VIEWS SHOWN LEFT TO RIGHT FACING DOWNSTREAM.
- 5. POST-CROSSING SURVEY INFORMATION SHOWN IN RED. DATA PENDING.
- 6. POST-CROSSING SURVEY POINTS FOR CROSS SECTIONS AND THALWEG ARE PROJECTED ONTO PRE-CROSSING SECTION AND PROFILE VIEWS FOR COMPARISON.

LEGEND — — — STUDY AREA (EASEMENT) — — — — EXISTING SURVEY-LOCATED THALWEG 1176.87 + EXISTING SURVEYED GROUND SHOT ELEVATION

