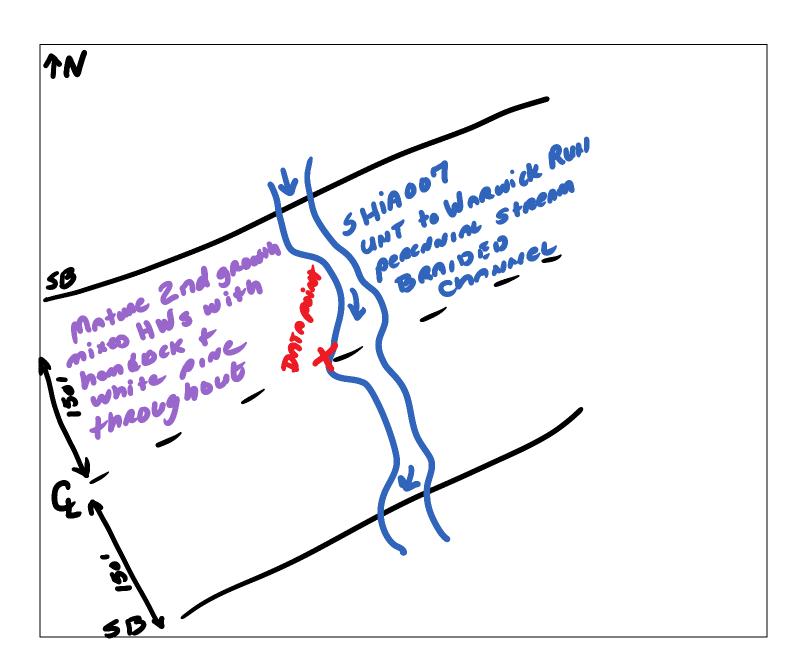
	escriptio	n										
Project Na	me:			Waterbody Name:				W	aterbody ID:			Date:
Atlantic Coa	ast Pipeline		UNT t	o Warwick Run				sł	nia407			5/3/2016
State:		County:			Company:			Crew N	Member Initials	S:	Photos:	
Virginia		Highland			NRG - ER	M		GB, S	SA		5 photo	os
Tract Numl	ber(s):	L			Nearest Mile	epost:			Associated W	etland	ID(s):	
06-001-B00	1 - GWNF				84.85				None			
Survey Typ (check one)	e:	⊠Cen	terline	□Re-R	Route	□Ad	ccess Road		□Other:			
	Attribute	s										
Stream Cla (check one)	ssification:	□Eph	emeral	□Inter	mittent	⊠Pe	erennial					
Waterbody	Type:	· ·										
(check one)		River	⊠ Stream	□ Ditc	h □ Ca	anal	☐ Other:	:				
OHWM Width:	<u>20.0</u> ft.	OHWM II (check all th	ndicator: at apply)		⊠ Clear lir on bank	ne	□Shelvin	9	□Wrested vegetation	Σ	Scouring	g □Water staining
Height:	<u>1.5</u> ft.		Bent, matted, o etation	or missing	g ⊠Wrack li	ne	⊠Litter ar debris	nd	□ Abrupt plar community ch		□Soil cl	haracteristic change
	aterbody - 1 p of Bank:		idth of Wate Toe of Slop		Toe of Slope		of Waterbo	ody - W	ater Edge to	Depth (Approx.	of Water	:
	28.0_ft.		10.0f	t.		N/A□		16.0_ft.		N/A□	_	<u>0.75</u> ft.
Sinuosity:			ater velocity	:		Bank	height			Bank	slope	
(check one)	⊠Straight	(A	pprox.)				Right:	15 4			Right	
			_	<u>1.5</u> fps			Left:	<u>4.5_</u> ft.			Left	<u>75</u> degrees :
	□Meanderi	ng N	/A□				_	<u>5.0_</u> ft.				70 degrees
Banks sho	w signs of i		t structure, v places evide	_			-		e considered	norma	l for a mo	oderately steep
Qualitativ	ve Attribu	tes										
Water Appe (check one)		No water	⊠Clear	□Turbi	id □Sh	neen	□Sui	rface	□Algal	□Othe	r·	
		No water	≥ Olcai	_ raib		surfac			mats			
Substrate: (check all that a		Bedrock	⊠ Boulder	⊠ Cobb	le ⊠ Grav	el 🗵	Sand [□ Silt/ c	lay 🛭 Organio		Other:	
% of Subst		%	<u>10</u> % _ <u>50</u>	_% <u>_2</u>	<u>5</u> % <u>10</u> %	·	% _ <u>5</u>	5_% _	%			
Width of Ri	iparian Zone		tative Layers):								
	175 ft	l'	all that apply) DBH of Dom	inants:	⊠ Trees				ngs/Shrubs:	\boxtimes	Herbs	
N/A□		(appro			<u>14.0</u> iı	1.	-	_ <u>1.0</u> in.	•	-		
	Bank Vegeta	` /										
Dutchmar	n's ninė C	hristmas f	ern violet	wood a	ister black	cherry	wood fe	rn ·	oplar, hydra	-	•	•
			y debris, w									
Aquatic Or	ganisms Ob	served (list):	:									
Water stri	iders, inve	rtebrates,	minnows, o	rayfish								
T&E Specie	es Observed	l (list):										
none												
Disturbanc	es (ex: liveste	ock access, ma	anure in waterbo	ody, waste	discharge pipe	es):						
None app	parent											
Tributary is (check one)	S :	Nat	ural	□ Art	ificial, man-m	ade	☐ Manip	ulated				

		shia407							
а	High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.								
	Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.								
	Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vertical channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (controlled) turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish more severe disturbance from livestock or man.	roding); water color is muddy and							
Notes:									
οι	Continues out of corridor in both directions; channel is braided – OHWM added for braids; bank to bank outermost to butermost. Stream is of a moderately steep gradient with bed dominated by cobble. Mature second growth mixed ardwoods with hemlock and white pine; canopy sparse in places due to hemlock and white pine mortality.								
	Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey bound	dary, and IDs of associated features)							
	Stream Quality ^a : ^(check one)								





Waterbody SHIA407 facing north upstream



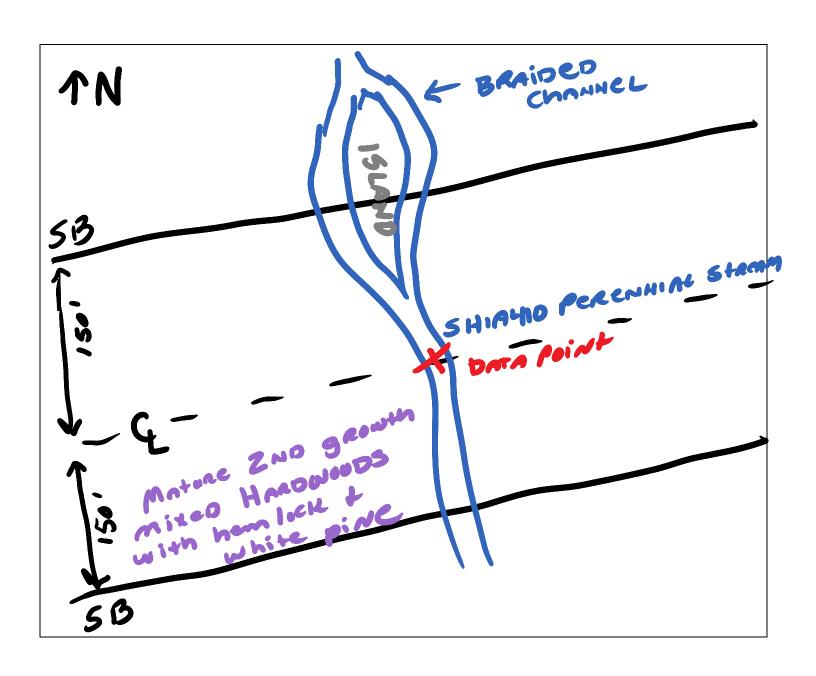
Waterbody SHIA407 facing south downstream



Waterbody SHIA407 facing west across

Survey Descr	iption										
Project Name:			Waterbody Name:				W	aterbody ID:			Date:
Atlantic Coast Pip	eline	UN.	NT to Warwick Run				sl	nia410			5/7/2016
State:	Count	y:		Company:			Crew N	Member Initials	s:	Photos:	
Virginia	Highla	and		NRG-ERM	1		GB, S	SA		5	
Tract Number(s):	<u> </u>			Nearest Mile	epost:			Associated W	Vetland	ID(s):	
06-001-B001-GW	NF			85.1				No associa	ated w	etlands	
Survey Type: (check one)		Centerline	□Re-F	Route	□Acc	ess Road	k	□Other:			
Physical Attri	butes										
Stream Classification (check one)		Ephemeral	□Inter	mittent	⊠Per	ennial					
Waterbody Type:											
(check one)	□River	Stream	☐ Ditc	:h □ C	anal	☐ Other	:				
OHWM Width:	(chec	WM Indicator: ck all that apply)			ne	□Shelvin	ng	□Wrested vegetation	×	Scourin	g □Water staining
Height: _1_ft. N/A□		☐Bent, matter vegetation	d, or missin	g □Wrack li		⊠Litter a debris	nd	□ Abrupt plar community cl		□Soil c	haracteristic change
Width of Waterbo Bank to Top of B		Width of Wato Toe of SI		Toe of Slope	Width o		ody - W	ater Edge to	Depth (Approx.)	of Water	7:
18	<u>s_</u> ft.	_ <u>8_</u> ft	:.		N/A□	-	<u>9</u> _ft.		N/A□		<u>0.5</u> ft.
Sinuosity:		Water veloc	ity:		Bank h	eight			Bank s	slope	
(check one) ☐ Stra	aight	(Approx.)				Right:				Right	
	J		_2_fps			Left:	_4_ft.			Left	<u>80</u> degrees
⊠Mea	andering	N/A□					<u>5</u> ft.				70 degrees
Analysis of Bank Evidence of bank	k instability i		_			-		idient streams	S		
Qualitative At Water Appearance											
(check one)	□No wat	ter ⊠Clear	□Turb	-	ieen surface		ırface um	□Algal mats	□Othe	r:	
Substrate:	☐ Bedro	ck Boulder	⊠ Cobb	le 🛭 Grav	el 🖂 🤅	Sand	☐ Silt/ c	lay 🛭 Organi	c 🗆 (Other:	
(check all that apply) % of Substrate:	%	%	<u>_60</u> _%	_ <u>25</u> _% <u>_1</u>	<u>0</u> % _	%	<u>5</u> _%	_%			
Width of Riparian	n Zone:	Vegetative Lay		₩ Т			V 0	(Oll		11	
100 ft		Avg. DBH of D		⊠ Trees 14 in.	:		⊠ Sapıır _ <u>1.5</u> in	ngs/Shrubs:	X	Herbs	
N/A 🗆		(approx.)				•		•	_		
Dominant Bank \ Hemlock, white Bellport, gree a	e pine, suga	ar maple, yel	low popla	ır, shagbar	k hicko	ry, strip	ed ma	ple, witch ha	azel, c	ornflow	er, Christmas fern,
Aquatic Habitats	(ex: submerged	d or emerged aqua			banks/roc	ots, leaf pac	cks, large	submerged wood	d, riffles,	deep pool	s):
Small pools, c		·		и раскъ							
Aquatic Organis		(list):									
Invertebrates,											
T&E Species Obs	served (list):										
none											
Disturbances (ex	: livestock acces	ss, manure in wate	erbody, waste	discharge pipe	es):						
none											
Tributary is: (check one)		[☑] Natural	□ Art	ificial, man-m	ade	☐ Manip	ulated				

		shia410							
а	High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.								
	Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.								
	Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural verthannel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (exturbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish more severe disturbance from livestock or man.	roding); water color is muddy and							
	Notes:								
CE	INT to Warwick Run; stream continues out of the corridor in both directions. The channel is braided upstream of enterline; high gradient stream with flashy high flows. Bank instability in the form of loose rocks and soil, exposed roots resent and to be expected.								
	Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey bound	dary, and IDs of associated features)							
	Stream Quality ^a : ^(check one)								





Waterbody SHIA410 facing north upstream



Waterbody SHIA410 facing south downstream



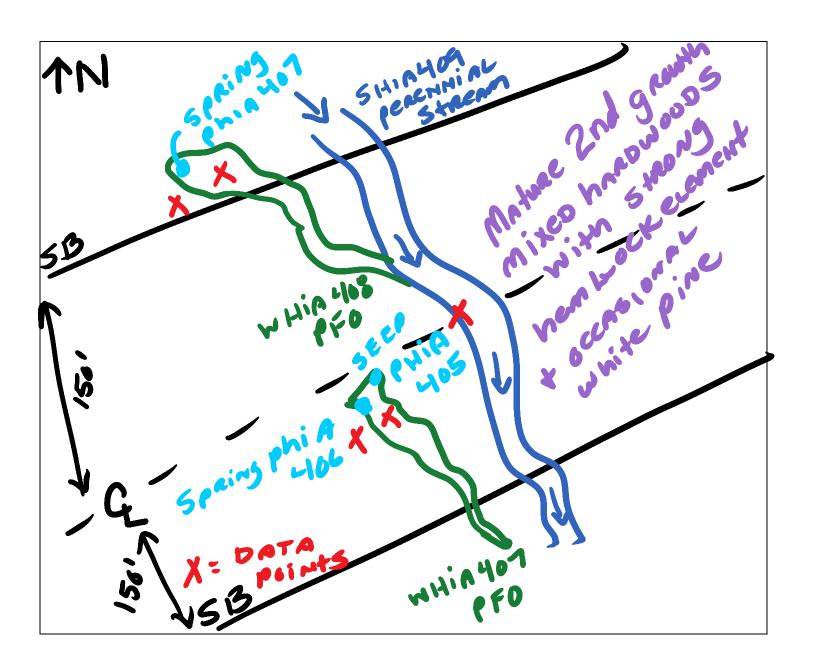
Waterbody SHIA410 facing east across

Survey D		n										
Project Name:			Waterb	Waterbody Name:				W	aterbody ID:			Date:
Atlantic Coas	st Pipeline		UNT to	UNT to Lick Draft				sl	shia409			5/7/2016
State:		County:			Company:			Crew N	Member Initials	S:	Photos:	
Virginia		Highland			NRG- ERI	Л		GB, S	SA, AS		5 Phot	os
Tract Numb	er(s):	1			Nearest Mile	epost:		II	Associated W	etland	I ID(s):	
06-001-B00 ²	1 - GWNF				85.4				whia407; w	/hia40	8(
Survey Type (check one)	e:	⊠Cen	terline	□Re-F	Route	□Ad	ccess Road		□Other:			
Physical .	Attribute	S										
Stream Clas		□Ephe	emeral	□Inter	mittent	⊠Pe	erennial					
Waterbody	Tyne											
(check one)		River	⊠ Stream	□ Ditc	:h □ Ca	anal	☐ Other					
OHWM Width:	<u>15.</u> ft.	OHWM In (check all th				ne	□Shelvin	g	□Wrested vegetation	Σ	⊠Scouring	g □Water staining
Height:	<u>1.25</u> ft.		sent, matted, o etation	r missin	g ⊠Wrack li	ne	□Litter ar debris	nd	□Abrupt plar community ch		□Soil ch	naracteristic change
Width of Wa Bank to Top			idth of Water Toe of Slope		Toe of Slope		of Waterb	ody - W	ater Edge to	Depth (Approx.	of Water	:
	<u>25.0</u> ft.		<u>_11.0_</u> ft	•		N/A□		<u>13.0_</u> ft.		N/A□	_	<u>0.75</u> ft.
Sinuosity:			ater velocity:			Bank	height			Bank	slope	
(check one)	⊠Straight	(A	pprox.)				Right:	50 H			Right	
			_	<u>2.0_</u> fps			Left:	<u>5.0_</u> ft.			Left	60 degrees
	□Meanderir	ng N	/A□				=	4.5_ft.				70 degrees
_	bit instabili		t structure, v	_			-		consider norn	nal for	stream o	of this gradient with
Qualitativ		tes										
Water Appe (check one)		No water	⊠Clear	□Turb		een surfac	□Sui e sci		□Algal mats	□Othe	er:	
Substrate:		Bedrock	⊠ Boulder	⊠ Cobb	le 🗵 Grave	el 🗵	Sand	□ Silt/ c	clay 🛭 Organio	c 🗆	Other:	
(check all that ap		%	<u>5</u> % <u>50</u> %	% <u>30</u>	_% <u>10</u> %		_% <u>_5</u>	_%	%			
Width of Rip	parian Zone		tative Layers	:								
1	50 ft-	· ·	all that apply) DBH of Dom i	nants:	⊠ Trees				ngs/Shrubs:	\boxtimes	Herbs	
N/A□		(appro			<u>13.0</u> ir	1.	-	_ <u>1.0</u> _in	•	_		
Dominant B Northern r	•	` ′	sugar mapl	e. hem	lock, white	oak.	vellow po	oplar. s	sweet birch,	hvdra	ıngea. w	vitch hazel.
ironwood.	wood net	tle. stárwo	rt. violet. C	hristma	as fern. wo	od fer	'n	-	submerged wood	•	_	
Isolated st	Isolated step pools, occasional leaf packs, woody debris, overhanging roots, riffles											
Aquatic Org	ganisms Ob	served (list):	1									
Invertebra	ites, salan	nander, cra	ayfish									
T&E Specie	s Observed	l (list):										
none												
	•	ock access, ma	anure in waterbo	dy, waste	e discharge pipe	es):						
None app	arent											
Tributary is (check one)	:	⊠ Nat	ural	□ Art	ificial, man-m	ade	☐ Manip	ulated				

		Waterbody ID:		
		shia409		
а	High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; dividisturbance by livestock or man.			
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filter function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered v greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.				
	Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural ve channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (uturbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish mo severe disturbance from livestock or man.	eroding); water color is muddy and		
ı	Notes:			
ve se vh	ream continues out of corridor in both directions; moderately steep gradient mountain structure a result bank instability is present in places in the form of loose rock/soil and exposed etlands whia407 & whia408 are located in swales along toe of slope above stream; whia40p phia405 & spring phia406 — outflow from this feature has subterranean connection in in a feature has direct strength of the corridor.	roots. Saturated PFO seep 407 receives hydrology from to stream outside corridor;		

Waterbody Sketch	(Include north arrow,	centerline, distance	from centerline,	data point location,	survey boundary,	and IDs of associated	features)

	(,	· · · · · · · · · · · · · · · · · · ·	, , , ,	
Stream Quality a:					
(check one)	[⊠] High	☐ Moderate	□ Low		





Waterbody SHIA409 facing north upstream



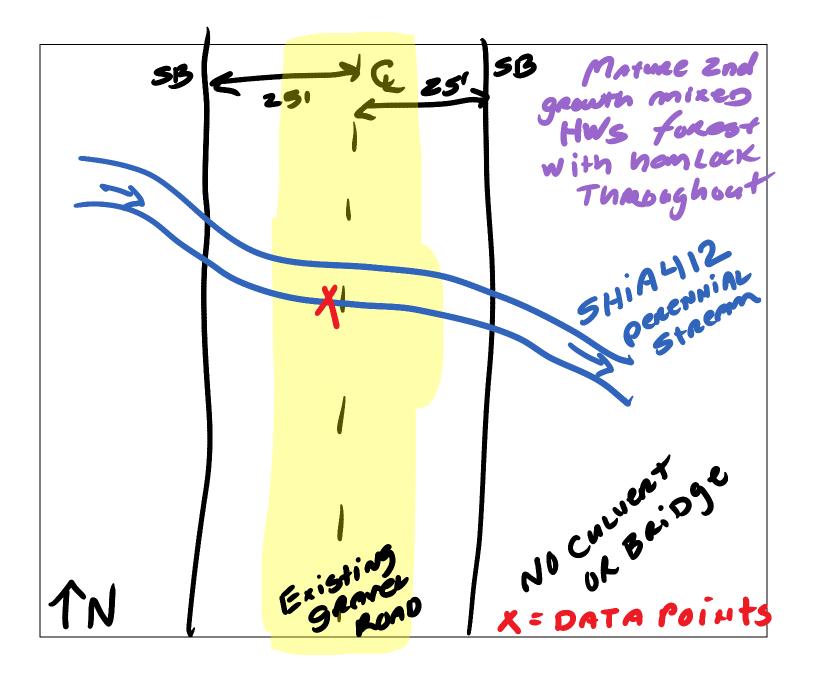
Waterbody SHIA409 facing south downstream



Waterbody SHIA409 facing east across

Survey Description						
Project Name:		Waterbody Name:			Waterbody ID:	Date:
Atlantic Coast Pipeline		Warwick Run			shia412	6/11/2016
State:	County:	Cor	npany:		Crew Member Initial	s: Photos:
Virginia	Highland	NR	G/ERM		GB, KO	3 photos
Tract Number(s):		Nea	arest Milep	oost:	Associated V	Vetland ID(s):
access road 06-001-B00	1.AR2	85.4	4		none	
Survey Type: (check one)	□Centerline	□Re-Route		⊠Access Road	□Other:	
Physical Attributes Stream Classification:						
(check one)	□Ephemeral	□Intermitter	nt	⊠Perennial		
Waterbody Type: (check one) □ F	River ⊠ Stre	am 🗆 Ditch	☐ Cana	al 🗆 Other:		
OHWM Width: 30.0 ft.	OHWM Indica (check all that app	y) 🗵	Clear line	e □Shelvino	g □Wrested vegetation	⊠Scouring □Water staining
Height: ft. N/A□	□Bent, i vegetatio	matted, or missing Don	☑Wrack lin	e □Litter an debris	d □Abrupt pla community c	· ·
Width of Waterbody - To			of Slope	Width of Waterbo	ody - Water Edge to	Depth of Water:
to Top of Bank:	to Toe	of Slope:	ľ	Water Edge:		(Approx.)
<u>40.0_</u> ft.	-	<u>22.0</u> ft.	1	1: N/A□	<u>5.0 </u> ft.	0.75ft. N/A 🗆
Sinuosity: (check one)	Water (Approx.	velocity:	I	Bank height		Bank slope
□Straight	(ripprox.,	_ 1.5 _ fps		Right:	4.0_ ft.	Right: 35 degrees
⊠Meandering	N1/A 🗔	<u>1,0</u> 1po		Left:		Left:
	10/10				<u>5.0_</u> ft.	_60_ degrees
Analysis of Bank Stabili Banks appear stable	ty (i.e. root struc	ture, vegetation, su	ıbstrate cl	naracteristics):		
Qualitative Attribute	es					
Water Appearance:						
(check one)	lo water ⊠C	ear □Turbid	□Shee on su	n □Surfa ırface scum	3	□Other:
Substrate:	Bedrock 🗆 Bou	llder ⊠ Cobble	⊠ Gravel	⊠ Sand □	Silt/ clay ☐ Organic	☐ Other:
% of Substrate:	%%	<u>70_</u> % _	25_%	<u>5</u> %	%%	%
Width of Riparian Zone:	Vegetativ (check all tha		⊠ Trees:		Saplings/Shrubs:	⊠ Herbs
<u>120</u> ft- N/A□	l'	of Dominants:	11.0 in.			⊠ neibs
Dominant Bank Vegetati						
creeper, grape, Dutcl	nman's pipe. v	≀ood nettle. foam	flower. v	vood aster, vio	let colts foot	blackberry, poison ivy, Virginia
Aquatic Habitats (ex: sub				•	, large submerged wood,	riffles, deep pools):
Leaf packs, scattered	<u> </u>	e woody debris, v	vrаск ри	es		
Aquatic Organisms Obs	• •					
Caddisfly, mayfly, mi	nnow, scud					
T&E Species Observed ((list):					
none						
Disturbances (ex: livestoc		•	• ,			
Ford crossing for exis	sting gravel ro	ad; no culvert or l	bridge.			
Tributary is: (check one)	Natural	☐ Artificial,	man-mad	e 🗆 Manipula	ated	

		shia412								
а	High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.									
	Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filterin function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered wit greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man. Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitatis severe disturbance from livestock or man.									
	Notes:									
	Stream continues out of access road corridor in both directions; moderately steep gradient stream; no culvert or bridge present; vehicles are driven across stream during low flows; mature second growth mixed hardwood forest.									
	Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey bound	dary, and IDs of associated features)								
	ream Quality ^a : neck one) ⊠ High ☐ Moderate ☐ Low									





Waterbody SHIA412 facing northwest upstream



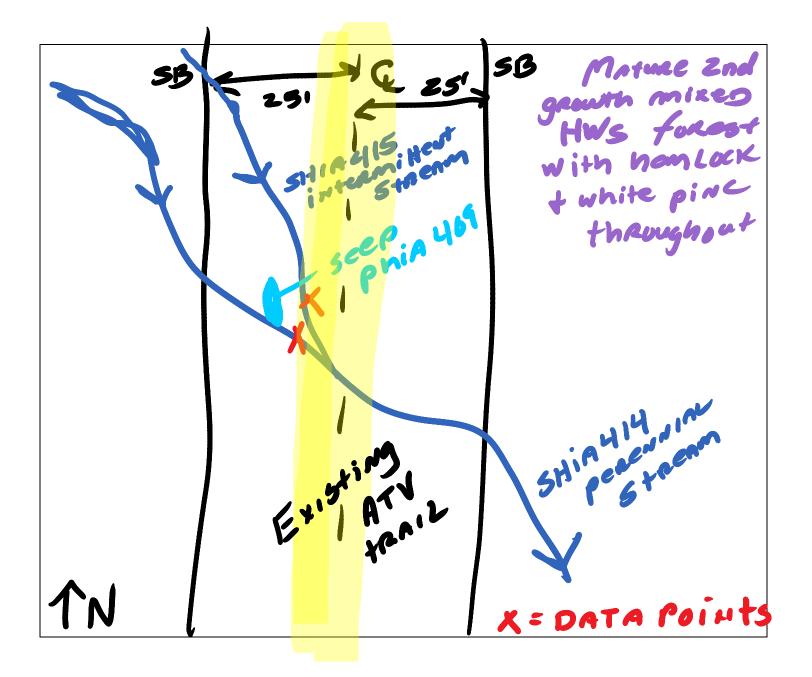
Waterbody SHIA412 facing southeast downstream



Waterbody SHIA412 facing northeast across

Survey Description								
Project Name:		Waterbody Nan	ne:		Waterbody ID:		Date:	
Atlantic Coast Pipeline		Lick Draft			shia414		6/11/2016	
State:	County:		Company:		Crew Member Initials	s: Photos		
Virginia	Highland		NRG/ERM		GB, KO	3 pho	tos	
Tract Number(s):	1		Nearest Mile	epost:	Associated W	Vetland ID(s):		
access road 06-001-B00	1.AR2		85.4		None			
Survey Type: (check one)	□ Centerline	□Re-Ro	ute	⊠Access Road	□Other:			
,	- OCHICHINE		uic	Access Road	- Other.			
Physical Attributes Stream Classification: (check one)	□Ephemeral	□Interm	ittent	⊠Perennial				
Waterbody Type:								
	River ⊠ Strea	am 🗆 Ditch	□ Car	nal 🗆 Other:				
OHWM Width: 12.0 ft.	OHWM Indicat (check all that apply		⊠ Clear lin on bank	e □Shelvir	ng □Wrested vegetation	⊠Scourir	ng □Water staining	
Height:ft.	□Bent, n vegetatio	natted, or missino n	g ⊠Wrack lii	ne □Litter a debris	ınd □Abrupt plar community cl		characteristic change	
N/A□ Width of Waterbody - To	on of BankWidth	of Waterbody - T	Toe of Slone	Width of Waterh	oody - Water Edge to	Depth of Wate	·r·	
to Top of Bank:		of Slope:	oc or orope	Water Edge:	ouy Traio. Lugo io	(Approx.)	••	
_ <u>18.0_</u> ft.	_	<u>7.0</u> ft.			<u>6.0</u> _ft.		<u>0.50 </u> ft.	
Sinuosity:	Water	/elocity:		N/A□ Bank height		Bank slope		
(check one)	(Approx.)	relocity.		Right:		Right	:	
□Straight		1.0fp	s	Left:	<u>3.5</u> ft.	Lef	90 degrees	
⊠Meandering	N/A□				<u>3.0</u> _ft.	Lei	_ <u>40</u> degrees	
Analysis of Bank Stabili	ity (i.e. root struc	ture, vegetation	, substrate o	characteristics):		•		
Banks have loose rock/so	oil and exposed ro	ots in places; no	rmal for a stre	eam of this gradie	ent with flashy high flow	/S.		
Qualitative Attribute	es							
Water Appearance:						704		
(check one)	No water ⊠Cl	ear □Turbid		en □Surf surface scu	3	☐Other:		
	Bedrock ☐ Bou	der ⊠ Cobble	⊠ Gravel	⊠ Sand □	☐ Silt/ clay ☑ Organic	☐ Other:		
(check all that apply) % of Substrate:	%%	50_%	_ 30_%	<u>15</u> %	% _5%	%		
Width of Riparian Zone:	Vegetative	Lavers:						
	(check all that	apply)		:	⊠ Saplings/Shrubs:			
<u>150 ft</u> ⋅ N/A□	(approx.)	of Dominants:	<u>12.0</u> ir	1.	<u>_ 1.5</u> in.			
Dominant Bank Vegetati	ion (list):							
Sugar maple, white obuttercup, garlic mus	stard. stonecror	o, wood aster	•		-	•		
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Leaf packs, scattered pools, coarse woody debris, wrack piles								
Aquatic Organisms Observed (list):								
Caddisfly, mayfly, cra	Caddisfly, mayfly, crayfish							
T&E Species Observed	(list):							
none								
Disturbances (ex: livestoo	k access, manure in	waterbody, waste d	lischarge pipes):				
Existing ATV trail cro	sses stream w	ith no culvert	or bridge p	resent				
Tributary is: (check one)	Natural	☐ Artifi	cial, man-ma	de □ Manipu	ılated			

		shia414								
а	High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.									
	Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filteri function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered w greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.									
Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the ac channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic hab severe disturbance from livestock or man.										
	Notes:									
	Stream continues out of corridor in both directions; intermittent stream shia415 is a tributary; no culvert or bridge present at crossing for existing ATV trail; mature second growth mixed hardwood forest with hemlock and white pine element.									
	Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey bound	dary, and IDs of associated features)								
	ream Quality ^a : neck one)									





Waterbody SHIA414 facing northwest upstream



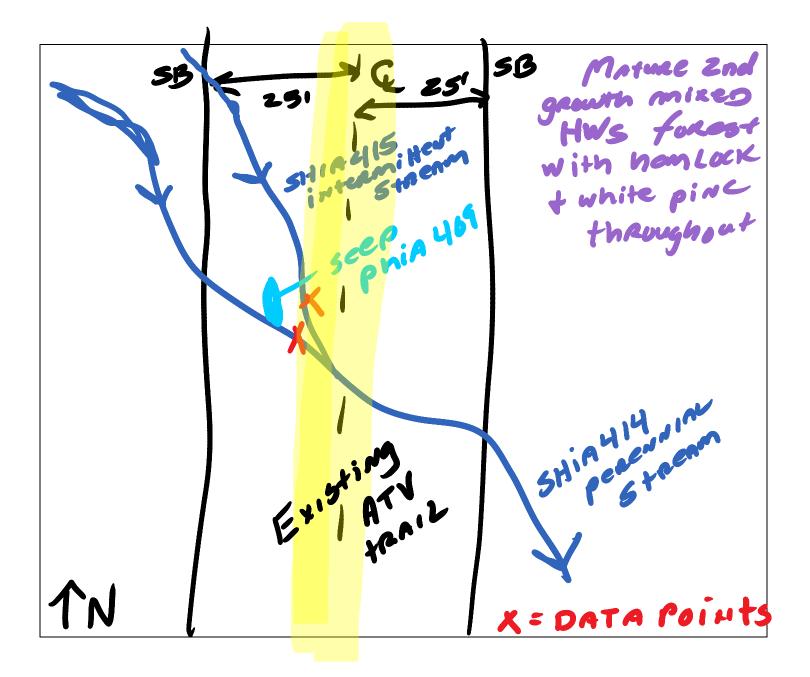
Waterbody SHIA414 facing southeast downstream



Waterbody SHIA414 facing northeast across

Survey Description											
Project Name: Waterbody Nar			me:			Waterbody ID:		Date:			
Atlantic Coast Pipeline UNT to Lick [Draft			shia415			6/11/2016		
State:	County:			Company:		Crev	ı v Member Initials	s:	Photos:		
Virginia Highland			NRG/ERM C			GB, KO			3 photos		
Tract Number(s):				Nearest Milepost:			Associated Wetland			ID(s):	
access road 06-001-B00	1.AR2			85.4	5.4 None						
Survey Type: (check one)	□Center	line	□Re-Ro	oute	⊠Access Road		□Other:				
Physical Attributes											
Stream Classification: (check one)	□Ephem	neral	⊠Interm	ittent	□Perennial						
Waterbody Type:	<u> </u>										
, ,,	River 🗵	Stream	☐ Ditch	□ Car	nal 🗆 Other:						
OHWM Width: 9.0 ft.	OHWM In (check all that			⊠ Clear lin on bank	ne □Shelvir	ng	□Wrested vegetation	×	Scouring		□Water staining
Height: ft. N/A□		ent, matted, etation	or missin	g ⊠Wrack lii	ne □Litter a debris	nd	□ Abrupt plar community ch		□Soil c	haracte	ristic change
Width of Waterbody - To to Top of Bank:		dth of Wate		Toe of Slope	Width of Waterb	ody -	Water Edge to	Depth (Approx.)	of Water	r:	
<u>15.0</u> ft.		<u>6.0_</u> ft				4.0		N/A□	-	0.25	_ft.
Sinuosity:	Wa	ater velocit	y:		Bank height			Bank s	lope		
(check one) ⊠Straight	(Ap	prox.)			Right:		_		Right:		
			<u>0.33</u> _ f	ps	Left:	3.5_	_ft.		Left		degrees
□Meandering	g N/A	A□				3.0_	_ft.			<u>60</u> (degrees
Analysis of Bank Stabil Banks have loose rock	/soil and exp	•	•	•	•	grad	ient with flashy l	high flo	ows.		
Qualitative Attribut Water Appearance:	es										
(check one)	No water	⊠Clear	□Turbio		en □Surf surface scu		□Algal □ mats	Other:			
	Bedrock \square	Boulder	⊠ Cobble	e 🗵 Gravel	⊠ Sand □	Silt/	clay 🛭 Organic	□ Ot	her:		
(check all that apply) % of Substrate:	%	%	55_%	_ 20_%	<u>15</u> %	_	_% _10%		%		
Width of Riparian Zone:		ative Layer	s:	57 -							
100ft-	Avg. [all that apply) DBH of Don	ninants:	⊠ Trees: 12.0_ir		⊠ Sap _ 1.5	olings/Shrubs: in.		Herbs		
N/A□ Dominant Bank Vegetat	ion (list):)									
Sugar maple, white of buttercup, garlic mus	oak, black k stard, stone	crop, woo	od aster	•			_	•			ttle,
Aquatic Habitats (ex: sub Leaf packs, scattere	-		-			s, large	e submerged wood,	riffles, de	eep pools)	:	
Aquatic Organisms Obs	served (list):			<u> </u>							
Caddisfly, mayfly	()										
T&E Species Observed	(list):										
none											
Disturbances (ex: livestoo	ck access, manu	re in waterbo	dy, waste o	discharge pipes):						
Existing ATV trail cro	osses strear	m with no	culvert	or bridge p	resent						
Tributary is: (check one)	Natura	al	☐ Artif	icial, man-ma	de □ Manipu	lated					

		shia415										
а	digh Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by oots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no listurbance by livestock or man.											
	Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.											
	Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.											
	Notes:											
or	ributary to perennial stream shia414 within access road survey corridor; upstream continur bridge present at crossing for existing ATV trail; mature second growth mixed hardwood for element.											
	Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey bound	dary, and IDs of associated features)										
	tream Quality ^a : heck one)											





Waterbody SHIA415 facing north upstream



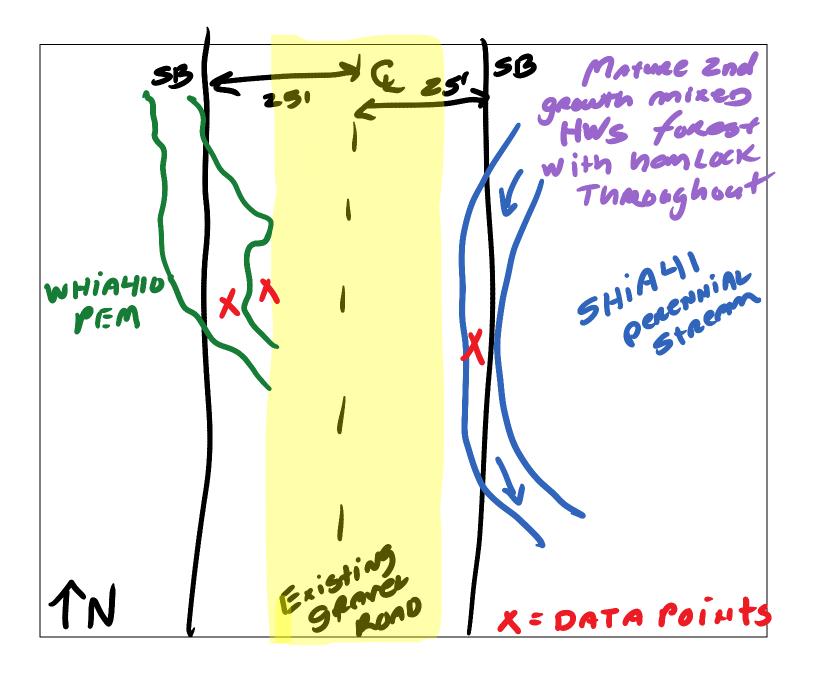
Waterbody SHIA415 facing south downstream



Waterbody SHIA415 facing east across

Survey Description								
Project Name: Waterbody Nan			ne:		W	Vaterbody ID:	Date:	
Atlantic Coast Pipeline Lick Draft						hia413	6/11/2016	
State:	County:		Company:		Crew I	Member Initials:	Photos:	
Virginia	Highland		NRG/ERM		GB, Ł	KO	3 phot	tos
Tract Number(s):			Nearest Mile	post:	L	Associated We	etland ID(s):	
access road 06-001-B00	1.AR2		85.4			whia410		
Survey Type: (check one)	□Centerline	□Re-Ro	oute	⊠Access Roa	ad	□Other:		
Physical Attributes	Contentine		, uto	<u> </u>	<u></u>			
Stream Classification: (check one)	□Ephemeral	□Interm	ittent	⊠Perennial				
Waterbody Type:								
	River ⊠ Strea	am 🗆 Ditch	□ Car	nal 🗆 Oth	er:			
OHWM Width: 	OHWM Indicat (check all that apply		⊠ Clear lin	ie □She	lving	□Wrested vegetation	⊠Scourin	g □Water staining
Height: 2.0 ft.	□Bent, n vegetatio	natted, or missing	g ⊠Wrack li	ne □Litte debris	r and	□ Abrupt plant community cha		characteristic change
N/A□ Width of Waterbody - To	p of BankWidth o	of Waterbody - 1	Toe of Slope	Width of Wat	erbody - W	Vater Edge to	Depth of Water	r:
to Top of Bank:		of Slope:		Water Edge:			Approx.)	
_30.0_ft.	_	<u>15.0_</u> ft.			_12.0 _			<u>0.75 </u> ft.
Sinuosity:	Water	velocity:		N/A□ Bank height			N/A□ Bank slope	
(check one)	(Approx.)	clocity.		Right	:		Right	:
□Straight		1.5fp	os	Left	<u>4.0</u> ft.		Lef	90 degrees
⊠Meandering	N/A□			Len	 <u>4.0</u> ft.		Lei	 <u>40</u> degrees
Analysis of Bank Stabili	ty (i.e. root struc	ure, vegetation	, substrate o	haracteristics	s):			
Banks have loose rock/	soil and exposed	roots in places	s; normal for	a stream of t	his gradie	nt with flashy h	igh flows.	
Qualitative Attribute	es							
Water Appearance:								
(check one)	lo water ⊠Cle	ear □Turbid		-	Surface scum	□Algal □ mats	Other:	
	Bedrock ☐ Boul	der 🛭 Cobble	e ⊠ Gravel	⊠ Sand	☐ Silt/ cla	ay 🗆 Organic	☐ Other:	
(check all that apply) % of Substrate:	%%	60_%	_ 35_%	<u> 5 </u> %	%	6 _ <u>_</u> %	%	
Midth of Dinarian Zana	Vagatativa	Lovers						
Width of Riparian Zone:	Vegetative (check all that		⊠ Trees:		⊠ Sapliı	ngs/Shrubs:	⊠ Herbs	
	Avg. DBH (approx.)	of Dominants:	<u>12.0</u> ir	۱.	<u>_ 1.5</u> in	٦.		
Dominant Bank Vegetati	,							
Sugar maple, white c	tard. colts foot	•	•			• .		
Aquatic Habitats (ex: sub		·			acks, large s	submergea wooa, ri	mes, deep pools):
Leaf packs, scattered	· · · · · · · · · · · · · · · · · · ·	woody debii	s, wrack pr	ies				
Aquatic Organisms Obs	` ′	C . I						
Caddisfly, mayfly, mi	•	, crayrish						
T&E Species Observed (list):							
none								
Disturbances (ex: livestoc	k access, manure in	waterbody, waste o	discharge pipes):				
Paralleled by existing	road.							
Tributary is: (check one)	Natural		cial, man-ma	de □ Man	ipulated			

		shia413										
а	High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.											
	Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering unction or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.											
	Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.											
	Notes:											
	Stream parallels existing gravel road; PEM wetland whia410 located o floodplain on other side of road but no surface connection; mature second growth mixed hardwood forest with hemlock element.											
	Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boun	dary, and IDs of associated features)										
St	ream Quality ^a : leck one) □ Moderate □ Low											





Waterbody SHIA413 facing north upstream



Waterbody SHIA413 facing south downstream



Waterbody SHIA413 facing west across

Survey De	scription	1											
Project Name: Waterbody Na			ody Nar	me:			W	Waterbody ID:			Date:		
Atlantic Coast Pipeline Lick Draft						sł	shia408			5/4/2016			
State:		County:			Company:			Crew N	Member Initials	S :	Photos:		
Virginia		Highland			NRG - ER	M		GB, S	SA		5 photo	os	
Tract Numbe	er(s):				Nearest Mil	epost:			Associated W	etland	ID(s):		
06-001-B001	- GWNF				85.5				whia406				
Survey Type (check one)	:	⊠Cent	erline	□Re-F	Route	□A	ccess Road		□Other:				
Physical A	ttributes	•											
Stream Class (check one)	sification:	□Ephe	emeral	□Inter	mittent	⊠P	erennial						
Waterbody T	vpe:												
(check one)		River D	Stream	☐ Ditc	h 🗆 C	anal	☐ Other	:					
OHWM Width:	<u>15.0</u> ft.	OHWM In (check all tha			⊠ Clear li on bank	ne	⊠Shelvin	g	□Wrested vegetation	Σ	Scouring		Vater ning
Height: N/A□	<u>1.5</u> ft.		ent, matted, o etation	or missin	g ⊠Wrack l	ine	⊠Litter ar debris	nd	□ Abrupt plar community ch		□Soil ch	naracteristi	c change
Width of Wat Bank to Top			idth of Water		Toe of Slope		of Waterb	ody - W	ater Edge to	Depth (Approx.	of Water	:	
_	<u>20.0</u> ft.		10.0f	t.		N/A□		<u>13.0_</u> ft.		N/A□	_	<u>0.75</u> ft.	
Sinuosity:			ater velocity	:		Bank	height			Bank	slope		
(check one)	Straight	(Ap	oprox.)				Right:	F 0 4			Right		
_			_	<u>1.5</u> fps			Left:	<u>5.0_</u> ft.			Left	<u>75</u> deg :	rees
	Meanderin	g N/.	A□				=	<u>5.0_</u> ft.				<u>85</u> deg	rees
Analysis of E Banks exhib		• `	•	•	•		•		gradient strea	ms			
Qualitative		es											
Water Appea		No water	⊠Clear	□Turb		neen n surfac	□Sui e scu		□Algal mats	□Othe	er:		
Substrate:		Bedrock [⊠ Boulder	⊠ Cobb	le ⊠ Grav	rel ⊠	Sand [□ Silt/ c	lay 🛭 Organio		Other:		
(check all that app % of Substra		%	<u>10</u> % _ <u>60</u>	_% _ <u>1</u>	<u>5</u> _% <u>10</u> %	6 <u></u>	<u></u> % <u>_5</u>	<u>5_</u> % _	%				
Width of Ripa	arian Zone	Veget	tative Layers	;:									
		(check a	all that apply)		⊠ Trees				ngs/Shrubs:	\boxtimes	Herbs		
N/A□	<u>10 ft</u> .	(approx	DBH of Dom	inants:	14.0	n.	-	_ 1.5_in.		-			
Dominant Ba	ınk Vegetat	tion (list):											
Hemlock, y mountain la	rellow pop aurel, woo itats (ex: su	olar, white od aster, v bmerged or em	pine, shag iolet, hay s perged aquatic	bark hi centec	ckory, sug I fern, mite n. overhanging	gar ma er box, banks/re	ple, red r trillium, v	naple, vood fo	striped map ern submerged wood	ole, sw	deep pools	h, witch	hazel,
Coarse wo								-, - 3 -	3	,,		-,	
Aquatic Orga	anisms Obs	served (list):											
Minnows, ii	nvertebra	tes, water	striders, fr	og									
T&E Species	Observed	(list):											
none													
Disturbances	•			ody, waste	discharge pip	es):							
Old road be	ed on we	st side of s	stream										
Tributary is: (check one)		Natu	ural	□ Art	ificial, man-n	nade	☐ Manip	ulated					

		shia408
а	High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each s roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; divergence by livestock or man.	
	Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloud greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by lives	y, submerged objects covered with
	Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural veg channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eturbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish more severe disturbance from livestock or man.	eroding); water color is muddy and
ı	Notes:	
ola an se	ream continues out of corridor in both directions; moderately steep gradient stream showing aces as evidenced by loose rock/soil and exposed roots – consider normal for a stream of old road bed on west side; spring fed PFO wetland whia406 has direct hydrologic connected growth mixed hardwoods with white pine and hemlock. There is a proposed access ists on that side of stream.	of this gradient; paralleled by ection; flows through mature

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features)

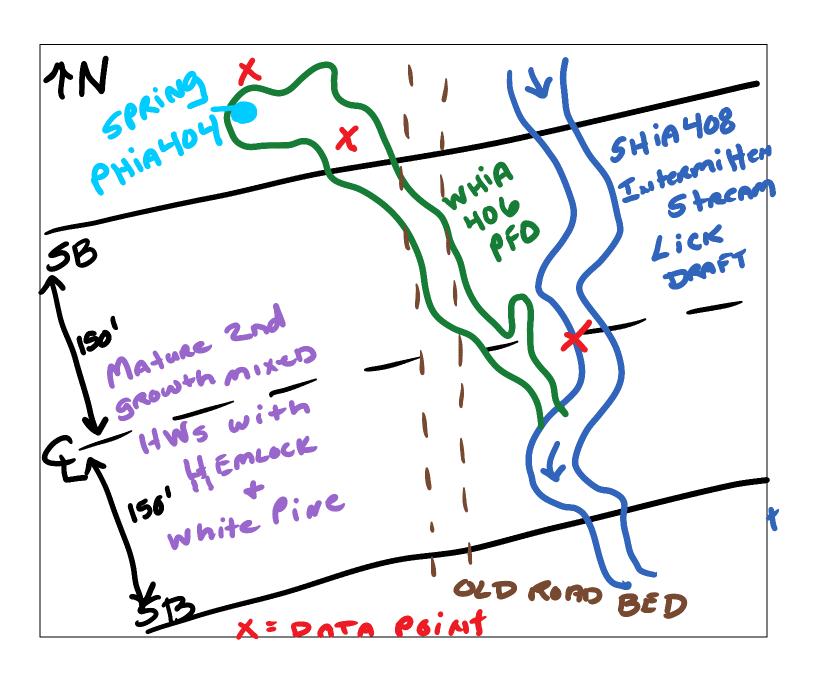
 $\;\square\;\mathsf{Low}$

☐ Moderate

Stream Quality a: (check one)

 oxtimes High

Waterbody ID:





Waterbody SHIA408 facing north upstream



Waterbody SHIA408 facing south downstream



Waterbody SHIA408 facing east across

Survey Description	1							
Project Name:		Waterbody Na	me:		W	aterbody ID:		Date:
Atlantic Coast Pipeli	ne	Back Creek			SI	hie061		4/26/2016
State:	County:		Company:		Crew N	Member Initials:	Phot	os:
_	Highland		NRG		CG, S		1-3	
Tract Number(s):			Nearest Mile	epost:		Associated We	etland ID(s):
06-001-B005; 06-001-0	C038		87.2			none		
Survey Type: (check one)	⊠Centerlin	e □Re-F	Route	□Access Road		□Other:		
Physical Attributes Stream Classification:	3							
(check one)	Ephemer	al □Inter	mittent	⊠Perennial				
Waterbody Type: (check one)	River ⊠ St	ream 🗆 Dito	ch 🗆 Ca	anal 🗆 Other:				
OHWM Width: _70_ft.	OHWM Indica (check all that app		☐ Clear lin	ne □Shelvin	g	□Wrested vegetation	□Sco	uring □Water staining
Height: _2_ft. N/A□	□Bent, i vegetatio	matted, or missin	g □Wrack lin	ne □Litter ar debris	nd	☐Abrupt plant community cha		oil characteristic change
Width of Waterbody - To			Toe of Slope	Width of Waterbo	ody - W		Depth of W	ater:
Bank to Top of Bank: 80_ft.	to Toe	of Slope: _60_ft.		Water Edge: N/A□	<u>40</u> ft.		'Approx.) N/A□	_ <u>1_</u> ft.
Sinuosity: (check one)	(Approx.	velocity:) 	3	Bank height Right: Left:	<u>3_</u> ft.	I		i ght: _ <u>25</u> _degrees Left:
⊠Meanderin	1,7,12				_ <u>5_</u> ft.			_70_ degrees
Qualitative Attribut	tes							
Water Appearance: (check one) □	No water ⊠	Clear □Turb	-	een □Sur surface scu		□Algal □ mats	□Other:	
Substrate: (check all that apply) % of Substrate:	Bedrock Bedrock	oulder ⊠ Cobb %15_%	ole ⊠ Grave		⊠ Silt/ c 10_%	lay □ Organic%	□ Other	·: %
Width of Riparian Zone 100 ft N/A□	(check all tha		⊠ Trees: _ <u>12</u> _in.		☑ Saplir _ <u>0.5</u> _in.	ngs/Shrubs:	⊠ Her	rbs
Dominant Bank Vegetar Sycamore, rose, gra								
Aquatic Habitats (ex: su Riffles, runs, pools,		d aquatic vegetatio	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	riffles, deep	pools):
Aquatic Organisms Obs	served (list):							
Minnows, insects, fis	sh, snails							
T&E Species Observed	(list):							
none								
Disturbances (ex: livesto none	ck access, manure	ın waterbody, waste	e discharge pipe	es):				
Tributary is: (check one)	Natural	□ Ari	tificial, man-m	ade □ Manipu	ulated			
Stream Quality ^a : (check one)	⊠ High	□ Мо	oderate	□ Low				

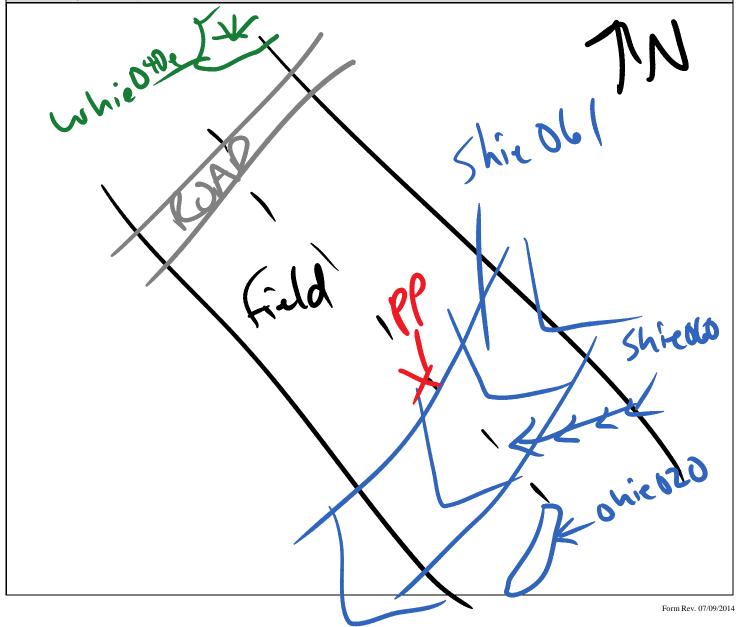
Waterbody	ID:
Shie061	

Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features)





Waterbody SHIE061 facing east upstream



Waterbody SHIE061 facing west downstream



Waterbody SHIE061 facing south across

Survey Description	1							
Project Name:	Waterbody Name:			W	aterbody ID:	Date:		
Atlantic Coast Pipeli	ine	UNT to Back	Creek		Sł	nie060		4/26/2016
State:	County:		Company:		Crew N	lember Initials	: Photo:	s:
	Highland		NRG		CG, S		1-3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland ID(s):	
06-001-B005			87.2			none		
Survey Type: (check one)	⊠Centerline	e □Re-F	Route	□Access Road		□Other:		
Physical Attributes Stream Classification:	3							
(check one)	Ephemera	al ⊠Inter	mittent	□Perennial				
Waterbody Type: (check one)	River ⊠ Str	eam 🗆 Dito	:h □ Ca	anal 🗆 Other:				
OHWM Width: 8 ft.	OHWM Indica (check all that apply		☐ Clear lin	ne □Shelvin	g	□Wrested vegetation	⊠Scour	ing ⊠Water staining
Height: _2_ft. N/A□	⊠Bent, r vegetatio	matted, or missin on	g □Wrack li	ne □Litter ar debris	nd	⊠Abrupt plan community ch	t □Soil ange	characteristic change
Width of Waterbody - T Bank to Top of Bank:			Toe of Slope	Width of Waterbo	ody - W		Depth of Wat	er:
		of Slope: _7_ft.		Water Edge: N/A□	<u>6</u> _ft.		N/A□	<u>0.5</u> ft.
Sinuosity: (check one) ⊠Straight	(Approx.)	velocity:0.1fps		Bank height Right:	_4_ft.		Bank slope Rig	ht:45_ degrees
□Meanderir	ng N/A□				<u>5</u> ft.			_45_ degrees
Qualitative Attribut	tes							
Water Appearance: (check one)	[]] No water ⊠0	Clear □Turb	-	een □Sur surface scu		□Algal [mats	□Other:	
Substrate: (check all that apply) % of Substrate:	Bedrock DBc	oulder ⊠ Cobb % <u>30</u> %			⊠ Silt/ cl	lay □ Organic %		
Width of Riparian Zone ft N/A⊠	(check all that	-	□ Trees	:	☑ Saplin <u>_0.5</u> _in.	gs/Shrubs:	⊠ Herbs	3
Dominant Bank Vegeta Rose, fern, grasses	tion (list):							
Aquatic Habitats (ex: su Emergent vegtation		d aquatic vegetation	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	, riffles, deep po	pols):
Aquatic Organisms Obi	served (list):							
T&E Species Observed	(list):							
none								
Disturbances (ex: livestonone	ock access, manure i	n waterbody, waste	e discharge pipe	es):				
Tributary is: (check one)	Natural	□ Art	ificial, man-m	ade □ Manipu	ulated			
Stream Quality ^a : (check one)	☐ High	⊠ Mo	oderate	☐ Low				

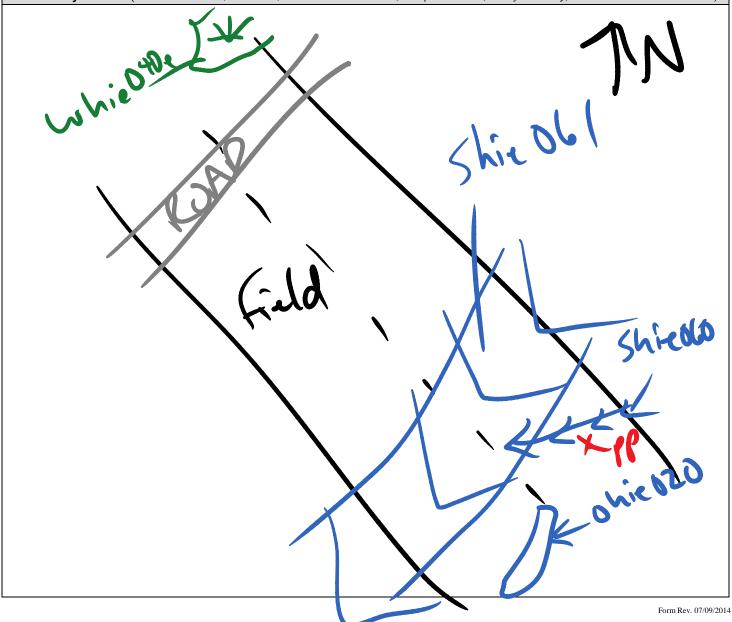
Waterbody	ID:
Shie060	

Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features)





Waterbody SHIE060 facing east upstream



Waterbody SHIE060 facing west downstream



Waterbody SHIE060 facing north across

Open Waterbody Data Sheet

Open waterboo	iy Data Silee							
Survey Description	on							
Project Name:	Waterbody Name: W				Waterbody ID:	Date:		
Atlantic Coast Pipe	Unnamed Pond				Ohie020		4/26/2016	
State:	County:		Company:		Crew	Member Initials:	Photos:	.,
	Highland		NRG		CG,	SA	1-3	
Tract Number(s):	- ng.nana		Nearest Milepo	st:		Associated Wetland	ID(s):	
06-001-B005			87.2			none	, ,	
Survey Type:								
(check one)	⊠Centerlir	ne 🗆	Re-Route	☐ Access Ro	ad	□Other:		
Physical Attribut	es							
Waterbody Type:		d David	alea 🗆 Danamesia			Outrous Datham		
	ck Pond 🗆 Natura	al Pond LL	ake ⊔ Reservoir	r 🗀 impouname	ent 🗵	☐ Oxbow ☐ Other:		
Hydrologic Regime:	☐ Permanently	Flooded [☐ Semipermanen	itly Flooded	Seas	sonally Flooded	Temporaril	y Flooded
OHWM	OHWM Ind		•	•			•	•
Height:	(check all that a		⊠ Clear on bank	line □She	lving	□Wrested vegetation	□Scou	ıring ⊠Water staining
<u>2</u> ft.						vegetation		Stalling
	□Ber vegeta	it, matted, or i	missing □Wrack line	· ·				aracteristic change
	, togott					community cha	•	
Depth of Water:		Bank heig	ght (average):			Bank slope (aver		
N/A□ <u>1</u>	_ft.		_5_	_ft.		_	60 degree	S
Qualitative Attrib	utes							
Water Appearance: (check one)	□No water □]Clear □	Turbid □Sh on su	neen 🖂 S urface scu	Surface	e □Algal □0 mats	Other:	
Substrate: (check all that apply)	☐ Bedrock ☐ B	Soulder 🗵 (Cobble Grave	el 🗆 Sand	⊠S	ilt/ clay □ Organic	☐ Other:	
% of Substrate:	%	% <u>30</u>	<u></u> %	_%%	70	_%%		%
Width of Riparian Zoi								
ft.	(check all tha	t apply)			⊠ Sa	plings/Shrubs:	⊠ Her	bs
	Avg. DBH	of Dominan	ts: _8_in.		_ <u>1</u> _ir	٦.		
N/A⊠	(approx.)				-			
Dominant Bank Vege	tation (list):							
Oak, rose, grass								
Aquatic Habitats (ex: s	submerged or emerged a	quatic vegetation,	overhanging banks/roo	ts, leaf packs, large si	ubmerge	ed wood, riffles, deep pools, e	etc.):	
Ephemeral pond								
Aquatic Organisms C	Observed (list):							
Insects, frogs								
T&E Species Observe	ed (list):							
none								
Disturbances (ex: lives	stock access, manure	in waterbody,	waste discharge pipe	es):				
none								
Waterbody is: (check one)	⊠ Natural		☐ Artificial, man-m	ıade □ Man	ipulate	ed		
Waterbody Quality ^a : (check one)	☐ High			□ Low				

Waterbody	ID:
Ohie020	

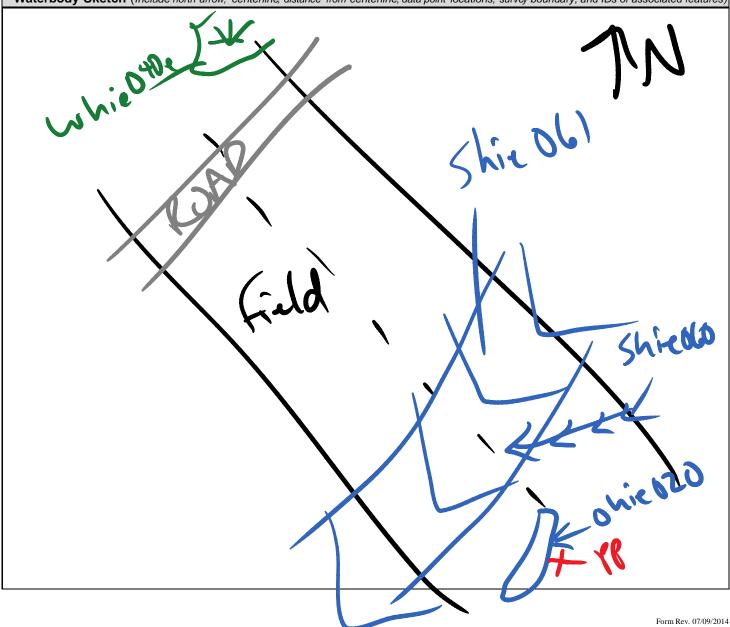
^a **High Quality:** Natural, natural bank vegetation around entire waterbody; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

Moderate Quality: Altered by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or bank vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point locations, survey boundary, and IDs of associated features)





Open waterbody OHIE020 facing northeast



Open waterbody OHIE020 facing northwest



Open waterbody OHIE020 facing southwest

Survey Description	1							
Project Name:		Waterbody Nar	ne:		W	aterbody ID:		Date:
Atlantic Coast Pipeli	ne	UNT to Back	k Creek		sł	nia404		4/16/2016
State:	County:	1	Company:		Crew N	Member Initials:	Photos	:
	Highland		NRG - ER	M	GB, J	S	3 pho	tos
Tract Number(s):			Nearest Mile	epost:		Associated We	tland ID(s):	
06-001-C008			88.35			whia403		
Survey Type: (check one)	⊠Centerline	Re-F	Route	□Access Road		□Other:		
Physical Attributes Stream Classification:	8 🗵							
(check one)	Ephemera	ıl ⊠Inter	mittent	□Perennial				
Waterbody Type: (check one)	River 🗵 Str	eam 🗆 Dito	:h □ Ca	anal 🗆 Other:	:			
OHWM Width:	OHWM Indica (check all that apply			ne □Shelvin	g	□Wrested vegetation	□Scourir	ng □Water staining
Height: 0.50 ft.	□Bent, n	natted, or missin n		ine ⊠Litter ar debris	nd	□Abrupt plant community cha		characteristic change
N/A□ Width of Waterbody - To			Toe of Slope	Width of Waterbo	ody - W		epth of Wate	er:
Bank to Top of Bank:	to Toe	of Slope:		Water Edge:		(4	Approx.)	
<u>5.0</u> ft.	_	_2.0ft.		 N/A□	<u>2.0</u> f		_ J/A□	<u>0.25 </u> ft.
Sinuosity:		velocity:		Bank height		В	Bank slope	
(check one) ⊠Straight	(Approx.)	0.50	fps	Right:	2.5 _	ft.	Righ	nt:60degrees
□Meanderin	g N/A□		.,,,	Left:	3.0 _	ft.	Le	ft: 50 degrees
Qualitative Attribut	tes							
Water Appearance:								
(check one)	No water ⊠0	Clear □Turb	-	een □Sui surface scu		□Algal □ mats	Other:	
	Bedrock ☐ Bo	ulder 🗵 Cobb	le 🛭 Grave	el 🗵 Sand 🛭	⊠ Silt/ c	lay 🛭 Organic	☐ Other:	
(check all that apply) % of Substrate:	%%	6 <u>10</u> %	% <u>10</u> %	<u>15</u> %	<u>50</u> %	<u>15</u> %	%	
Width of Riparian Zone								
f <u>t</u> . N/A⊠	(check all that Avg. DBH (approx.)	of Dominants:	⊠ Trees: 7.0		☑ Saplir 1.0	ngs/Shrubs: in.	⊠ Herbs	
Dominant Bank Vegeta	` ' '							
Black walnut, sugar mayapple	maple, black l	ocust, white a	ash, coral b	erry, multiflora	rose,	blackberry, fe	scue, garli	c mustard,
Aquatic Habitats (ex: su	bmerged or emerged	d aquatic vegetation	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	riffles, deep poo	ols):
Leaf packs, woody		nel						
Aquatic Organisms Obs	served (list):							
none								
T&E Species Observed	(list):							
none								
Disturbances (ex: livesto	ck access, manure i	n waterbody, waste	discharge pipe	es):				
livestock access has	s destroyed sti	ream above o	rigin					
Tributary is: (check one)	Natural	□ Art	ificial, man-m	ade 🗆 Manipi	ulated			
Stream Quality ^a : (check one)	☐ High	□ Mc	oderate	⊠ Low				

Waterbody ID: shia404

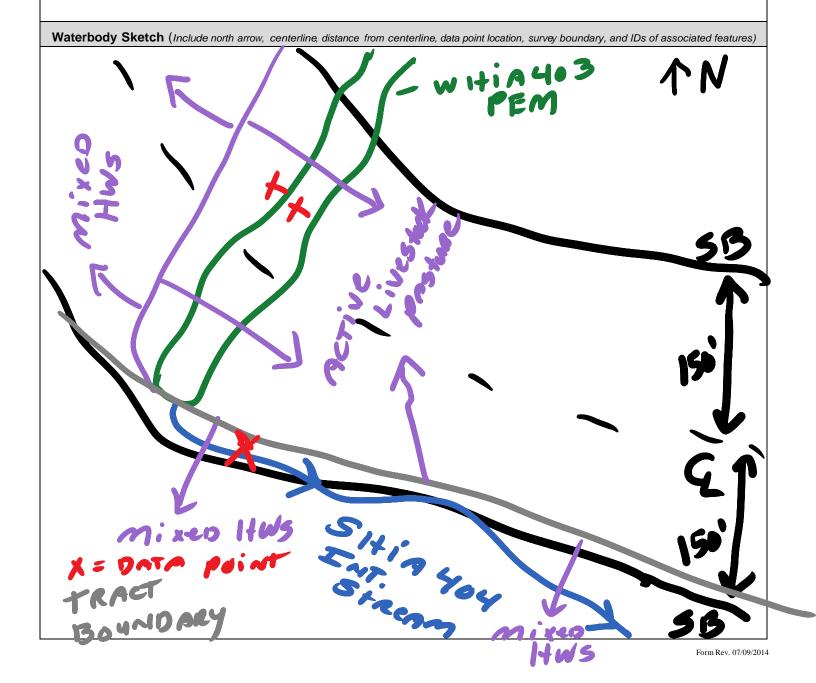
^a **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:

Begins as outflow from PEM wetland whia403 within the corridor; downstream continues out of corridor.





Waterbody SHIA404 facing north upstream



Waterbody SHIA404 facing southeast downstream



Waterbody SHIA404 facing northeast across

Survey Description	1							
Project Name:	Waterbody Name:			W	Vaterbody ID:	Date:		
Atlantic Coast Pipeli	UNT to Back	Creek		s	hia405		4/16/2016	
State:	County:		Company:		Crew I	Member Initials:	Photos	:
	Highland		NRG - ERI		GB, J		3 pho	tos
Tract Number(s):			Nearest Mile	post:		Associated Wet	land ID(s):	
06-001-C009			88.55			none		
Survey Type: (check one)	⊠Centerline	□Re-F	Route	□Access Road	<u> </u>	□Other:		
Physical Attributes Stream Classification:	S 🗵							
(check one)	⊠Ephemera	ıl □Inter	mittent	□Perennial				
Waterbody Type: (check one)	River ⊠ Str	eam 🗆 Dito	:h □ Ca	anal 🗆 Other:	·			
OHWM Width: 4.0 ft.	OHWM Indicat (check all that apply		☐ Clear lin on bank	e □Shelvin	g	□Wrested vegetation	⊠Scourir	ng □Water staining
Height:	vegetatio			debris		☐Abrupt plant community char		characteristic change
Width of Waterbody - To Bank to Top of Bank:		of Waterbody - ⁻ of Slope:		Width of Waterbo Water Edge:	ody - W		epth of Wate oprox.)	er:
12.0ft.	_	ft.		 N/A⊠	ft.		′A⊠	ft.
Sinuosity: (check one) ⊠Straight	(Арргох.)	/elocity: fp:		Bank height Right: Left:	6.0		ank slope Righ Le	70 degrees
□Meanderin	14/7(2			_	6.0	_ft.		30degrees
Qualitative Attribut	tes							
Water Appearance: (check one) ⊠	No water □C	Clear □Turb		een □Sui surface scu		□Algal □0 mats	Other:	
Substrate: (check all that apply) % of Substrate:	Bedrock ⊠ Bo				⊠ Silt/ o	clay ⊠ Organic _20_%	☐ Other:%	
Width of Riparian Zone ft N/A⊠	(check all that		⊠ Trees: 10.0			ngs/Shrubs: in.	⊠ Herbs	
Dominant Bank Vegeta	tion (list):							
Sugar maple, shagb sedge, bedstraw				•	-			
Aquatic Habitats (ex: su none	bmerged or emerged	I aquatic vegetation	n, overhanging l	banks/roots, leaf pac	ks, large	e submerged wood, ri	ffles, deep poo	ols):
Aquatic Organisms Obs	served (list):							
none								
T&E Species Observed	(list):							
none								
Disturbances (ex: livesto	ck access, manure i	n waterbody, waste	e discharge pipe	es):				
Livestock access								
Tributary is: (check one)	⊠ Natural	□ Art	ificial, man-ma	ade 🗆 Manipı	ulated			
Stream Quality ^a : (check one)	☐ High	⊠ Mc	derate	□ Low				

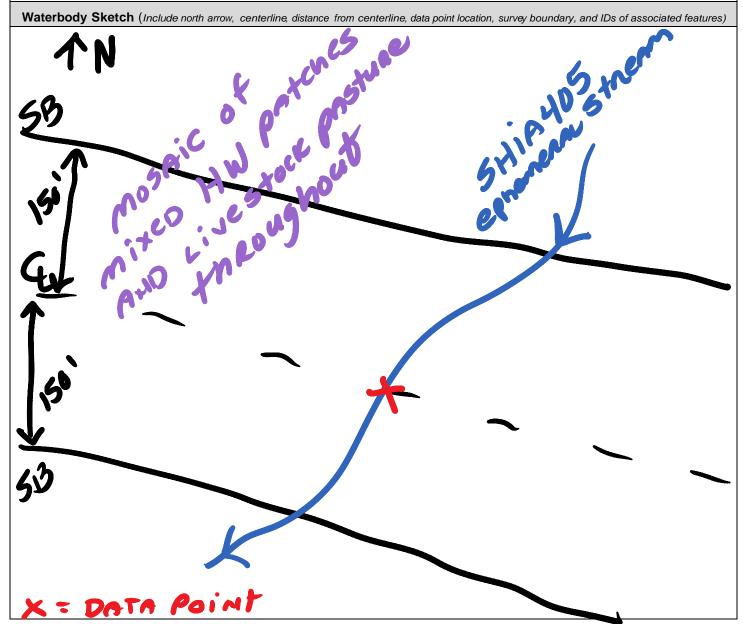
Waterbody	ID
shia405	

Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:

Stream continues out of corridor in both directions; surface flow is ephemeral; subterranean flow is likely intermittent; area has karts geology and the majority of flow is likely below ground.





Waterbody SHIA405 facing northeast upstream



Waterbody SHIA405 facing southwest downstream



Waterbody SHIA405 facing northwest across

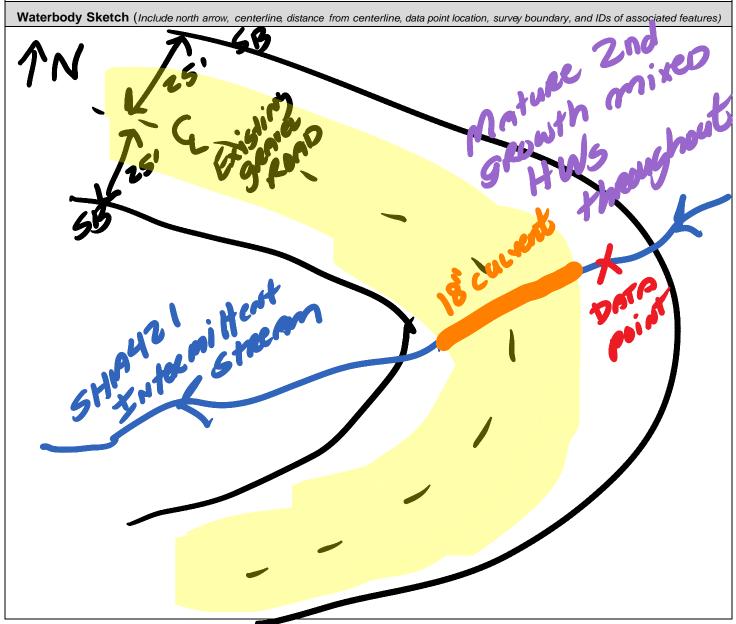
Survey Description	1							
Project Name:		Waterbody Nar	ne:		W	/aterbody ID:		Date:
Atlantic Coast Pipeli	ne	UNT to Back	Creek		sł	hia421		9/15/2016
State:	County:		Company:		Crew I	Member Initials:	Pho	tos:
•	Highland		NRG - ERI		GB, A			photos
Tract Number(s):			Nearest Mile	epost:		Associated We	tland ID(s):
Access Road 06-00	1-C026.AR1		89.0			none		
Survey Type: (check one)	□Centerline	□Re-F	Route	⊠Access Road		□Other:		
Physical Attributes Stream Classification:	S 🗵							
(check one)	□Ephemera	ıl ⊠Inter	mittent	□Perennial				
Waterbody Type: (check one)	River ⊠ Str	eam 🗆 Dito	ch □ Ca	anal 🗆 Other:	:			
OHWM Width: 4.0 ft.	OHWM Indica (check all that appl)			ie □Shelvin	g	□Wrested vegetation	⊠Sco	ouring □Water staining
Height: 0.5ft. N/A□	vegetatio			debris		☐Abrupt plant community cha		Soil characteristic change
Width of Waterbody - To Bank to Top of Bank:		of Waterbody - ⁻ of Slope:	Toe of Slope	Width of Waterbo Water Edge:	ody - W		Depth of V Approx.)	Vater:
10.0ft.	_	ft.		<u>3</u> N/A□	<u>3.0</u> f		I/A□	<u>0.20</u> _ft.
Sinuosity: (check one) ⊠Straight □Meanderin	(Approx.)	velocity: 1.0f	ps	Bank height Right: Left:	20.0	ft.	Bank slop F	Right:80 degrees Left:
	14/1				4.0	_π.		<u>45</u> degrees
Qualitative Attribut	ies							
Water Appearance: (check one)	No water ⊠C	Clear □Turb	-	een □Sui surface scu		□Algal □ mats	Other:	
Substrate: (check all that apply) % of Substrate:	Bedrock ⊠ Bo		le ⊠ Grave % <u>30</u> %		□ Silt/ c %	clay ⊠ Organic	□ Othe	r: _%
Width of Riparian Zone ft N/A⊠	(check all that		⊠ Trees: 10.0_		☑ Saplir 1.5_	ngs/Shrubs: in.	⊠ He	brbs
Dominant Bank Vegetar Sugar maple, shagb	, ,	veet birch, ye	llow birch,	black locust, c	ucumb	per magnolia,	wood ne	ettle, wood fern, broad
leak wood aster. vio Aquatic Habitats (ex: su	bmerged or emerged		n, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	riffles, deep	pools):
leaf packs, coarse v	•							
Aquatic Organisms Obs Caddisfly, mayfly	served (list):							
T&E Species Observed none	(list):							
Disturbances (ex: livesto	ck access, manure i	n waterbody waste	e discharge nine	es):				
Culvert crossing for				,-				
Tributary is: (check one)		□ Art	ificial, man-m	ade 🗆 Manipi	ulated			
Stream Quality ^a : (check one)	☐ High	⊠ Mc	oderate	□ Low				

Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:

Stream continues out of access road corridor in both directions; passes under existing gravel road via 18" corrugated metal culvert.





Waterbody shia421 facing east upstream



Waterbody shia421 facing west downstream



Waterbody shia421 facing north across

Survey Description	i I				<u> </u>			Te-
Project Name:		Waterbody Nar				/aterbody ID:		Date:
Atlantic Coast Pipeli	ne	UNT to Back	Creek		sl	hia406		4/16/2016
State:	County:	I.	Company:		Crew I	Member Initials:	Photos	
	Highland		NRG - ERI		GB, J		3 pho	tos
Tract Number(s): Nearest				post:		Associated We	` '	
06-001-C011			88.85			whia404; wh	ia405	
Survey Type: (check one)	⊠Centerline	□Re-F	Route	□Access Road		□Other:		
Physical Attributes Stream Classification:	S 🗵							
(check one)	□Ephemera	ıl ⊠Inter	mittent	□Perennial				
Waterbody Type: (check one)	River ⊠ Str	eam 🗆 Dito	:h □ Ca	anal 🗆 Other:				
OHWM Width: 9.0 ft.	OHWM Indicat (check all that apply		⊠ Clear lin	e □Shelvin	g	□Wrested vegetation	⊠Scourir	ng □Water staining
Height: ft. N/A□	□Bent, n vegetatio	natted, or missin n	g □ Wrack li	ine ⊠Litter ar debris	nd	☐ Abrupt plant community cha		characteristic change
Width of Waterbody - T Bank to Top of Bank:		of Waterbody - Tof Slope:	Toe of Slope	Width of Waterbo Water Edge:	ody - W		epth of Wate	er:
15.0ft.	_	5.0 _ft.		<u>-</u> .	4.0 _f		_ /A□	<u>0.30</u> ft.
Sinuosity: (check one) ⊠Straight	Water (Approx.)	/elocity: 1.0f	ps	Bank height Right: 8 Left:	.0 _	_ft.	ank slope Righ Le	60 degrees
□Meanderin	g N/A□				6.0	_ft.		85 degrees
Qualitative Attribut	tes							
Water Appearance: (check one)	No water ⊠C	Clear □Turb		een □Sur surface scu		□Algal □ mats	Other:	
Substrate: (check all that apply) % of Substrate:	Bedrock ⊠ Bo _% _25		le ⊠ Grave % <u>20</u> %		□ Silt/ c	clay □ Organic %	☐ Other:	
Width of Riparian Zone ft N/A⊠	(check all that		⊠ Trees: 10.0	in	☑ Saplir <u>1.0</u>	ngs/Shrubs: in.	⊠ Herbs	
Dominant Bank Vegeta								
Black oak, sugar ma woodland sedge. wo	ood rush, tooth	wort	•	•				
Aquatic Habitats (ex: su Leaf packs, woody of			n, overhanging	banks/roots, leaf pacl	ks, large	submerged wood, r	iffles, deep poo	ols):
Aquatic Organisms Obs	served (list):							
invertebrates	, ,							
T&E Species Observed	(list):							
none								
Disturbances (ex: livesto	ck access, manure in	n waterbody, waste	discharge pipe	es):				
Livestock access								
Tributary is: (check one)		□ Art	ificial, man-m	ade 🗆 Manipu	ulated			
Stream Quality ^a : (check one)	☐ High	⊠ Mc	oderate	☐ Low				

Waterbody ID: shia406

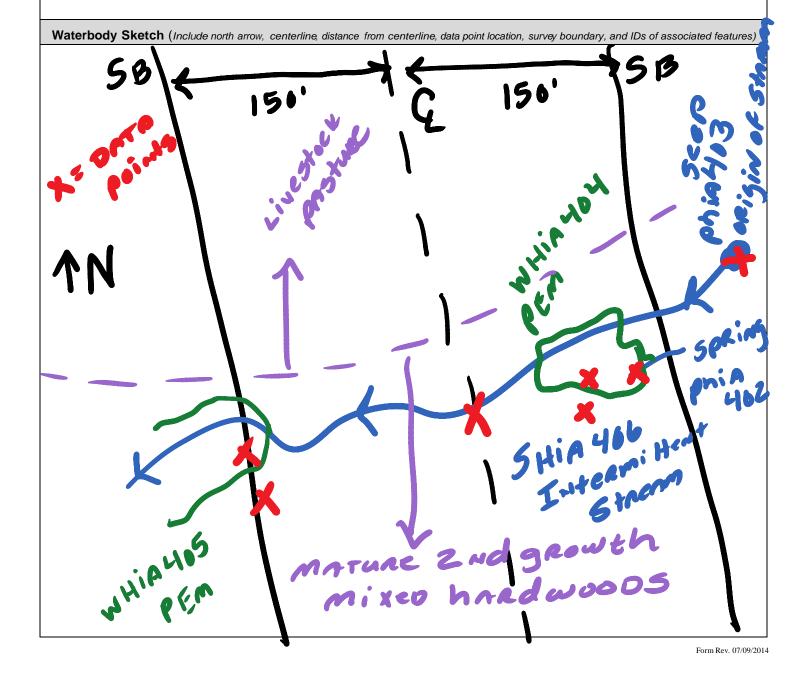
^a High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:

Stream begins at edge of corridor in a rocky draw at seep phia403; downstream continues out of corridor; receives output from spring fed PEM wetland (phia402 & whia404); whia405 is connected to stream at downstream edge of corridor.





Waterbody SHIA406 facing east upstream



Waterbody SHIA406 facing west downstream



Waterbody SHIA406 facing south across

Survey Description	1							
Project Name:	Waterbody Name:			W	/aterbody ID:		Date:	
Atlantic Coast Pipeli	UNT to Back Creek			sl	shia422		9/15/2016	
State:	County:		Company:		Crew I	Member Initials:	: 1	Photos:
	3				GB, A			4 photos
			Nearest Mile	post:		Associated Wo	etland	ID(s):
Access Road 06-00		89.2			none			
Survey Type: (check one)	□Centerline	□Re-F	Route	⊠Access Road		□Other:		
Physical Attributes Stream Classification:	S 🗵							
(check one)	□Ephemera	ıl ⊠Inter	mittent	□Perennial				
Waterbody Type: (check one)	River ⊠ Str	eam 🗆 Dito	ch □ Ca	anal 🗆 Other:	:			
OHWM Width: 3.0 ft.	OHWM Indica (check all that appl)		⊠ Clear lin on bank	e □Shelvin	g	□Wrested vegetation	\boxtimes	Scouring
Height:	vegetatio			debris		☐ Abrupt plant community ch		☐Soil characteristic change
Width of Waterbody - To Bank to Top of Bank:		of Waterbody - ⁻ of Slope:		Width of Waterbo Water Edge:	ody - W		Depth (Approx.)	of Water:
ft.	-	<u>3.0</u> ft.		<u>1</u> N/A□	1.0 _f		N/A□	<u>0.15</u> ft.
(check one) (Approx.) ⊠Straight		velocity:		Bank height Right: 4.0ft. Left:		t.	Bank s	Right:60degrees Left:
	14/12				6.0 _	_ft.		<u>60</u> degrees
Qualitative Attribut	tes							
Water Appearance: (check one) □ No water □ Clear □ Turbid □ Sheen □ Surface □ Algal □ Other: on surface scum mats								
Substrate: (check all that apply) % of Substrate:	Bedrock ⊠ Bo		le ⊠ Grave % <u>35</u> %		□ Silt/ c %	clay ⊠ Organic _10_%	□ C	Other:%
Width of Riparian Zone ft N/A⊠	(check all that		⊠ Trees: 10.0_			ngs/Shrubs: in.	×	Herbs
Dominant Bank Vegeta	tion (list):							
Sugar maple, shagbark hickory, sweet birch, yellow birch, black locust, basswood, cucumber magnolia, wood nettle, wood fern. broad leak wood aster. violet. white snakeroot. iewelweed. colts foot Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools):								
leaf packs, coarse w		aquatic vegetation	n, overnanging i	oanks/roots, lear pac	ks, large	submerged wood,	, rittles, e	deep pools):
Aquatic Organisms Obs	served (list):							
Caddisfly								
T&E Species Observed	(list):							
none								
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes):								
Crosses existing roa	ad, no culvert o	or bridge pres	ent					
Tributary is: (check one)		□ Art	ificial, man-ma	ade 🗆 Manipı	ulated			
Stream Quality ^a : (check one)	☐ High	⊠ Mc	oderate	□ Low				

Waterbody ID: shia422

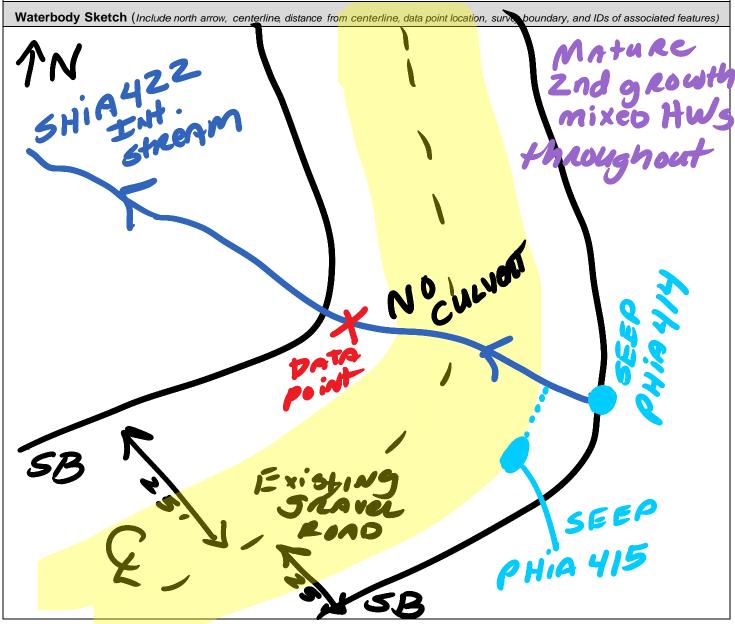
^a High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:

Begins at seep phia414 at edge of access road survey corridor; downstream continues out of corridor; flows across existing road – no culvert present; also receives outflow from ditch seep phia415.





Waterbody shia422 facing southeast upstream



Waterbody shia422 facing northwest downstream



Waterbody shia422 facing northeast across

Survey Description	1							
Project Name:	Waterbody Name:			W	aterbody ID:	Date:		
ACP		UNT to Back	Creek		SI	hif001		5/11/2016
State:	County:		Company:		Crew N	Member Initials:	Photos	
	Highland		NRG		SH, L		S/N/E	
_	riigilialiu				SI I, L			
Tract Number(s):			Nearest Mile	epost:		Associated We	etiand ID(s):	
06-001-C022			89			None		
Survey Type: (check one)	⊠Centerline	Re-F	Route	□Access Road		□Other:		
Physical Attributes Stream Classification:	3							
(check one)	□Ephemera	ıl ⊠Inter	mittent	□Perennial				
Waterbody Type:	River ⊠ Stro	eam □ Ditc	h □ Ca	anal □ Other:				
(Itivei 🖾 Sti	eam 🗆 Dito	🗆 🖰					
OHWM Width: 2ft.	OHWM Indicat (check all that apply		☐ Clear lin	ne □Shelvin	g	□Wrested vegetation	□Scourir	ng □Water staining
Height: 15ft.	⊠Bent, n vegetatio	natted, or missing	g □Wrack lii	ne ⊠Litter ar debris	nd	☐Abrupt plant community cha		characteristic change
N/A□ Width of Waterbody - T	on of Midth o	of Waterbady.	Fac of Class	Width of Waterbo	adv M	lotor Edgo to	Depth of Wate	\p.
Bank to Top of Bank:		of Slope:	roe or Stope	Water Edge:	ouy - vv		Approx.)	:i.
_ <u>3</u> ft.	ft.	1		N/A□	<u>1.5</u> ft.		 N/A□	<u>.05</u> ft.
Sinuosity:		velocity:		Bank height			Bank slope	
(check one) Straight	(Approx.)	•		Right:			Righ	t:
		75	fps		<u>′5</u> ft.		Le	20 degrees
□Meanderin	lg N/A□			Left:				20 degrees
Qualitative Attribut	tes							
Water Appearance:								
(check one)	No water ⊠C	Clear □Turb		een □Sur surface scu		□Algal □ mats	∃Other:	
	Bedrock ☐ Bo	ulder Cobb	le 🛭 Grave	el 🛭 Sand 🖺	⊠ Silt/ c	lay 🗆 Organic	☐ Other:	
(check all that apply) % of Substrate:	%	%	% <u>60</u> %	10%	<u>30</u> %	%	%	
Wildle (Dissels 7-	N		·					
Width of Riparian Zone	: Vegetative (check all that				☑ Saplir	ngs/Shrubs:		
<u>ft</u> .	_	of Dominants:	<u>12</u> in.		_ <u>1</u> in.	· ·		
N/A⊠ Dominant Bank Vegeta	(approx.)							
Sugar maple, black		ustard. Christ	mas fern. o	grass sop. galli	um sp			
Aquatic Habitats (ex: su							riffles does not	No.
None	brierged or emerged	aqualic vegetation	i, overnanging	banks/roots, lear paci	ks, large	submerged wood,	nines, deep poo	ors):
Aquatic Organisms Ob	served (list):							
None								
T&E Species Observed	(list):							
None								
Disturbances (ex: livesto	ck access, manure i	n waterbody, waste	discharge pipe	es):				
Culvert under road								
Tributary is: (check one)	⊠ Natural	□ Art	ificial, man-m	ade □ Manipu	ulated			
Stream Quality ^a : (check one)	☐ High		derate	□ Low				

	Waterbody ID:
	Shif001
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; div	,

disturbance by livestock or man. **Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with

greenish film, moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

_	
	Notes:
	turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.
	channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and
	Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active

Notes: Starts at spring phif001, runs along road before going through 12" metal culvert. Stream ends when flow goes underground on rocky slope. Surface water reappears occasionally in a series of seeps along hillside. Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features)
underground on rocky slope. Surface water reappears occasionally in a series of seeps along hillside.
Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features)



Waterbody SHIF001 facing south upstream



Waterbody SHIF001 facing north downstream



Waterbody SHIF001 facing east across

Survey Description	1							
Project Name:	Waterbody Name:				W	aterbody ID:	Date:	
ACP		UNT to Peak	Run		S	hif003		5/12/2016
State:	County:		Company:		Crew N	Member Initials	Phot	tos:
	_							
	Highland		NRG		SH, L		W/E	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland ID(s	s):
06-001-C028			90			Whif001		
Survey Type: (check one)	⊠Centerline	. □Re-F	Route	□Access Road		□Other:		
,			touto					
Physical Attributes Stream Classification:	5							
(check one)	\Box Ephemera	ıl ⊠Inter	mittent	□Perennial				
Waterbody Type:	River ⊠ Stre	eam 🗆 Dito	h □ Ca	anal □ Other:	-			
,					-			
OHWM Width: 1ft.	OHWM Indicat (check all that apply		☐ Clear lin	ie □Shelvin	g	⊠Wrested vegetation	□Sco	uring □Water staining
Height: 5ft.	⊠Bent, n vegetatio	natted, or missin n	g □Wrack liı	ne □Litter ar debris	nd	☐Abrupt plan		oil characteristic change
N/A□ Width of Waterbody - T	on of Midth o	of Matarbady.	Fac of Clans	Width of Waterbo	odv W	lator Edga to	Depth of W	lotor
Bank to Top of Bank:		of Slope:	roe or Stope	Water Edge:	ouy - vv		(Approx.)	rater.
<u>2</u> ft.		.5			.8 ft.			15 _ ft.
<u></u>	ft.			N/A□	.0 11.		N/A□	
Sinuosity: (check one)	Water v (Approx.)	velocity:		Bank height			Bank slope	9
⊠Straight	(ripprox.)	1.75	fno	Right:	<u>1</u> ft.		Ri	ight: _80 degrees
□ Moondorin		1.75	_fps	Left:				Left:
□Meanderir	lg N/A□				<u>1</u> ft.			<u>80</u> degrees
Qualitative Attribut	tes							
Water Appearance: (check one)	No water ⊠C	Clear □Turb		een □Sui surface sci		□Algal [mats	□Other:	
Substrate:	Bedrock ☐ Bo	ulder □ Cobb	le ⊠ Grave	el 🛛 Sand 🗓	⊠ Silt/ c	elay □ Organic	☐ Other	··
(check all that apply)						, ,		
% of Substrate:	%	% _%	<u> 5</u> %	_20%	<u>75</u> %	%		_%
Width of Riparian Zone				_				
ft.	(check all that	of Dominants:	□ Trees:			ngs/Shrubs:	⊠ Her	rbs
N/A⊠	(approx.)	or Dominanto.	_in.	-	<u>_1</u> in.			
Dominant Bank Vegeta								
Carex sp, black locu	ıst, golden rag	wort, jewel we	eed, rubus	sp				
Aquatic Habitats (ex: su	bmerged or emerged	d aquatic vegetation	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	riffles, deep	pools):
None								
Aquatic Organisms Ob	served (list):							
None								
T&E Species Observed	(list):							
None								
Disturbances (ex: livesto	ck access, manure in	n waterbody, waste	discharge pipe	es):				
Tributary is: (check one)	⊠ Natural	□ Art	ificial, man-m	ade 🗆 Manipi	ulated			
Stream Quality ^a : (check one)	☐ High	⊠ Mc	derate	□ Low				

Waterbody	IC
Shif003	

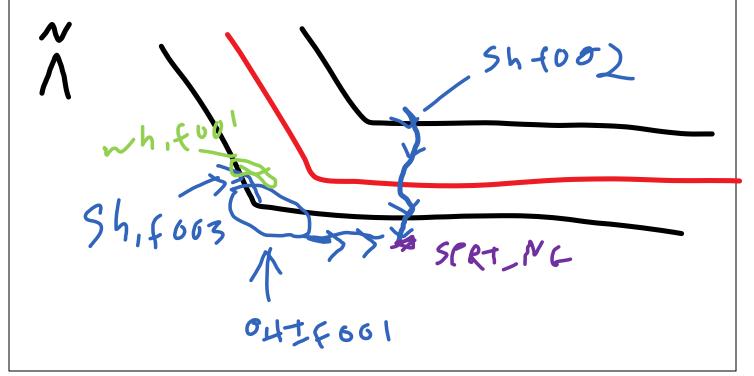
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:

Intermittent, fast flowing, small stream, feeds ohif001. Tributary to Peak Run

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features)





Waterbody SHIF003 facing west upstream



Waterbody SHIF003 facing east downstream



Waterbody SHIF003 facing north across

Open Waterbody Data Sheet

Open material	y Data Chicot									
Survey Descripti	on									
Project Name:		Waterbody Name:				Waterbody ID:		Date:		
ACP		Unnamed	d Pond				Ohif001		5/12/2016	
State:	County:		Company:			Crew	Member Initials:	Photos:		
Virginia	Highland		NRG			SH,	LC	NW/SW	/	
Tract Number(s):	L		Nearest Mi	lepost:			Associated Wetland	ID(s):		
06-001-C028			90				Whif001			
Survey Type: (check one)	⊠Centerlin	e 🗆	Re-Route	□Ad	ccess Roa	ad	□Other:			
Physical Attribut	es									
Waterbody Type: (check one) ☐ Sto	ck Pond Natura	I Pond □ L	_ake □ Rese	ervoir 🗵 Im	poundme	ent 🗆	☐ Oxbow ☐ Other:			
Hydrologic Regime:	□ Permanently	Flooded	☐ Semiperma	anently Floo	oded \Box	Seas	sonally Flooded	Temporari	ly Flooded	
ОНWМ	OHWM Indi			Clear line	□She	lvina	□Wrested	□Sco	uring \Bullet	Vater
Height:	Ì		on b			iving	vegetation		•	ining
2		t, matted, or missing ☐Wrack line		/rack			⊠Abrupt plant community cha		naracteristic cha	ange
Depth of Water:		Bank hei	ight (average):			Bank slope (aver	age):		
N/A□1_	ft.		_	<u>2</u> ft.			_	15	degrees	
Qualitative Attrib	outes									
Water Appearance: (check one)	□No water ⊠	Clear □		□Sheen on surface	□S scu	urface m	e □Algal □0 mats	Other:		
Substrate: (check all that apply)	☐ Bedrock ☐ Be	oulder 🗆	Cobble 🗵 (Gravel	Sand	⊠S	ilt/ clay ☐ Organic	☐ Other:		
% of Substrate:	%	%	<u></u> % <u>4</u>	<u>0</u> %	%	<u>60</u> °	%%		%	
Width of Riparian Zo	ne: Vegetative (check all that	•	□т	rees:		⊠ Sa	plings/Shrubs:	⊠ Her	bs	
it. N/A□	Avg. DBH	of Dominar	nts:	in.		1	in.			
Dominant Bank Vege										
Black birch, willow	v, golden ragwo	rt								
Aquatic Habitats (ex:	submerged or emerged ac	uatic vegetation	n, overhanging ban	ks/roots, leaf pa	icks, large su	bmerge	ed wood, riffles, deep pools, e	tc.):		
Aquatic Organisms C	Observed (list):									
Eastern newts, tac	dpole spp, aqua	tic insects	3							
T&E Species Observe	ed (list):									
Disturbances (ex: live	stock access, manure	in waterbody,	waste discharg	e pipes):						
Spoil pile/berm are	ea appears to h	ave been	manipulate	ed						
Waterbody is: (check one)	☐ Natural	[☐ Artificial, m	an-made	⊠ Mani	ipulate	ed			
Waterbody Quality a : (check one)	: □ High				Low					

Waterbody	ID
Waterbody Ohif001	

^a **High Quality:** Natural, natural bank vegetation around entire waterbody; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

Moderate Quality: Altered by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or bank vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:

Fed by shif003, area appears to have been excavated. Outflow just outside corridor flows into Peak Run, outside corridor. Several species of tadpoles observed along with eastern newts and insects.

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point locations, survey boundary, and IDs of associated features)





Open waterbody OHIF001 facing northwest



Open waterbody OHIF001 facing southwest

Survey Description)								
Project Name:		Waterbody Nar	ne:		W	aterbody ID:			Date:
ACP		Peak Run			SI	hif002			5/12/2016
State:	County:	ı	Company:		Crew N	lember Initials:	: F	Photos:	
Virginia	Highland		NRG		SH, L	С		NE/SV	V/W
Tract Number(s):			Nearest Mile	post:	•	Associated W	etland	ID(s):	
06-001-C028			90			None			
Survey Type: (check one)	⊠Centerline	e □Re-F	Route	□Access Road		□Other:			
Physical Attributes Stream Classification:									
(check one)	⊠Ephemera	al □Inter	mittent	□Perennial					
Waterbody Type: (check one)	River ⊠ Stre	eam 🗆 Dito	h □ Ca	anal 🗆 Other:					
OHWM Width: _2ft.	OHWM Indicat (check all that apply		☐ Clear lin	e □Shelvin	g	□Wrested vegetation		Scourin	g □Water staining
Height: _ <u>.15</u> ft. N/A□	□Bent, n vegetatio	natted, or missin n	g □Wrack lir	ne ⊠Litter ar debris	nd	☐ Abrupt plant community ch		⊠Soil c	haracteristic change
Width of Waterbody - To Bank to Top of Bank:		of Waterbody - 7 of Slope:		Width of Waterbo	ody - W	ater Edge to	Depth ((Approx.)	of Wate	r:
<u>3</u> ft.	1.5	•		N/A⊠	ft.		N/A⊠		ft.
Sinuosity:	Water	velocity:		Bank height			Bank s	lope	
(check one) ☐Straight	(Approx.)			Right:	46			Right	
		fp	OS .	Left:	<u>1</u> ft.			Left	30 degrees
⊠Meanderin	9 N/A⊠				<u>2</u> ft.				40 degrees
Qualitative Attribut	es								
Water Appearance: (check one)	No water □C	Clear □Turb		een □Sur surface scu		□Algal [mats	□Other	:	
Substrate:	Bedrock ☐ Bo	ulder 🗵 Cobb				lay 🗆 Organic	□ C	Other:	
(check all that apply) % of Substrate:	%	<u>20</u> %	<u>60</u> %	<u>10</u> %	<u>10</u> %	%		%	
Width of Riparian Zone	: Vegetative	Layers:							
ft.	_	apply) of Dominants:	⊠ Trees: _ <u>10</u> in.		☑ Saplin <u>_0.5</u> in.	ngs/Shrubs:		Herbs	
N/A⊠ Dominant Bank Vegeta	(approx.)								
Sugar maple, black		ood, witch ha	zel, fern sp	p, grass spp, c	smorh	niza sp,			
Aquatic Habitats (ex: su	bmerged or emerged	d aquatic vegetation	n, overhanging l	banks/roots, leaf pac	ks, large	submerged wood,	, riffles, o	deep pool	s):
None									
Aquatic Organisms Obs	served (list):								
None									
T&E Species Observed	(list):								
None									
Disturbances (ex: livesto	ck access, manure in	n waterbody, waste	discharge pipe	es):					
None									
Tributary is: (check one)	⊠ Natural	□ Art	ificial, man-ma	ade 🗆 Manipı	ulated				
Stream Quality ^a : (check one)	☐ High	⊠ Mo	derate	□ Low					

Waterbody Shif002	ID
Shif002	

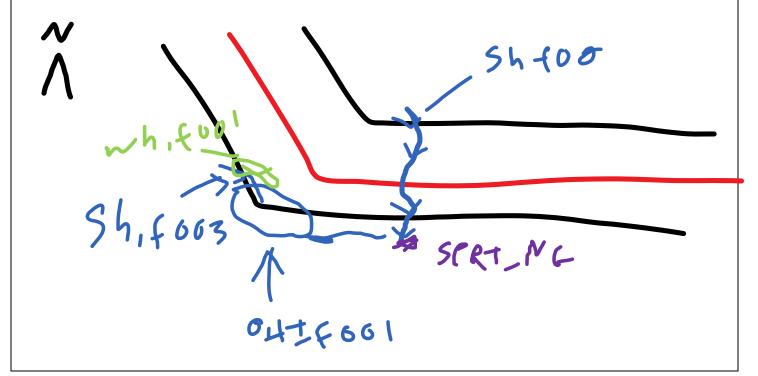
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:

Intermittent NHD line," Peak Run" reach of stream evaluated in corridor is ephemeral. Spring just outside corridor regime change to intermittent. Significant rainfall in past week stream is still dry with lots of leaves in channel.

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features)





Waterbody SHIF002 facing northeast upstream



Waterbody SHIF002 facing southwest downstream



Waterbody SHIF002 facing west across

Survey Description Project Name:	1	Waterbody Nar	mo:		l\A	/aterbody ID:		Date:
	20	_				•		
Atlantic Coast Pipeli	ne	UNT to Peak	Run			hia423		9/22/2016
State:	County:		Company:		Crew I	Member Initials:	Photos:	
Virginia	Highland		NRG - ERI	M	GB, A	AS	5 phot	os
Tract Number(s):			Nearest Mile	epost:	l	Associated Wetl	and ID(s):	
Access road 06-001	-C026.AR1		89.9			none		
Survey Type: (check one)	□Centerline	e □Re-F	Route	⊠Access Road		□Other:		
Physical Attributes Stream Classification:	3 🗵							
(check one)	Ephemera	al ⊠Inter	mittent	□Perennial				
Waterbody Type:	River ⊠ Str	eam □ Dito	:h □ Ca	anal 🗆 Other:	:			
OHWM	OHWM Indica	tor:						
Width:ft.	(check all that apply	<i>(</i>)		ne □Shelvin	g	□Wrested vegetation	⊠Scourin	g □Water staining
Height: 0.50ft. N/A□	□Bent, r vegetatio	natted, or missin n	g □ Wrack I	ine □Litter ar debris	nd	☐Abrupt plant community chan		characteristic change
Width of Waterbody - To			Toe of Slope	Width of Waterbe	ody - W		pth of Wate	r:
Bank to Top of Bank:	to Toe	of Slope:		Water Edge:		(Ap	prox.)	
ft.	_	1.0ft.		 N/A□	1.0 _ f		_ A□	<u>0.20 _</u> ft.
Sinuosity: (check one)	Water (Approx.)	velocity:		Bank height		Ва	nk slope	
⊠Straight	(другох.)	0.25	fna	Right:	7.0 _	ft	Righ	t: 75 degrees
□Ma an daria	_	0.25	fps	Left:			Lef	
☐ Meanderin	9 N/A□				2.5 _	_ft.		80 degrees
Qualitative Attribut	tes							
Water Appearance: (check one) □	No water □0	Clear ⊠Turb	-	een □Sur surface scu		□Algal □C mats	Other:	
Substrate:	Bedrock ☐ Bo	ulder 🗵 Cobb	le ⊠ Grave	el 🛭 Sand 🗵	□ Silt/ c	elay ⊠ Organic	☐ Other:	
(check all that apply)						, ,		
% of Substrate:	%%	60_9	% <u>25</u> %	<u> </u>	%	<u>10</u> %	%	
Width of Riparian Zone								
<u>ft</u> ⋅ N/A⊠	(check all that Avg. DBH (approx.)	of Dominants:	⊠ Trees: 11.0_		☑ Saplir 1.0	ngs/Shrubs: in.	⊠ Herbs	
Dominant Bank Vegetat	,							
Northern red oak, swaster, white snakero	ot		•	•		•	. •	
Aquatic Habitats (ex: sui	bmerged or emerged					submerged wood, rif	fles, deep poo	ls):
Pools, coarse wood	y debris, wrac	k piles, leaf pa	acks, emer	gent vegetation	า			
Aquatic Organisms Obs	served (list):							
caddisfly								
T&E Species Observed	(list):							
none								
Disturbances (ex: livesto	ck access. manure i	n waterbody, waste	e discharge pipe	es):				
Confined to ditch ald		•	•	,				
Tributary is:		□ Art	ificial, man-m	ade ⊠ Manipı	ulated			
Stream Quality ^a : (check one)	☐ High	⊠ Mo	oderate	□ Low				

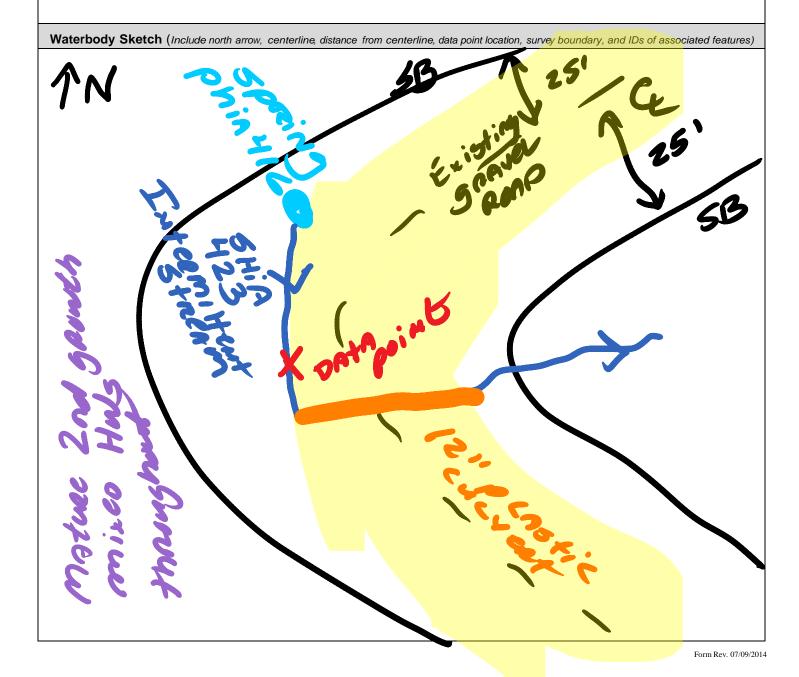
Waterbody shia423	ID
shia423	

Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:

Stream begins at spring phia416 located at base of road cut; confined to ditch along rod for 30 feet then passes under existing gravel road via 12" corrugated plastic culvert.





Waterbody shia423 facing north upstream



Waterbody shia423 facing south downstream



Waterbody shia423 facing west across

Survey Description	1							
Project Name:	Waterbody Name:				aterbody ID:	Date:		
Atlantic Coast Pipeline		UNT to Peal	k Run		sl	hia416		7/21/2016
State:	County:		Company:		Crew I	Member Initials:	Photo	s:
	Highland		NRG/M GB				3 pho	otos
Tract Number(s):			Nearest Mile	post:		Associated We	tland ID(s):	
06-001-C030; unnamed	access road		90.4			none		
Survey Type: (check one)	□Centerline	Re-F	Route	⊠Access Road		□Other:		
Physical Attributes Stream Classification:	3							
(check one)	⊠Ephemera	ıl □Inter	mittent	□Perennial				
Waterbody Type: (check one)	River ⊠ Str	eam 🗆 Dito	ch □ Ca	anal 🗆 Other:	:			
OHWM Width: 2.0_ft.	OHWM Indicat (check all that apply		⊠ Clear lin on bank	e □Shelvin	g	□Wrested vegetation	⊠Scour	ing □Water staining
Height: ft. N/A□	□Bent, n vegetatio	natted, or missin n	g □Wrack lir	ne ⊠Litter ar debris	nd	☐Abrupt plant community cha		I characteristic change
Width of Waterbody - To Bank to Top of Bank:		of Waterbody - ⁻ of Slope:		Width of Waterbo	ody - W		epth of War	ter:
<u>5.0_</u> ft.	_	<u>1.0</u> ft.		 N/A⊠	f	t. N	/A⊠	ft.
Sinuosity: (check one) ⊠Straight	(Арргох.)	velocity: fp	os	Left_	3.0_ft.		ank slope Rig L	
□Meanderin	14/12			<u>3.0_</u> ft.				<u>80</u> degrees
Qualitative Attribut	tes							
Water Appearance: (check one) ⊠	No water □C	Clear □Turb	-	een □Sui surface scu		□Algal □ mats	Other:	
Substrate: (check all that apply) % of Substrate:	Bedrock □ Bo	ulder ⊠ Cobb _% <u>40</u> %		el ⊠ Sand □ % <u>10</u> %	⊠ Silt/ o	clay ⊠ Organic	□ Other: %	
Width of Riparian Zone ft N/A⊠	(check all that		⊠ Trees: _10.0_in		⊠ Saplir _ <u>1.0</u> in	ngs/Shrubs:	⊠ Herbs	
Dominant Bank Vegeta	tion (list):							
Chestnut oak, sugar tonque grass, hav s	<u>centes fern, vic</u>	olet, colts foot	<u>t </u>	<u> </u>				
Aquatic Habitats (ex: su Leaf packs, small w		d aquatic vegetation	n, overhanging l	banks/roots, leaf pac	ks, large	submerged wood, r	iffles, deep po	ools):
Aquatic Organisms Obs	served (list):							
none	(.,							
T&E Species Observed	(list):							
none								
Disturbances (ex: livesto	ck access, manure i	n waterbody, waste	e discharge pipe	es):				
Road crossing for ex	xisting road –	culvert preser	nt but flow f	ollows channe	l acros	ss road – no lo	onger flow	s through culvert
Tributary is: (check one)	Natural	□ Art	ificial, man-ma	ade 🗆 Manipı	ulated			
Stream Quality ^a : (check one)	□ High	⊠ Mo	oderate	□ Low				

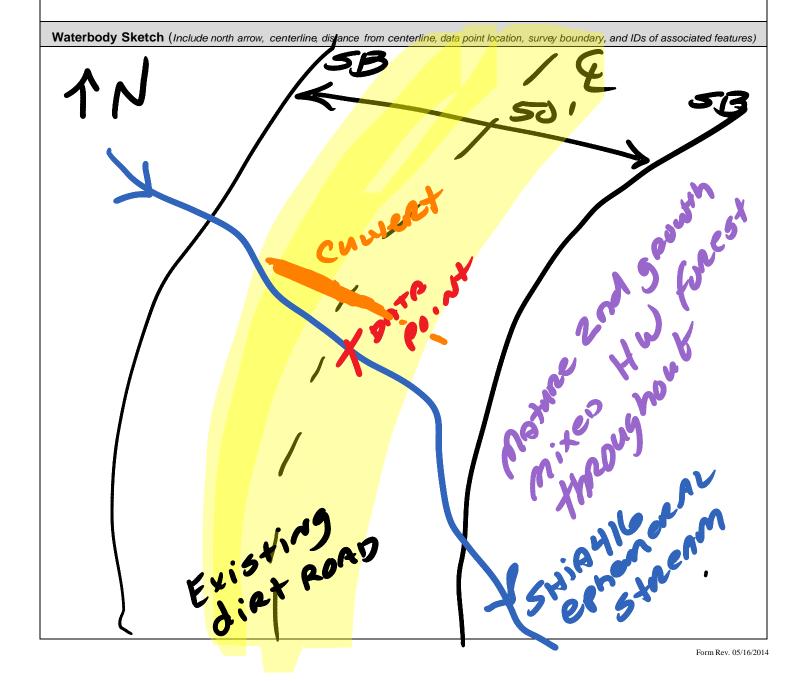
Waterbody shia416	ID
shia416	

Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:

Continues out of access road corridor in both directions; culvert present, but flow no longer goes through culvert; stream has formed new channel across road.





Waterbody SHIA416 facing north upstream



Waterbody SHIA416 facing south downstream



Waterbody SHIA416 facing west across

Survey Description	1							
Project Name:	Waterbody Name:				/aterbody ID:	Date:		
Atlantic Coast Pipeline		UNT to Peal	k Run		sł	hia417		7/21/2016
State:	County:	1	Company:		Crew N	Member Initials:	Pho	otos:
Virginia	Highland		ERM		GB, K	GB, KO 3 photos		
Tract Number(s):			Nearest Mile	post:		Associated We	tland ID((s):
06-001-C030; unnamed	access road		90.4			none		
Survey Type: (check one)	□Centerline	Re-F	Route	⊠Access Road		□Other:		
Physical Attributes Stream Classification:	3							
(check one)	⊠Ephemera	ıl □Inter	mittent	□Perennial				
Waterbody Type: (check one)	River ⊠ Str	eam 🗆 Dito	:h □ Ca	anal 🗆 Other:				
OHWM Width: ft.	OHWM Indicat (check all that apply		⊠ Clear lin on bank	e □Shelvin	g	□Wrested vegetation	⊠Sc	ouring
Height: ft. N/A□	vegetatio			debris		☐Abrupt plant community cha		Soil characteristic change
Width of Waterbody - To Bank to Top of Bank:		of Waterbody - ⁻ of Slope:		Width of Waterbo Water Edge:	ody - W		epth of \ Approx.)	Water:
<u>5.0_</u> ft.	_	<u>1.0</u> ft.		 N/A⊠	f	t.	I/A⊠	ft.
Sinuosity: (check one) ⊠Straight	(Арргох.)	velocity: fp	os	Left_	<u>3.0</u> ft.		ank slop	Right:
□Meanderin	14/12			<u>3.0_</u> ft.				<u>80</u> degrees
Qualitative Attribut Water Appearance:	tes							
(check one)	No water □C	Clear □Turb	-	een □Sui surface scu		□Algal □ mats	Other:	
Substrate: (check all that apply) % of Substrate:	Bedrock Bo	ulder ⊠ Cobb _% <u>40</u> %		el ⊠ Sand □ % <u>10</u> %	⊠ Silt/ c	clay ⊠ Organic	□ Othe	er:
Width of Riparian Zone ft N/A⊠	(check all that		[⊠] Trees: _10.0_in		☑ Saplir <u>1.0</u> in	ngs/Shrubs:	⊠ He	erbs
Dominant Bank Vegeta	tion (list):							
tongue grass, hav se	<u>centes fern, vic</u>	olet, colts foot	<u> </u>	<u> </u>			•	nese stilt grass, deer
Aquatic Habitats (ex: su Leaf packs, small w		d aquatic vegetation	n, overhanging l	banks/roots, leaf pac	ks, large	submerged wood,	riffles, dee	p pools):
Aquatic Organisms Obs	served (list):							
none	(.,							
T&E Species Observed	(list):							
none								
Disturbances (ex: livesto	ck access, manure i	n waterbody, waste	discharge pipe	s):				
Road crossing for ex	xisting road –	culvert preser	nt but flow f	ollows channe	l acros	ss road – no l	onger fl	ows through culvert
Tributary is: (check one)	Natural	□ Art	ificial, man-ma	ade 🗆 Manipı	ulated			
Stream Quality ^a : (check one)	□ High	⊠ Mo	oderate	□ Low				

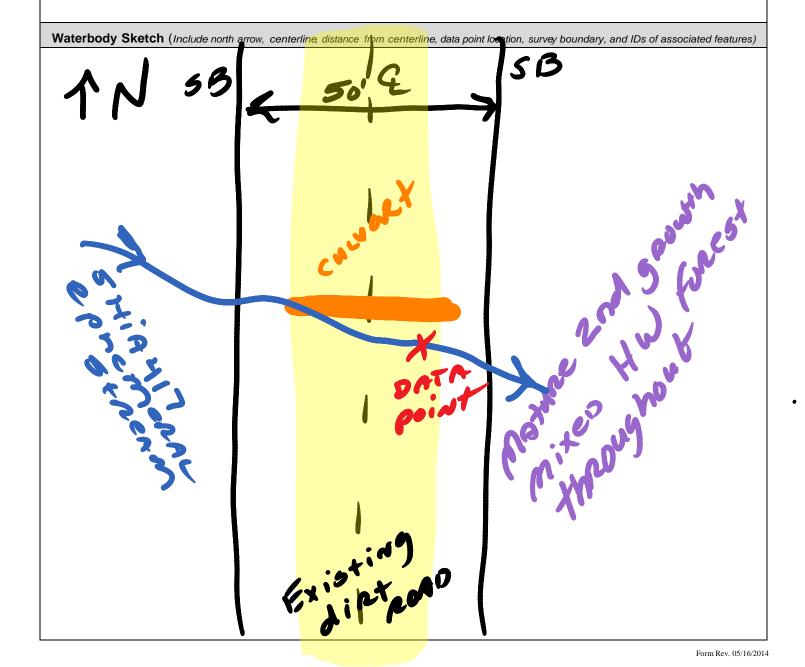
Waterbody	ID
shia417	

Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:

Continues out of access road corridor in both directions; culvert present, but flow no longer goes through culvert; stream has formed new channel across road; culvert inlet is buried..





Waterbody SHIA417 facing west upstream



Waterbody SHIA417 facing east downstream



Waterbody SHIA417 facing south across

Survey Description	1							
Project Name:	Waterbody Name:				/aterbody ID:	Date:		
Atlantic Coast Pipeline	lantic Coast Pipeline UNT to Peak Run				shia419			7/21/2016
State:	County:	1	Company:		Crew N	Member Initials:	Photo	os:
Virginia	Highland		NRG/ERM		GB, K	KO 3 photos		
Tract Number(s):			Nearest Mile	epost:		Associated W	etland ID(s)	:
06-001-C030; unnamed	access road		90.4			none		
Survey Type: (check one)	□Centerline	. □Re-F	Route	⊠Access Road		□Other:		
Physical Attributes								
Stream Classification: (check one)	Ephemera	al ⊠Inter	mittent	□Perennial				
Waterbody Type: (check one)	River ⊠ Str	eam 🗆 Dito	ch □ Ca	anal 🗆 Other:	•			
OHWM Width: 3.0 ft.	OHWM Indica (check all that apply		⊠ Clear lin	ne □Shelvin	g	□Wrested vegetation	⊠Scou	uring □Water staining
Height: 0.50 ft.	□Bent, n vegetatio	natted, or missin n	g □Wrack lin	ne ⊠Litter ar debris	nd	☐ Abrupt plant community ch		oil characteristic change
Width of Waterbody - T Bank to Top of Bank:		of Waterbody - of Slope:	Toe of Slope	Width of Waterbo	ody - W		Depth of Wa	ater:
		ft.			<u>2.0_</u> ft.		N/A□	<u>0.25_</u> ft.
Sinuosity: (check one) ⊠ Straight	(Approx.)	velocity:	s	Bank height Right: Left_	<u>2.0</u> ft.			ght:90_ degrees Left:
□Meanderin	14/12			<u>7.0_</u> ft.				_70_ degrees
Qualitative Attribu	tes							
Water Appearance: (check one)	No water ⊠0	Clear □Turb	-	een □Sur surface scu		□Algal [mats	□Other:	
Substrate: (check all that apply) % of Substrate:	Bedrock □ Bo	ulder ⊠ Cobb _% <u>35</u> %	ole ⊠ Grave		⊠ Silt/ c	, ,	☐ Other: %	
Width of Riparian Zone ft N/A⊠	(check all that		⊠ Trees: _13.0_ir		⊠ Saplir _1.5_in	ngs/Shrubs:	⊠ Herb	s
Dominant Bank Vegeta Chestnut oak, sugai	r maple, yellow	poplar, swee	et birch, hic	kory, striped m	naple,	violet, Japan	ese stilt g	rass, white
snakeroot, lady fern Aquatic Habitats (ex: su Leaf packs, coarse	bmerged or emerged	II d aquatic vegetatio	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	riffles, deep p	pools):
•								
Aquatic Organisms Ob Caddisfly	servea (IIST):							
T&E Species Observed	(list)-							
none	(mot):							
Disturbances (ex: livesto	ock access, manure i	n waterbody, waste	e discharge pipe	es):				
Channel is within ex		•	•	,	ılvert p	oresent		
Tributary is: (check one)	[⊠] Natural	□ Art	tificial, man-m	ade 🗆 Manipu	ulated			
Stream Quality ^a : (check one)	□ High	⊠ Mo	oderate	☐ Low				

Waterbody ID: shia419

^a High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:

Begins on existing road bed at head cut – spring phia411; continues in existing road bed for a distance before crossing road bed and flowing into shia418; there is no culvert present.

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features) 5HiA418 INT. STREAM X : data point Form Rev. 05/16/2014



Waterbody SHIA419 facing west upstream



Waterbody SHIA419 facing east downstream



Waterbody SHIA419 facing north across

Survey Description	1							
Project Name:	Waterbody Name:			W	laterbody ID:	Date:		
Atlantic Coast Pipeli	ne	UNT to Jackson River			sl	hia420		9/14/2016
State:	County:		Company:		Crew I	Member Initials:	Photos:	
	Highland		NRG - ERI		GB, A		4 phot	tos
Tract Number(s):			Nearest Mile	post:		Associated Wetla	and ID(s):	
Access Road 06-00	1-C026.AR1		90.0			none		
Survey Type: (check one)	□Centerline	□Re-F	Route	⊠Access Road		□Other:		
Physical Attributes Stream Classification:	3 🗵							
(check one)	⊠Ephemera	ıl □Inter	mittent	□Perennial				
Waterbody Type: (check one)	River ⊠ Str	eam 🗆 Dito	:h □ Ca	anal 🗆 Other:	:			
OHWM Width: 3.0 ft.	OHWM Indicat (check all that apply			e □Shelvin	g	□Wrested vegetation	⊠Scourin	g □Water staining
Height: 0 5ft.	vegetatio			debris		☐Abrupt plant community chan		characteristic change
Width of Waterbody - To Bank to Top of Bank:		of Waterbody - ⁻ of Slope:	Toe of Slope	Width of Waterbo Water Edge:	ody - W		pth of Wate	r:
ft.	_	<u>1.5</u> ft.		 N/A⊠	ft.	N/A	λ ⊠	ft.
Sinuosity: (check one) ⊠ Straight □ Meanderin	(Арргох.)	/elocity: fp:	S	Bank height Right: Left:	4.0	_ft.	nk slope Righ Lef	60 degrees
	14/7(2				3.0 _	_ft.		45 degrees
Qualitative Attribut Water Appearance:	ies							
(check one)	No water □C	Clear □Turb		een □Sur surface scu		□Algal □C mats	Other:	
Substrate: (check all that apply) % of Substrate:	Bedrock DBo		le ⊠ Grave % <u>50</u> %		□ Silt/ c %	clay ⊠ Organic _5_%	☐ Other:	
Width of Riparian Zone ft N/A⊠	(check all that		⊠ Trees: 8.0_		⊠ Saplir 2.0	ngs/Shrubs: in.	⊠ Herbs	
Dominant Bank Vegeta	tion (list):							
White oak, black loc goldenrod, white sna	akeroot		•			,		
Aquatic Habitats (ex: su leaf packs	bmerged or emerged	I aquatic vegetation	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood, riff	fles, deep poo	ls):
Aquatic Organisms Obs	served (list):							
none								
T&E Species Observed	(list):							
none								
Disturbances (ex: livesto	ck access, manure i	n waterbody, waste	e discharge pipe	es):				
Culvert crossing for	existing grave	l road						
Tributary is: (check one)	⊠ Natural	□ Art	ificial, man-m	ade 🗆 Manipı	ulated			
Stream Quality ^a : (check one)	☐ High	⊠ Mc	oderate	□ Low				

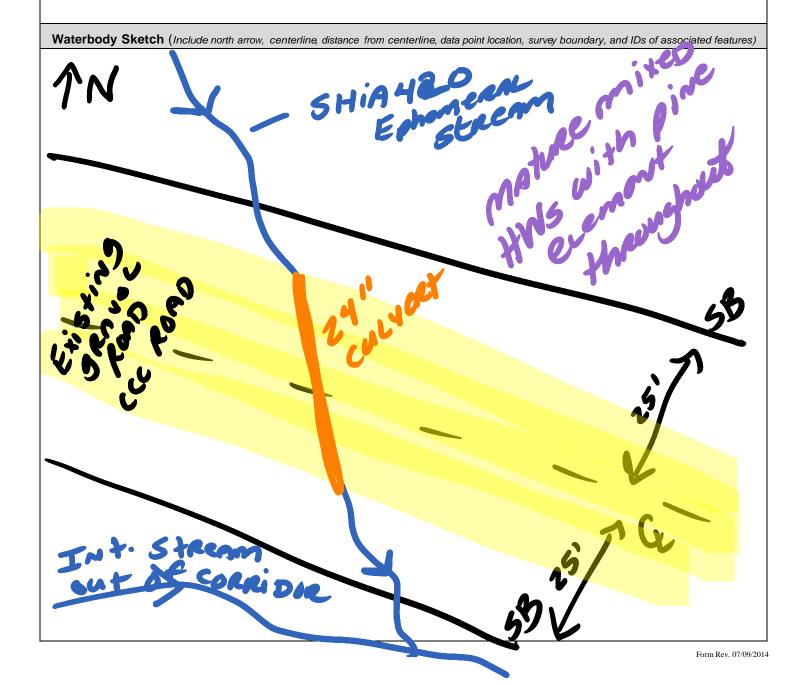
Waterbody shia420	ID:
shia420	

Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:

Stream continues out of access road corridor in both directions; passes under existing gravel road via 24" corrugated metal culvert.





Waterbody shia420 facing north upstream



Waterbody shia420 facing south downstream



Waterbody shia420 facing west across

Survey Description	1							
Project Name:	Waterbody Name:				/aterbody ID:	Date:		
Atlantic Coast Pipeli	ne	Peak Run			sl	hia400		4/12/2016
State:	County:		Company:		Crew I	Member Initials:	Photos:	
•	Highland		NRG - ERI		GB, JS 3 photos			os
Tract Number(s):	_		Nearest Mile	post:		Associated Wetla	and ID(s):	
06-001-C030; 06-00)1-C032		90.4			none		
Survey Type: (check one)	⊠Centerline	□Re-F	Route	□ Access Road		□Other:		
Physical Attributes Stream Classification:	S 🗵							
(check one)	□Ephemera	ıl □Inter	mittent	⊠Perennial				
Waterbody Type: (check one)	River ⊠ Str	eam 🗆 Dito	ch 🗆 Ca	anal 🗆 Other:	:			
OHWM Width: ft.	OHWM Indicat (check all that apply		□ Clear ling on bank	e □Shelvin	g	□Wrested vegetation	⊠Scourin	g □Water staining
Height: ft.	□Bent, n vegetatio	natted, or missin n	g ⊠ Wrack li	ine □Litter ar debris	nd	☐ Abrupt plant community chang		characteristic change
Width of Waterbody - To Bank to Top of Bank:		of Waterbody - of Slope:	Toe of Slope	Width of Waterbo Water Edge:	ody - W		pth of Wate	r:
<u>15.0</u> _ft.	_	_ <u>5.0_</u> ft.		 N/A□	6.0 _ f	t.		<u>0.50</u> ft.
Sinuosity: (check one) ☐Straight	(Арргох.)	/elocity: 1.0f	ps	Left:		_ft.	nk slope Righ Lef	60 degrees
	14//.				6.0 _	_ft.		<u>55</u> degrees
Qualitative Attribut Water Appearance:	ies							
(check one)	No water ⊠C	Clear □Turb	-	een □Sur surface scu		□Algal □O mats	ther:	
Substrate: (check all that apply) % of Substrate:	Bedrock ⊠ Bo		ole ⊠ Grave % <u>30</u> %		□ Silt/ c %	clay ⊠ Organic _10_%	□ Other: %	
Width of Riparian Zone ft N/A⊠	(check all that		⊠ Trees: 11.0_		☑ Saplir <u>1.0</u>	ngs/Shrubs: in.	⊠ Herbs	
Dominant Bank Vegeta	tion (list):							
Northern red oak, s garlic mustard, wood	dland sedge. C	Christmas ferr	າ				•	
Aquatic Habitats (ex: su Small step pools, lea	_	_	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood, riff	les, deep poo	Is):
Aquatic Organisms Obs	served (list):							
Invertebrates, salam								
T&E Species Observed	(list):							
none								
Disturbances (ex: livesto	ck access, manure i	n waterbody, waste	e discharge pipe	es):				
ATV crossing near o	centerline							
Tributary is: (check one)	⊠ Natural	□ Art	tificial, man-m	ade 🗆 Manipu	ulated			
Stream Quality ^a : (check one)	⊠ High	□ Мо	oderate	☐ Low				

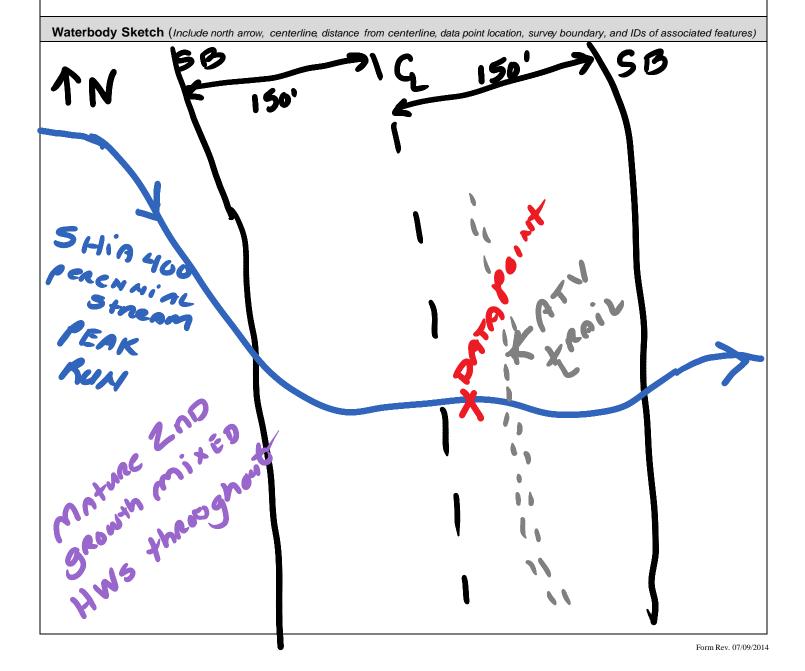
Waterbody	ID
shia400	

Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:

Stream continues out of corridor in both directions; ATV crossing near centerline – no culvert or bridge in place; old bridge crossing downstream outside of corridor.





Waterbody SHIA400 facing northwest upstream



Waterbody SHIA400 facing southeast downstream



Waterbody SHIA400 facing northeast across

Survey Description)							
Project Name: Waterbody			ly Name: Wa			aterbody ID:	Date:	
Atlantic Coast Pipeli	ne	UNT to Stony	y Run		sh	nia401		4/12/2016
State:	County:		Company:		Crew N	lember Initials:	Photos	:
· ·	Highland		NRG - ERM		GB, J		3 pho	tos
Tract Number(s):			Nearest Milep	ost:		Associated We	tland ID(s):	
06-001-C032; 06-00	11-C033		90.75			none		
Survey Type: (check one)	⊠Centerline	□Re-R	Route	□ Access Road		□Other:		
Physical Attributes Stream Classification:	S 🗵							
(check one)	⊠Ephemera	ıl □Inter	mittent	□Perennial				
Waterbody Type: (check one)	River ⊠ Str	eam 🗆 Ditc	h □ Can	al 🗆 Other:				
OHWM Width: 4.0 ft.	OHWM Indicat (check all that apply		☐ Clear line on bank	□Shelvin	g	□Wrested vegetation	⊠Scouri	ng □Water staining
Height: 1.0ft. N/A□	vegetatio			debris		□ Abrupt plant community cha		characteristic change
Width of Waterbody - To Bank to Top of Bank: 10.0ft.		of Waterbody - 7 of Slope: 3.0ft.	v	Vidth of Waterbe Vater Edge: — ∥/A⊠	ody - W	(4	epth of Wate Approx.) I/A⊠	er: ft.
Sinuosity: (check one) ⊠Straight	(Approx.)	velocity: fps	В	Bank height Right:	3.51 3.5	ft.	ank slope Righ	70 degrees
Qualitative Attribut	14//(2				0.0	11.		ucgrees
Water Appearance:	.63							
(check one)	No water □C	Clear □Turb		en □Sur urface scu		□Algal □ mats	Other:	
Substrate: (check all that apply) % of Substrate:	Bedrock DBo		le ⊠ Gravel15%		⊠ Silt/ cl	lay ⊠ Organic _35_%	☐ Other:%	
Width of Riparian Zone	(check all that Avg. DBH		[⊠] Trees: 12.0		☑ Saplin <u>0.75</u>	ngs/Shrubs: in.	⊠ Herbs	
N/A⊠ Dominant Bank Vegetat	(approx.)							
Yellow poplar, white plantain, woodland s	e pine, shagba sedae. Christm	<u>as fern. golde</u>	en ragwort.					
Aquatic Habitats (ex: sul Leaf packs	bmerged or emerged	d aquatic vegetation	n, overhanging ba	inks/roots, leaf pac	ks, large	submerged wood,	riffles, deep po	ols):
Aquatic Organisms Obs	served (list)							
none	().							
T&E Species Observed	(list):							
none								
Disturbances (ex: livesto	ck access, manure i	n waterbody, waste	discharge pipes)	:				
None apparent								
Tributary is:		□ Art	ificial, man-mad	de 🗆 Manipu	ulated			
Stream Quality ^a : (check one)	☐ High	⊠ Mo	derate	□ Low				

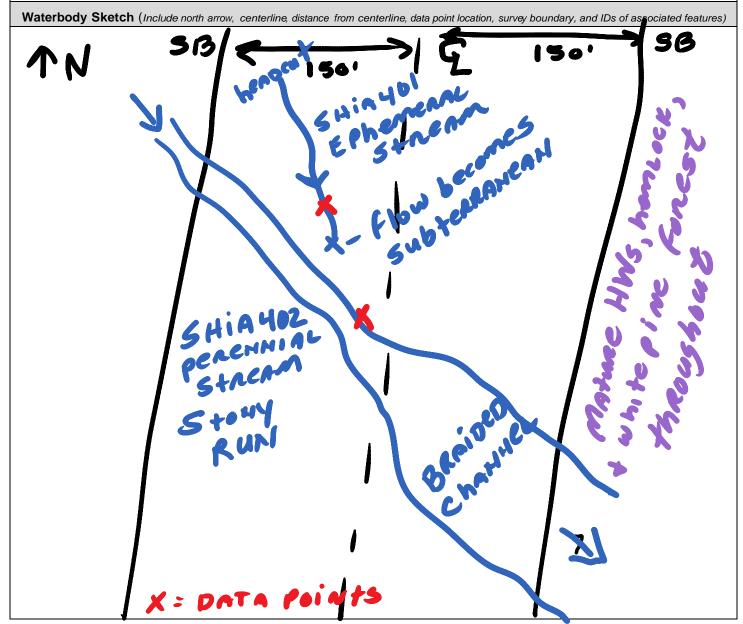
Waterbody	ID
shia401	

Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:

Begins at headcount; all flow becomes subterranean and channel ends before reaching shia402, mapping was stopped at this point





Waterbody SHIA401 facing northeast upstream



Waterbody SHIA401 facing west downstream



Waterbody SHIA401 facing northwest across

Survey Description)							
Project Name:		Waterbody Nai	ne:		W	aterbody ID:		Date:
Atlantic Coast Pipeli	ne	Stony Run			sł	hia402		4/12/2016
State:	County:	1	Company:		Crew N	Member Initials:	Photos:	
_	Highland		NRG - ERI		GB, J		3 phot	os
Tract Number(s):			Nearest Mile	post:		Associated Wetl	and ID(s):	
06-001-C033			90.8			none		
Survey Type: (check one)	⊠Centerline	e □Re-F	Route	□ Access Road		□Other:		
Physical Attributes Stream Classification:	3 🗵							
(check one)	Ephemera	al □Inter	mittent	⊠Perennial				
Waterbody Type: (check one)	River 🗵 Str	eam 🗆 Dito	ch □ Ca	anal 🗆 Other:	:			
OHWM Width:	OHWM Indica (check all that apply		⊠ Clear lin	e □Shelvin	g	□Wrested vegetation	⊠Scourin	g □Water staining
Height: 2.0 ft.	□Bent, r vegetatio	matted, or missin	g ⊠ Wrack li	ine □Litter ar debris	nd	☐ Abrupt plant community chan		haracteristic change
Width of Waterbody - To			Toe of Slope	Width of Waterbo	ody - W		epth of Water	r:
Bank to Top of Bank:25.0ft.	to Toe	of Slope: 10.0ft.		Water Edge: N/A□	9.0 _f	t.	prox.) A□	<u>0.75</u> ft.
Sinuosity: (check one) □Straight ⊠Meanderin	(Approx.)		fps	Bank height Right: Left:	6.0 _	_ft.	ink slope Right Left	85 degrees
	11//12				4.5 _	_11.		60_ degrees
Qualitative Attribut Water Appearance:	les							
	No water ⊠0	Clear □Turb	-	een □Sur surface scu		□Algal □C mats	Other:	
Substrate: (check all that apply) % of Substrate:		oulder ⊠ Cobb _% <u>45</u> %	le ⊠ Grave % <u>30</u> %		⊠ Silt/ c %	clay ⊠ Organic 5_%	☐ Other: %	
Width of Riparian Zone <u>175</u> ft⋅ N/A□	(check all that Avg. DBH (approx.)		⊠ Trees: 12.0_	in		ngs/Shrubs: in.	⊠ Herbs	
Yellow poplar, white plantain, woodland s	e pine, shaqba	irk hickory, he	emlock, nor en ragwort.	thern red oak,	sweet	birch, black ch	nerry, black	gum, rattlesnake
Aquatic Habitats (ex: sul Leaf packs, woody (bmerged or emerge	d aquatic vegetatio	n, overhanging	•	ks, large	submerged wood, rif	fles, deep pool	s):
Aquatic Organisms Obs	served (list):							
Minnows, crayfish, i	nvertebrates							
T&E Species Observed	(list):							
none								
Disturbances (ex: livesto	ck access, manure i	n waterbody, waste	e discharge pipe	es):				
None apparent								
Tributary is: (check one)		Art	ificial, man-m	ade 🗆 Manipı	ulated			
Stream Quality ^a : (check one)	⊠ High		oderate	□ Low				

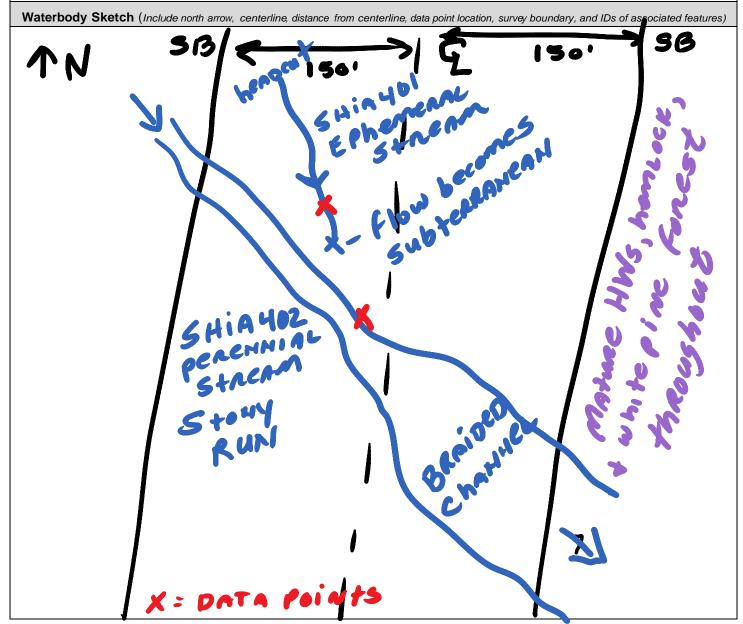
Waterbody	ID
shia402	

Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:

Stream continues out of corridor in both directions; becomes a braided channel near centerline and remains braided in downstream reach at corridor exit. Shia401 begins at headcount; all flow becomes subterranean and channel ends before reaching shia402, mapping was stopped at this point.





Waterbody SHIA402 facing north upstream



Waterbody SHIA402 facing southeast downstream



Waterbody SHIA402 facing southwest across

Survey Description	1							
Project Name:	•	Waterbody Nai	ne:		W	aterbody ID:		Date:
Atlantic Coast Pipeli	ne	Morris Run			SI	HIC117		4/5/2016
State:	County:		Company:		Crew N	Member Initials:	Photos:	<u> </u>
Virginia	Highland		NRG		CR, A	NS .	3	
Tract Number(s):			Nearest Mile	post:	ı	Associated We	tland ID(s):	
06-001-C035; 06-00)1-C033					None		
Survey Type: (check one)	□Centerline	≅ ⊠Re-F	Route	□Access Road		□Other:		
Physical Attributes Stream Classification:	5							
(check one)	Ephemera	ıl □Inter	mittent	⊠Perennial				
Waterbody Type: (check one)	River ⊠ Str	eam 🗆 Dito	h □ Ca	nal 🗆 Other:				
OHWM Width:	OHWM Indica (check all that apply		⊠ Clear lin	e □Shelvin	g	□Wrested vegetation	□Scourin	g □Water staining
Height: _1_ft. N/A□	⊠Bent, n vegetatio	natted, or missin n	g ⊠Wrack lir	ne ⊠Litter ar debris	nd	☐ Abrupt plant community cha		characteristic change
Width of Waterbody - T Bank to Top of Bank:				Width of Waterbo	ody - W		epth of Wate	r:
		of Slope:		Water Edge: _ N/A□	<u>8</u> _ft.		I/A□	ft.
Sinuosity: (check one) ☐Straight	Water (Approx.)	velocity:		Bank height Right: Left:	_4_ft.	В	ank slope Righ Lef	40 degrees
⊠Meanderin	g N/A□				<u>2</u> ft.			40 degrees
Qualitative Attribut	tes							
Water Appearance: (check one)	No water ⊠0	Clear □Turb		een □Sur surface scu		□Algal □ mats	Other:	
Substrate: (check all that apply) % of Substrate:	Bedrock	ulder ⊠ Cobb _% <u>20</u> %	le ⊠ Grave	el ⊠ Sand □ _50_% _	□ Silt/ c _%	lay □ Organic%	□ Other:	
Width of Riparian Zone 20 ft N/A□	(check all that		⊠ Trees: _ <u>12</u> _in.		☑ Saplin <u>_2</u> _in.	ngs/Shrubs:	⊠ Herbs	
Dominant Bank Vegeta								
Red oak, white oak,		nristmas fern,	multifloral	rose				
Aquatic Habitats (ex: su Leaf packs, rock pile		d aquatic vegetation	n, overhanging I	oanks/roots, leaf pac	ks, large	submerged wood, I	riffles, deep poo	ls):
Aquatic Organisms Obs	served (list):							
None								
T&E Species Observed None	(list):							
	ak aaaaaa manura i	a waterbady, west	diacharga nina	0).				
None (ex: livesto	on access, manufe I	i waterbouy, waste	asonarye pipe	o ₎ .				
Tributary is: (check one)		□ Art	ificial, man-ma	ade 🗆 Manipu	ulated			
Stream Quality ^a : (check one)	☐ High	⊠ Mc	derate	□ Low				

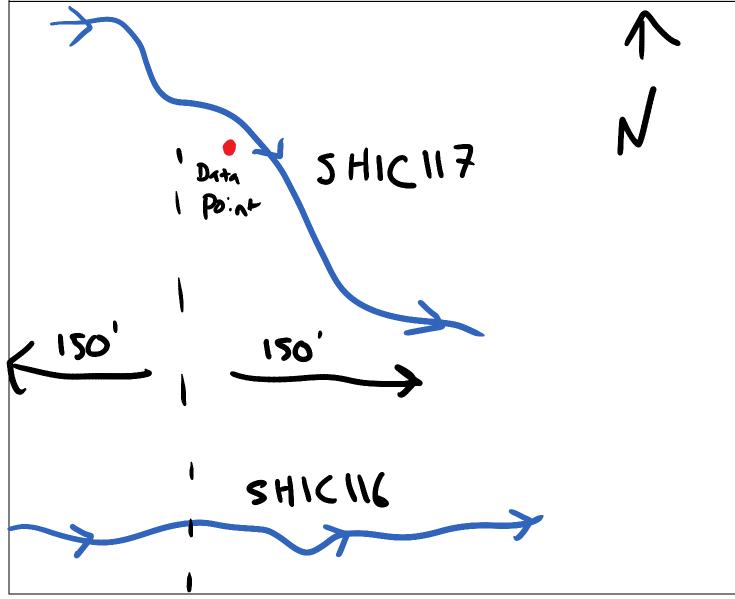
Waterbody Shic117	ID
Shic117	

Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features)





Waterbody SHIC117 facing northwest upstream



Waterbody SHIC117 facing southeast downstream



Waterbody SHIC117 facing northeast across

Survey Description	<u> </u>							
Project Name:	-	Waterbody Nar	ne:		W	/aterbody ID:		Date:
Atlantic Coast Pipeli	ne	UNT to Morri	is Run		sł	hia403		4/12/2016
State:	County:	•	Company:		Crew N	Member Initials:	Photo	os:
_	Highland		NRG - ERI		GB, J			notos
Tract Number(s):			Nearest Mile	epost:		Associated We	tland ID(s)	:
06-001-C033 Survey Type:			91.1			none		
(check one)	⊠Centerline	Re-F	Route	☐Access Road		☐Other:		
Physical Attributes Stream Classification:	S 🗵							
(check one)	□Ephemera	ıl ⊠Inter	mittent	□Perennial				
Waterbody Type: (check one)	River ⊠ Str	eam 🗆 Dito	ch 🗆 Ca	anal 🗆 Other:	•			
OHWM Width:	OHWM Indication (check all that apply		⊠ Clear lin on bank	e □Shelvin	g	□Wrested vegetation	□Scou	ıring □Water staining
Height: 0.50ft. N/A□	□Bent, n vegetatio	natted, or missin n	g ⊠ Wrack l	ine ⊠Litter ar debris	nd	□Abrupt plant community cha		il characteristic change
Width of Waterbody - To Bank to Top of Bank:		of Waterbody - of Slope:	Toe of Slope	Width of Waterbo	ody - W		epth of Wa	ater:
ft.	-	_4.5ft.			<u>4.0 _</u> f	t.	/A 🗆	<u>0.25</u> _ft.
Sinuosity: (check one) ☐Straight	(Approx.)	velocity: 0.50	fps	Bank height Right: Left:	7.0	_ft.	·	ght:60 degrees _eft:
	14712			_	4.5 _	π.		85_ degrees
Qualitative Attribut Water Appearance:	es							
(check one)	No water ⊠C	Clear □Turb	-	een □Sui surface scu		□Algal □ mats	Other:	
Substrate: (check all that apply) % of Substrate:	Bedrock DBo				⊠ Silt/ c _ <u>15_</u> %	clay ⊠ Organic _10_%	□ Other:	%
Width of Riparian Zone <u>ft</u> . N/A⊠	(check all that Avg. DBH (approx.)		⊠ Trees: 11.0_		☑ Saplir 1.0	ngs/Shrubs: in.	⊠ Herb	OS
Yellow poplar, white plantain, woodland s	e pine, shagba				sweet	birch, black c	herry, bla	ack gum, rattlesnake
Aquatic Habitats (ex: sul Leaf packs, woody (bmerged or emerged	d aquatic vegetation	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood, r	iffles, deep p	pools):
Aquatic Organisms Obs	served (list):							
invertebrates								
T&E Species Observed	(list):							
none								
Disturbances (ex: livesto	ck access, manure i	n waterbody, waste	e discharge pipe	es):				
None apparent								
Tributary is:		□ Art	ificial, man-m	ade 🗆 Manipı	ulated			
Stream Quality ^a : (check one)	☐ High	⊠ Mc	oderate	□ Low				

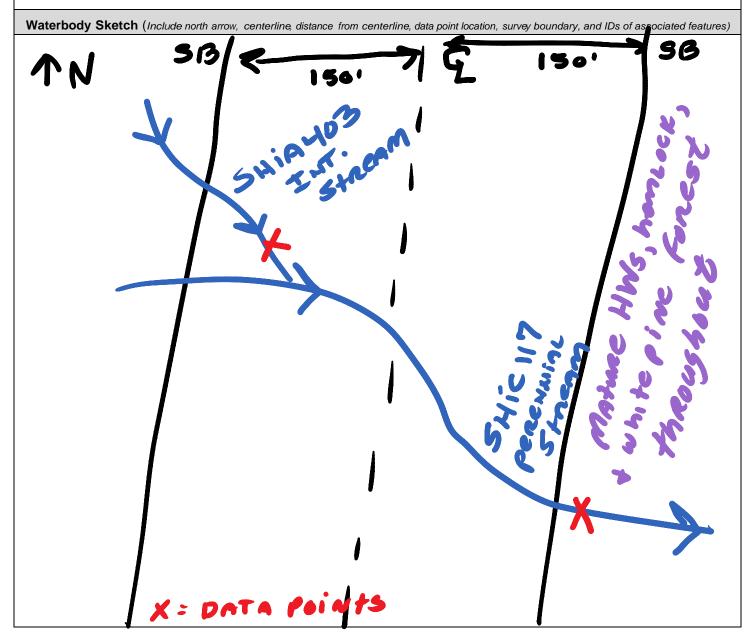
Waterbody shia403	ID
shia403	

Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:

Upstream continues out of corridor; downstream flows into shic117 within the corridor.





Waterbody SHIA403 facing north upstream



Waterbody SHIA403 facing southwest downstream



Waterbody SHIA403 facing northwest across

Survey Description	1							
Project Name:	•	Waterbody Nar	ne:		W	aterbody ID:		Date:
Atlantic Coast Pipeli	ne	UNT to Morri	is Run		S	HIC116		4/5/2016
State:	County:	•	Company:		Crew N	Member Initials:	Ph	otos:
_	Highland		NRG		CR, A		3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland ID	(s):
06-001-C036			91.2			None		
Survey Type: (check one)	□Centerline	e ⊠Re-F	Route	□Access Road		□Other:		
Physical Attributes Stream Classification:	.							
(check one)	Ephemera	al ⊠Inter	mittent	□Perennial				
Waterbody Type: (check one)	River 🗵 Str	ream Dito	:h □ Ca	anal 🗆 Other:				
OHWM Width:	OHWM Indica (check all that apply		⊠ Clear lin	ne □Shelving	g	□Wrested vegetation	□So	couring
Height: ft. N/A□	□Bent, r vegetatio	matted, or missin on	g □Wrack lii	ne ⊠Litter ar debris	nd	☐ Abrupt plant community ch		Soil characteristic change
Width of Waterbody - To Bank to Top of Bank:		of Waterbody - of Slope:	Toe of Slope	Width of Waterbo	ody - W		Depth of	Water:
<u>6</u> ft.		_1_ft.			<u>3</u> _ft.		N/A□	<u>0.2_</u> ft.
Sinuosity: (check one) □Straight ⊠Meanderin	(Approx.)	velocity:		Left:	2_ft.		Bank slo	Right:
	1 17.12				<u>2</u> ft.			<u>40</u> degrees
Qualitative Attribut Water Appearance:	es							
(check one)	No water ⊠0	Clear □Turb	-	een □Sur surface scu		□Algal [mats	☐Other:	
Substrate: (check all that apply) % of Substrate:	Bedrock	oulder □ Cobb %			⊠ Silt/ c 20_%	elay □ Organic %	□ Oth	ner: %
Width of Riparian Zone 20 ft N/A□	(check all that		[⊠] Trees: _ <u>12</u> _in.		☑ Saplir _2_in.	ngs/Shrubs:	⊠ H	lerbs
Dominant Bank Vegetat	tion (list):							
Red oak, white oak,	white pine, Ch	nristmas fern,	multifloral	rose				
Aquatic Habitats (ex: sul Leaf packs	bmerged or emerged	d aquatic vegetation	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	riffles, dee	ep pools):
Aquatic Organisms Obs	served (list):							
None	. ,							
T&E Species Observed	(list):							
None								
Disturbances (ex: livesto	ck access, manure i	n waterbody, waste	discharge pipe	es):				
None								
Tributary is: (check one)	Natural	□ Art	ificial, man-m	ade 🗆 Manipu	ulated			
Stream Quality ^a : (check one)	☐ High	⊠ Mo	oderate	□ Low				

Waterbody ID: Shic116

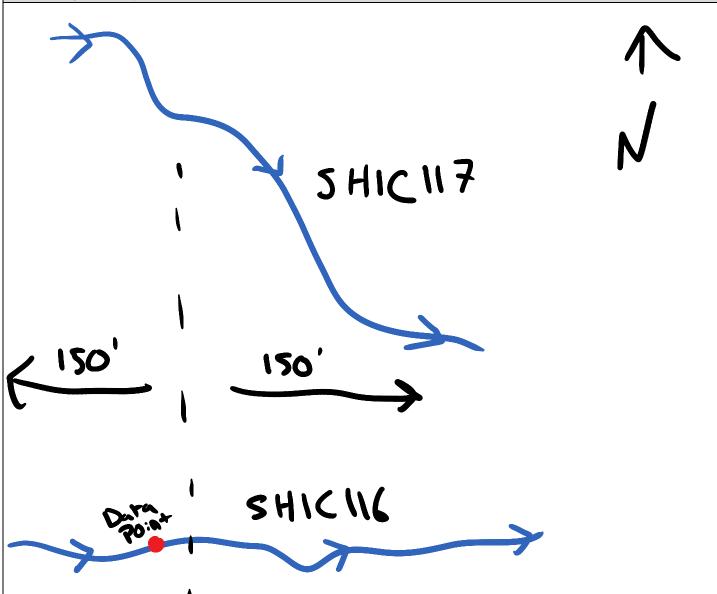
^a High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features)





Waterbody SHIC116 facing west upstream



Waterbody SHIC116 facing east downstream



Waterbody SHIC116 facing north across

Open Waterbody Data Sheet

Open waterbou	y Data Silee	•								
Survey Description	on									
Project Name: Waterbody Name: V					Waterbody ID:	Date:				
Atlantic Coast Pipe	eline	d Pond		(OHIC102		4/5/2016			
State:	County:		Company:		IC	Crew	Member Initials:	Photos:		
Virginia	Highland		NRG		A	4S, (CR	3		
Tract Number(s):	9		Nearest Mile	epost:		/	Associated Wetland	I ID(s):		
06-001-C036			91.2				None			
Survey Type:										
(check one)	□Centerlir	ne 🗵	Re-Route	□Aco	cess Road	d	□Other:			
Physical Attribute	es									
Waterbody Type:	ck Pond □ Natura	al Pond □ L	_ake □ Reser	voir 🗆 Imr	ooundmer	nt 🗆	Oxbow Other:			
Hydrologic Regime:										
nydrologic Regime.	□ Permanently	Flooded	□ Semiperma	nently Flood	ded ⊠	Seas	onally Flooded	Temporari	ly Flooded	
OHWM	OHWM Ind									
Height:	(check all that a	ірріу)	□ Cl on ba	ear line ank	□Shelv	/ing	□Wrested vegetation	□Sco	uring □Water staining	
<u>1.5</u> ft.	□Ben	t, matted, or	missing □Wr	ack	□Litter	and	□ Abrupt plan	t □Soilch	naracteristic change	
	vegeta		line	debris	anu	community ch		iaracteristic criarige		
Depth of Water:		Bank hei	ght (average):	:			Bank slope (ave	rage):		
1	_ft.			<u>3</u> ft.			_70_ degrees			
N/A□										
Qualitative Attrib	utes									
Water Appearance:		Clear	Turbid [∃Sheen	⊠ Cı	ırface	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Other:		
(Check Grie)	□No water □	icieai _		n surface	scum		e □Algal □ mats	Other.		
Substrate:	☐ Bedrock ☐ B	oulder 🗆	Cobble ⊠ G	ravel 🗵	Sand	□ Sil	lt/ clay ⊠ Organic	☐ Other:		
(check all that apply)	_ bediever _ b	odidei 🗀	CODDIC A C	ilavoi 🖂	Odrid	_ 0	it diay Z Organio	□ Othor.		
% of Substrate:	%	%	<u>40</u>	_% _40	<u>0</u> %	%	<u>20</u> %		%	
Width of Riparian Zor	vegetativ		₩ -			7.0				
ft.	(crieck all tria	(арріу)	⊠ Tre	es:		⊴ Sap	olings/Shrubs:	⊠ Hei	DS	
N/A⊠	-	of Dominan	nts: <u>10</u>	in.	_	<u>2</u> in				
Dominant Bank Vege	(approx.)									
Multiflora rose, red	, ,	edae								
Aquatic Habitats (ex. s			overhanging hank	s/roots loof noo	ke largo eub	morgo	d wood riffles doop pools	oto)•		
Pool and leaf litter		qualic vegetation	, overnanging bank	s/100ts, lear pac	ns, large sub	mergec	a wood, fillies, deep pools, t	e.c.,•		
Aquatic Organisms O										
, duck weed, algae										
T&E Species Observe	-									
None	u (IISI).									
				. \						
Disturbances (ex: lives	stock access, manure	in waterbody,	waste discharge	pipes):						
Agricultural runoff										
Waterbody is: (check one)	□ Natural			n-made	☐ Manip	oulate	ed			
Waterbody Ouglity 8										
Waterbody Quality ^a : (check one)	☐ High	[☐ Moderate	⊠L	ow					

Waterbody	ID:
Ohic102	

^a **High Quality:** Natural, natural bank vegetation around entire waterbody; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

Moderate Quality: Altered by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or bank vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:

Pond is located at the base of an agricultural field

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point locations, survey boundary, and IDs of associated features) 0416109



Open waterbody OHIC102 facing east



Open waterbody OHIC102 facing south



Open waterbody OHIC102 facing southwest

Open Waterbody Data Sheet

Survey Description Project Name: Atlantic Coast Pipeline Unnamed Pond State: Virginia Highland NRG Nearest Milepost: None Waterbody ID: OHIC101 4/5/2016 Date: 4/5/2016 Crew Member Initials: Photos: AS, CR 3 Nearest Milepost: None	
Project Name: Atlantic Coast Pipeline Unnamed Pond State: Virginia Tract Number(s): O6-001-C036 Waterbody ID: OHIC101 A/5/2016 Company: Crew Member Initials: AS, CR Associated Wetland ID(s): None	
State: County: Company: Crew Member Initials: Photos: Virginia Highland NRG AS, CR 3 Tract Number(s): Associated Wetland ID(s): None	
State: County: Company: Crew Member Initials: Photos: Virginia Highland NRG AS, CR 3 Tract Number(s): Associated Wetland ID(s): 06-001-C036 None	
Virginia Highland NRG AS, CR 3 Tract Number(s): Nearest Milepost: Associated Wetland ID(s): 06-001-C036 None	
Tract Number(s): 06-001-C036 Nearest Milepost: Associated Wetland ID(s): None	
06-001-C036 None	
Cumay Tuna.	
Survey Type:	
(check one) □ Centerline □ Re-Route □ Access Road □ Other:	
Physical Attributes	
Waterbody Type: (check one)	
Hydrologic Regime:	
☐ Permanently Flooded ☐ Semipermanently Flooded ☒ Seasonally Flooded ☐ Temporarily Flooded	
OHWM OHWM Indicator:	
Check all that apply)	
<u>1.5</u> ft.	
□ Bent, matted, or missing □Wrack □Litter and □Abrupt plant □Soil characteristic change vegetation line debris community change	,
Depth of Water: Bank height (average): Bank slope (average):	
N/A□	
Qualitative Attributes	
Water Appearance:	
(check one) □No water □Clear □Turbid □Sheen ⊠Surface □Algal □Other: on surface scum mats	
Substrate: □ Bedrock □ Boulder □ Cobble □ Gravel ☒ Sand ☒ Silt/ clay ☒ Organic □ Other:	
Substrate: □ Bedrock □ Boulder □ Cobble □ Gravel ☑ Sand ☑ Silt/ clay ☑ Organic □ Other: (check all that apply)	
% of Substrate:%%%% <u>40</u> % <u>40</u> % _20%%	
Width of Riparian Zone: Vegetative Layers:	
Width of Riparian Zone: Vegetative Layers:	
Width of Riparian Zone: ft. N/A⊠ Vegetative Layers: □ Trees: □ Saplings/Shrubs: □ Herbs □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	
Width of Riparian Zone: ft. N/A ☑ Vegetative Layers:	
Width of Riparian Zone: ft. N/A ☑ Vegetative Layers:	
Width of Riparian Zone: ft. Avg. DBH of Dominants:in. Avg. DBH of Dominants:in. (approx.) Dominant Bank Vegetation (list): Multiflora rose, red oak, broom sedge Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.):	
Width of Riparian Zone: ft. N/A □ Dominant Bank Vegetation (list): Multiflora rose, red oak, broom sedge Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Pool and leaf litter	
Width of Riparian Zone: ft. Avg. DBH of Dominants:10_in2_in. Dominant Bank Vegetation (list): Multiflora rose, red oak, broom sedge Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Pool and leaf litter Aquatic Organisms Observed (list):	
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Width of Riparian Zone: ft. N/A Dominant Bank Vegetation (//ist): Multiflora rose, red oak, broom sedge Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Pool and leaf litter Aquatic Organisms Observed (//ist): Tadpoles T&E Species Observed (//ist):	
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Width of Riparian Zone: ft. N/A⊠ Vegetative Layers: (check all that apply) □ Trees: □ Saplings/Shrubs: □ Herbs	
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Width of Riparian Zone: ft. N/A □ Dominant Bank Vegetation (list): Multiflora rose, red oak, broom sedge Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Pool and leaf litter Aquatic Organisms Observed (list): Tadpoles T&E Species Observed (list): None Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Agricultural runoff	

Waterbody	ID:
Ohic101	

^a **High Quality:** Natural, natural bank vegetation around entire waterbody; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

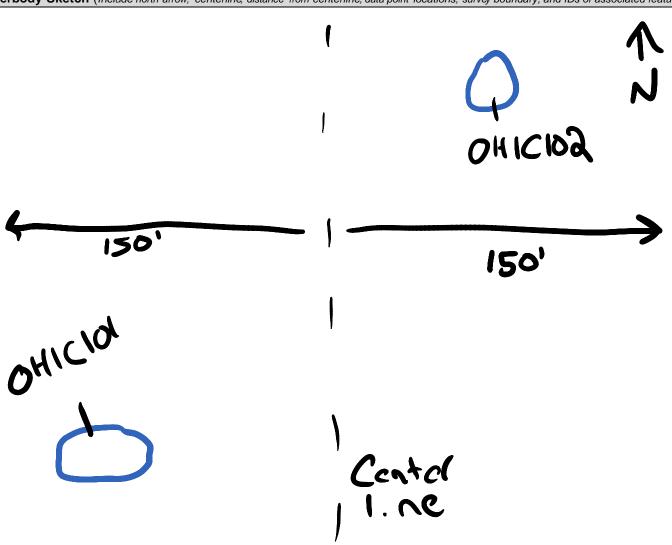
Moderate Quality: Altered by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or bank vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:

Pond is located at the base of an agricultural field

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point locations, survey boundary, and IDs of associated features)





Open waterbody OHIC101 facing north



Open waterbody OHIC101 facing northeast



Open waterbody OHIC101 facing west