

Linear Waterbody Data Sheet

Survey Description			
Project Name: ACP		Waterbody Name: East Ditch	
Waterbody ID: schr009		Date: 21 Jan 2016	
State: VA	County/Parish: Chesapeake	Company: ESI	Crew Member Initials: CAJ CSM
Photos: NW, SE, S			
Tract Number(s): 27-001-D001		Nearest Milepost: 71.5	Associated Wetland ID(s): wchr002
Survey Type: (check one) <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Stream Classification: (check one) <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial			
Waterbody Type: (check one) <input type="checkbox"/> River <input type="checkbox"/> Stream <input checked="" type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:			
OHWM Width: 15 ft. Height: 3 ft. N/A <input type="checkbox"/>		OHWM Indicator: (check all that apply) <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input checked="" type="checkbox"/> Water staining <input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change	
Width of Waterbody - Top of Bank to Top of Bank: 19 ft.	Width of Waterbody - Toe of Slope to Toe of Slope: 12 ft.	Width of Waterbody - Water Edge to Water Edge: 13 ft. N/A <input type="checkbox"/>	Depth of Water: (Approx.) 2 ft. N/A <input type="checkbox"/>
Sinuosity: (check one) <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering	Water velocity: (Approx.) < 1 fps N/A <input type="checkbox"/>	Bank height Right: 4 ft. Left: 4 ft.	Bank slope Right: 80 degrees Left: 80 degrees
Qualitative Attributes			
Water Appearance: (check one) <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: (check all that apply) <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input checked="" type="checkbox"/> Organic <input type="checkbox"/> Other: % of Substrate: _____% _____% _____% _____% _____% _____% 100% _____%			
Width of Riparian Zone: 40 ft. N/A <input type="checkbox"/>	Vegetative Layers: (check all that apply) <input checked="" type="checkbox"/> Trees: 10 in. <input checked="" type="checkbox"/> Saplings/Shrubs: 3 in. <input checked="" type="checkbox"/> Herbs: N/A in. Avg. DBH of Dominants: (approx.)		
Dominant Bank Vegetation (list): Acer rubrum, Arundinaria gigantea			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Submerged wood			
Aquatic Organisms Observed (list): None			
T&E Species Observed (list): None			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Junk yard, Powerline Easement			
Tributary is: (check one) <input type="checkbox"/> Natural <input checked="" type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated			
Stream Quality *: (check one) <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low			

Waterbody ID:
schr009

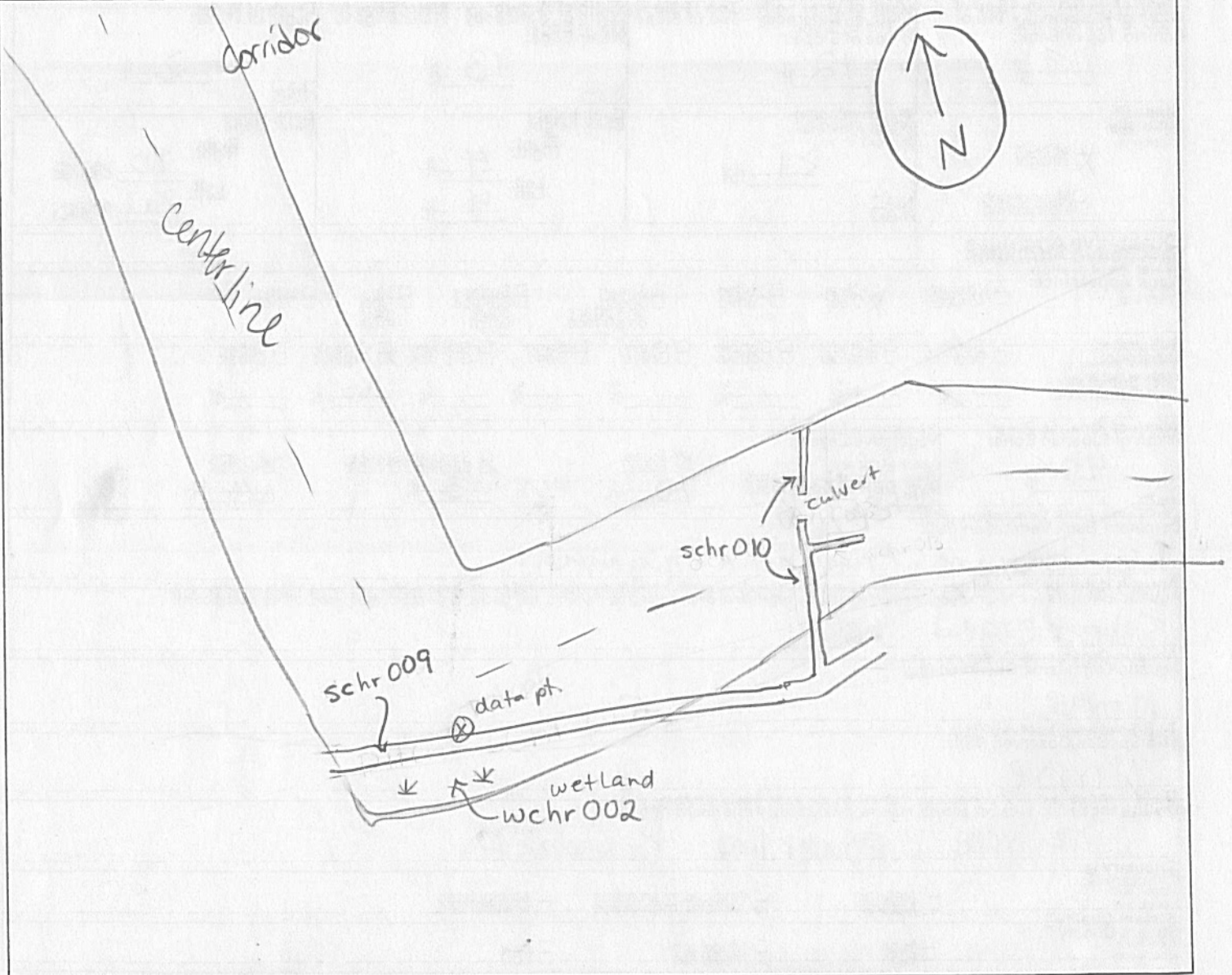
▪ **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



Environmental Field Surveys
Waterbody Photo Page



Waterbody schr009 facing northwest upstream.



Waterbody schr009 facing southeast downstream.

Environmental Field Surveys
Waterbody Photo Page



Waterbody schr009 facing south across bank.

Linear Waterbody Data Sheet

Survey Description				
Project Name: <u>ACP</u>		Waterbody Name: <u>UNT to East Ditch</u>	Waterbody ID: <u>schr010</u>	Date: <u>21 Jan 2016</u>
State: <u>VA</u>	County/Parish: <u>Chesapeake</u>	Company: <u>ESI</u>	Crew Member Initials: <u>CAJ CSM</u>	Photos: <u>NE, SW, E</u>
Tract Number(s): <u>27001-0002, 27-001-0001</u>		Nearest Milepost: <u>71.6</u>	Associated Wetland ID(s): <u>None</u>	
Survey Type: <small>(check one)</small> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Stream Classification: <small>(check one)</small> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial				
Waterbody Type: <small>(check one)</small> <input type="checkbox"/> River <input type="checkbox"/> Stream <input checked="" type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: <u>3</u> ft.	OHWM Indicator: <small>(check all that apply)</small>	<input checked="" type="checkbox"/> Clear line on bank	<input type="checkbox"/> Shelving	<input type="checkbox"/> Wrested vegetation
OHWM Height: <u>0.2</u> ft.	<input type="checkbox"/> Bent, matted, or missing vegetation	<input type="checkbox"/> Wrack line	<input type="checkbox"/> Litter and debris	<input type="checkbox"/> Abrupt plant community change
N/A <input type="checkbox"/>				<input checked="" type="checkbox"/> Water staining
Width of Waterbody - Top of Bank to Top of Bank: <u>5</u> ft.	Width of Waterbody - Toe of Slope to Toe of Slope: <u>2</u> ft.	Width of Waterbody - Water Edge to Water Edge: <u>3</u> ft.	Depth of Water: <small>(Approx.)</small> <u>0.2</u> ft.	
N/A <input type="checkbox"/>	N/A <input type="checkbox"/>	N/A <input type="checkbox"/>	N/A <input type="checkbox"/>	
Sinuosity: <small>(check one)</small>	Water velocity: <small>(Approx.)</small>	Bank height	Bank slope	
<input checked="" type="checkbox"/> Straight	<u>0</u> fps	Right: <u>1</u> ft.	Right: <u>70</u> degrees	
<input type="checkbox"/> Meandering	N/A <input type="checkbox"/>	Left: <u>1</u> ft.	Left: <u>70</u> degrees	
Qualitative Attributes				
Water Appearance: <small>(check one)</small> <input type="checkbox"/> No water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input checked="" type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: <small>(check all that apply)</small> <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/clay <input checked="" type="checkbox"/> Organic <input type="checkbox"/> Other:				
% of Substrate: _____% _____% _____% _____% _____% <u>50</u> % <u>50</u> % _____%				
Width of Riparian Zone: <u>N/A</u> ft.	Vegetative Layers: <small>(check all that apply)</small>			
N/A <input checked="" type="checkbox"/>	Avg. DBH of Dominants: <small>(approx.)</small>	<input checked="" type="checkbox"/> Trees: <u>13</u> in.	<input checked="" type="checkbox"/> Saplings/Shrubs: <u>3</u> in.	<input checked="" type="checkbox"/> Herbs: <u>N/A</u> in.
Dominant Bank Vegetation (list): <u>Liquidambar styraciflua, Arundinaria gigantea</u>				
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): <u>None</u>				
Aquatic Organisms Observed (list): <u>None</u>				
T&E Species Observed (list): <u>None</u>				
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): <u>Junk yard, culvert</u>				
Tributary is: <small>(check one)</small> <input type="checkbox"/> Natural <input checked="" type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Stream Quality*: <small>(check one)</small> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low				

Waterbody ID:
Schr 010

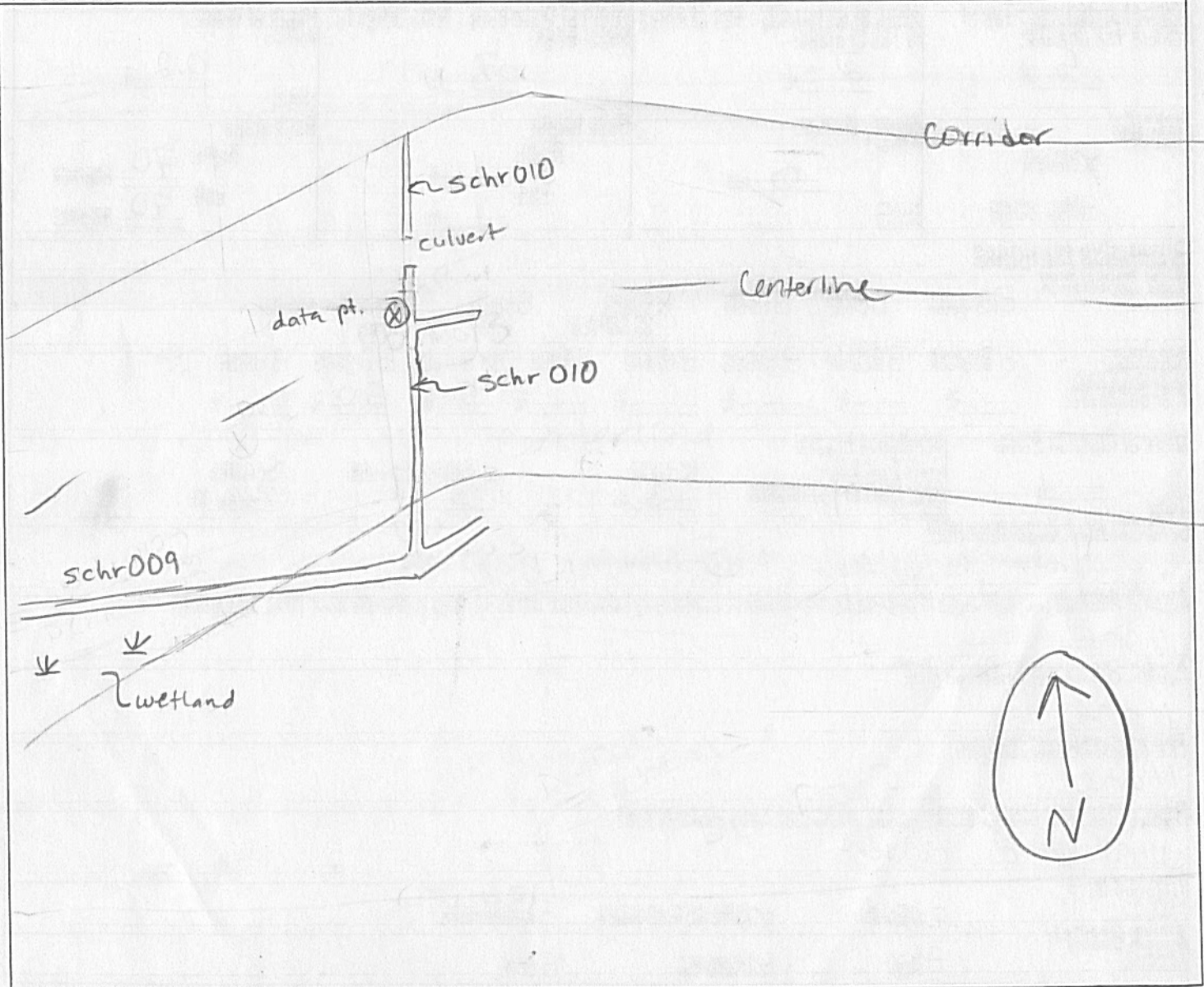
• **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



Environmental Field Surveys
Waterbody Photo Page



Waterbody schr010 facing northeast upstream.



Waterbody schr010 facing southwest downstream.

Environmental Field Surveys
Waterbody Photo Page



Waterbody schr010 facing west across bank.

Linear Waterbody Data Sheet

Survey Description				
Project Name: ACP		Waterbody Name: LINT TO E. Ditch	Waterbody ID: schr011	Date: 21 Jan 2016
State: VA	County/Parish: Chesapeake	Company: ESI	Crew Member Initials: CAO CSM	Photos: N, S, E
Tract Number(s): 27-001-0003, 27-001-0004		Nearest Milepost: 71.7	Associated Wetland ID(s): None	
Survey Type: <small>(check one)</small> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Stream Classification: <small>(check one)</small> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial				
Waterbody Type: <small>(check one)</small> <input type="checkbox"/> River <input type="checkbox"/> Stream <input checked="" type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: 3 ft.	OHWM Height: 0.2 ft.	OHWM Indicator: <small>(check all that apply)</small>		
N/A <input type="checkbox"/>		<input type="checkbox"/> Clear line on bank	<input type="checkbox"/> Shelving	<input type="checkbox"/> Wrested vegetation
		<input type="checkbox"/> Bent, matted, or missing vegetation	<input type="checkbox"/> Wrack line	<input checked="" type="checkbox"/> Litter and debris
			<input type="checkbox"/> Abrupt plant community change	<input type="checkbox"/> Soil characteristic change
<input checked="" type="checkbox"/> Water staining				
Width of Waterbody - Top of Bank to Top of Bank: 5 ft.	Width of Waterbody - Toe of Slope to Toe of Slope: 2 ft.	Width of Waterbody - Water Edge to Water Edge: 3 ft.	Depth of Water: <small>(Approx.)</small> 0.2 ft.	
N/A <input type="checkbox"/>	N/A <input type="checkbox"/>	N/A <input type="checkbox"/>	N/A <input type="checkbox"/>	
Sinuosity: <small>(check one)</small> <input type="checkbox"/> Straight <input type="checkbox"/> Meandering	Water velocity: <small>(Approx.)</small> 0 fps	Bank height Right: 1 ft. Left: 1 ft.	Bank slope Right: 70 degrees Left: 70 degrees	
N/A <input type="checkbox"/>	N/A <input type="checkbox"/>			
Qualitative Attributes				
Water Appearance: <small>(check one)</small> <input type="checkbox"/> No water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input checked="" type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: <small>(check all that apply)</small> <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/clay <input checked="" type="checkbox"/> Organic <input type="checkbox"/> Other:				
% of Substrate: _____% _____% _____% _____% _____% 50% 50% _____%				
Width of Riparian Zone: N/A <input checked="" type="checkbox"/> ft.	Vegetative Layers: <small>(check all that apply)</small>			
N/A <input checked="" type="checkbox"/>	Avg. DBH of Dominants: 13 in.	Trees: 13 in.	Saplings/Shrubs: 3 in.	Herbs: N/A in.
Dominant Bank Vegetation <small>(list)</small> : Pinus taeda, Liquidambar styraciflua, Arundinaria gigantea				
Aquatic Habitats <small>(ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools)</small> : None				
Aquatic Organisms Observed <small>(list)</small> : None				
T&E Species Observed <small>(list)</small> : None				
Disturbances <small>(ex: livestock access, manure in waterbody, waste discharge pipes)</small> : Junk yard and waste, Powerline easement				
Tributary is: <small>(check one)</small> <input type="checkbox"/> Natural <input checked="" type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Stream Quality*: <small>(check one)</small> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low				

Waterbody ID:
schr011

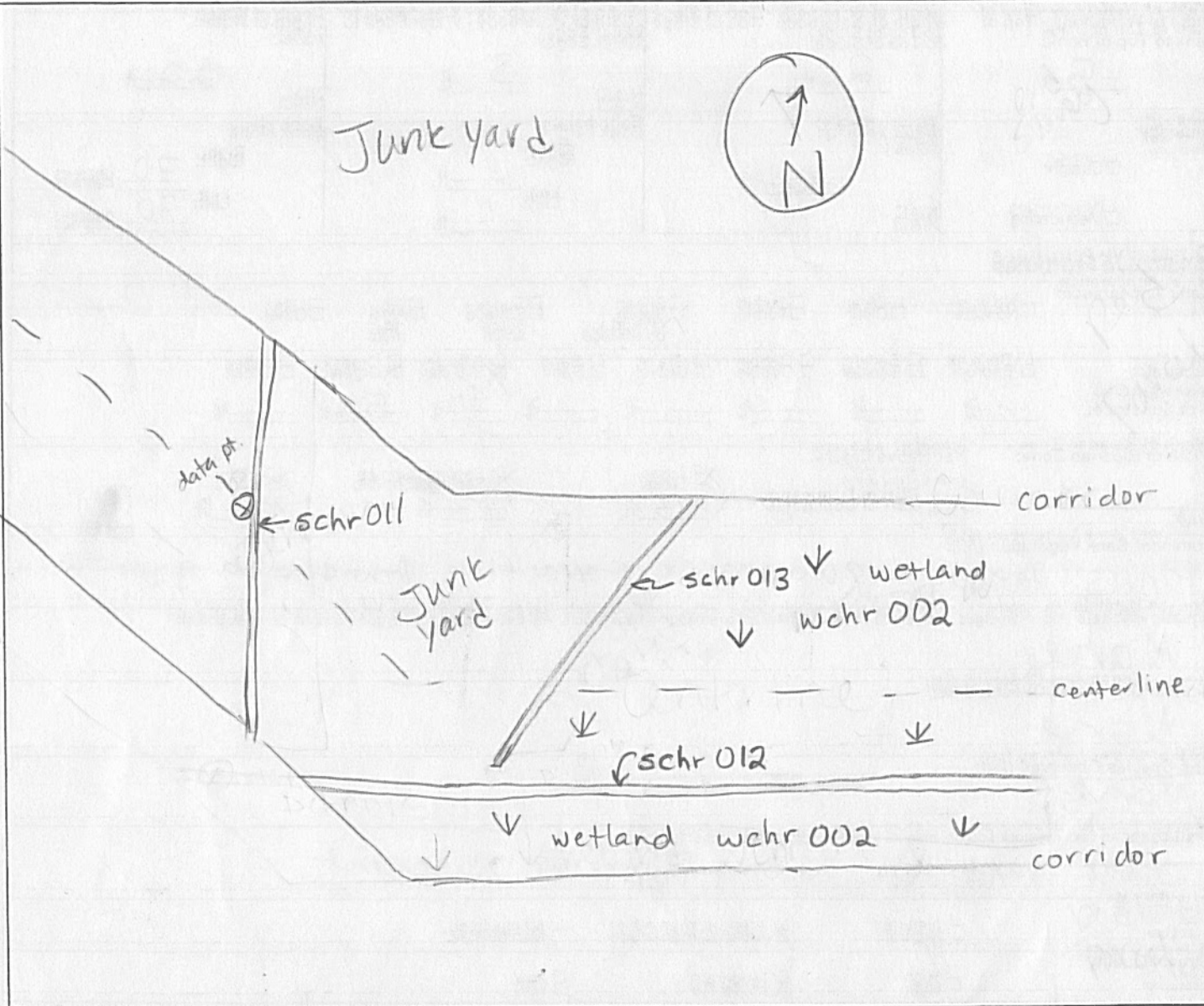
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



Environmental Field Surveys
Waterbody Photo Page



Waterbody schr011 facing north upstream.



Waterbody schr011 facing south downstream.

Environmental Field Surveys
Waterbody Photo Page



Waterbody schr011 facing east across bank.

Linear Waterbody Data Sheet

Survey Description				
Project Name: <u>ALP</u>		Waterbody Name: <u>UNT to East Ditch</u>		Waterbody ID: <u>schr012</u>
Date: <u>21 Jan 2016</u>				
State: <u>VA</u>	County/Parish: <u>Chesapeake</u>	Company: <u>ESI</u>	Crew Member Initials: <u>CAJ CSM</u>	Photos: <u>E, W, N</u>
Tract Number(s): <u>27-001</u>		Nearest Milepost: <u>71.7</u>	Associated Wetland ID(s): <u>wchr002</u>	
Survey Type: <small>(check one)</small>				
<input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Stream Classification: <small>(check one)</small>				
<input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial				
Waterbody Type: <small>(check one)</small>				
<input type="checkbox"/> River <input type="checkbox"/> Stream <input checked="" type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: <u>3</u> ft. Height: <u><1</u> ft. N/A <input type="checkbox"/>		OHWM Indicator: <small>(check all that apply)</small>		
		<input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input checked="" type="checkbox"/> Water staining		
		<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change		
Width of Waterbody - Top of Bank to Top of Bank: <u>3</u> ft.		Width of Waterbody - Toe of Slope to Toe of Slope: <u>2</u> ft.		Width of Waterbody - Water Edge to Water Edge: <u>2.5</u> ft. N/A <input type="checkbox"/>
Depth of Water: <small>(Approx.)</small> N/A <input type="checkbox"/>		<u><1</u> ft.		
Sinuosity: <small>(check one)</small>		Water velocity: <small>(Approx.)</small>		Bank height
<input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering		<input checked="" type="checkbox"/> Straight <u><1</u> fps N/A <input type="checkbox"/>		Right: <u>0.5</u> ft. Left: <u>0.5</u> ft.
				Right: <u>70</u> degrees Left: <u>70</u> degrees
Qualitative Attributes				
Water Appearance: <small>(check one)</small>				
<input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: <small>(check all that apply)</small>				
<input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input checked="" type="checkbox"/> Organic <input type="checkbox"/> Other:				
% of Substrate: _____% _____% _____% _____% _____% <u>20</u> % <u>80</u> % _____%				
Width of Riparian Zone: <u>10</u> ft. N/A <input type="checkbox"/>		Vegetative Layers: <small>(check all that apply)</small>		
		<input checked="" type="checkbox"/> Trees: <u>11</u> in. <input checked="" type="checkbox"/> Saplings/Shrubs: <u>2</u> in. <input checked="" type="checkbox"/> Herbs: <u>N/A</u> in.		
Avg. DBH of Dominants: <small>(approx.)</small>				
Dominant Bank Vegetation (list): <u>Pinus taeda, Arundinaria gigantea, Rubus sp.</u>				
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): <u>Submerged litter & debris</u>				
Aquatic Organisms Observed (list): <u>None</u>				
T&E Species Observed (list): <u>None</u>				
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): <u>Junkyard, powerline easement</u>				
Tributary is: <small>(check one)</small>				
<input type="checkbox"/> Natural <input checked="" type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Stream Quality*: <small>(check one)</small>				
<input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low				

Waterbody ID:
schr012

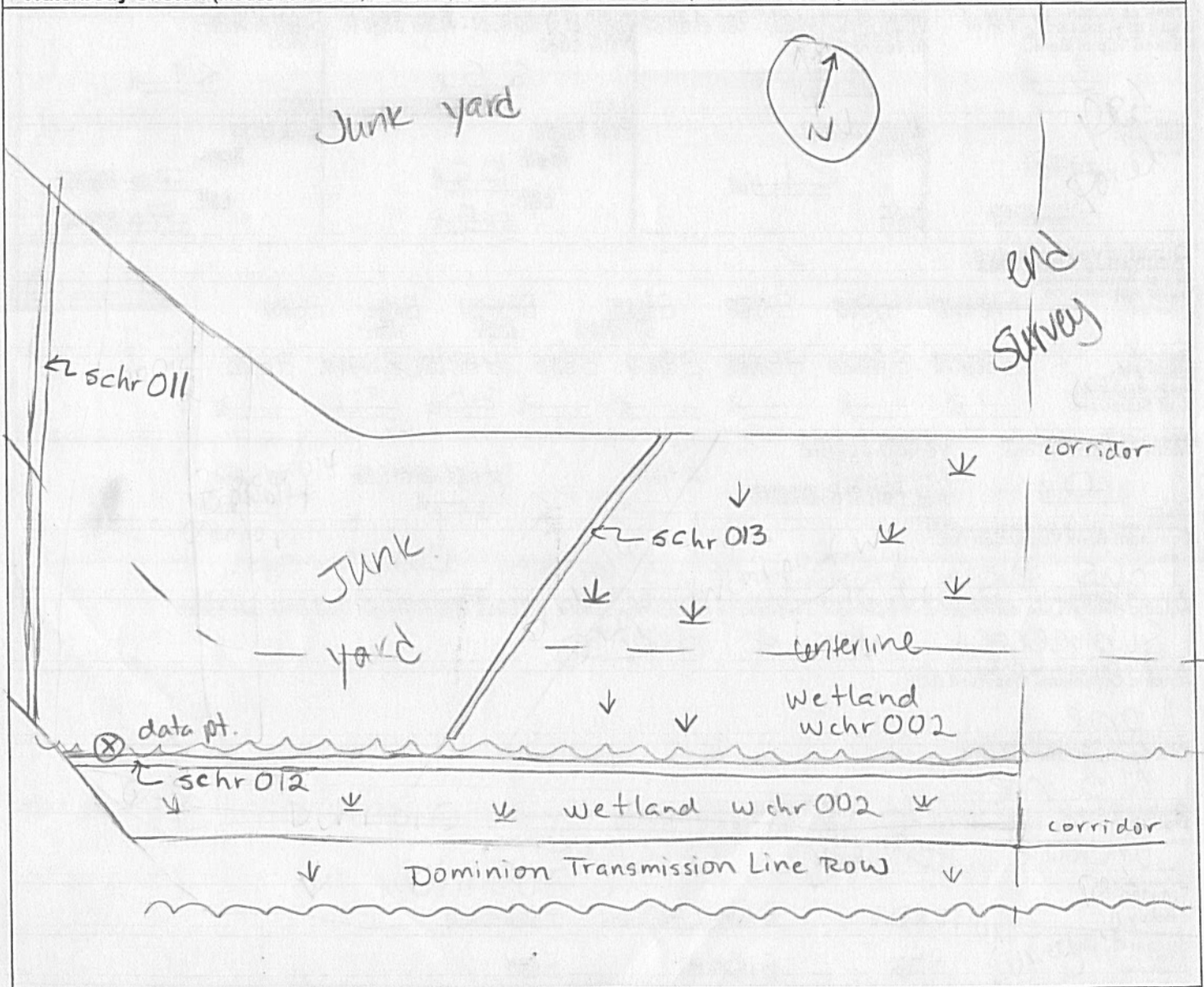
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



Environmental Field Surveys
Waterbody Photo Page



Waterbody schr012 facing west upstream.



Waterbody schr012 facing east downstream.

Environmental Field Surveys
Waterbody Photo Page



Waterbody schr012 facing north across bank.

Linear Waterbody Data Sheet

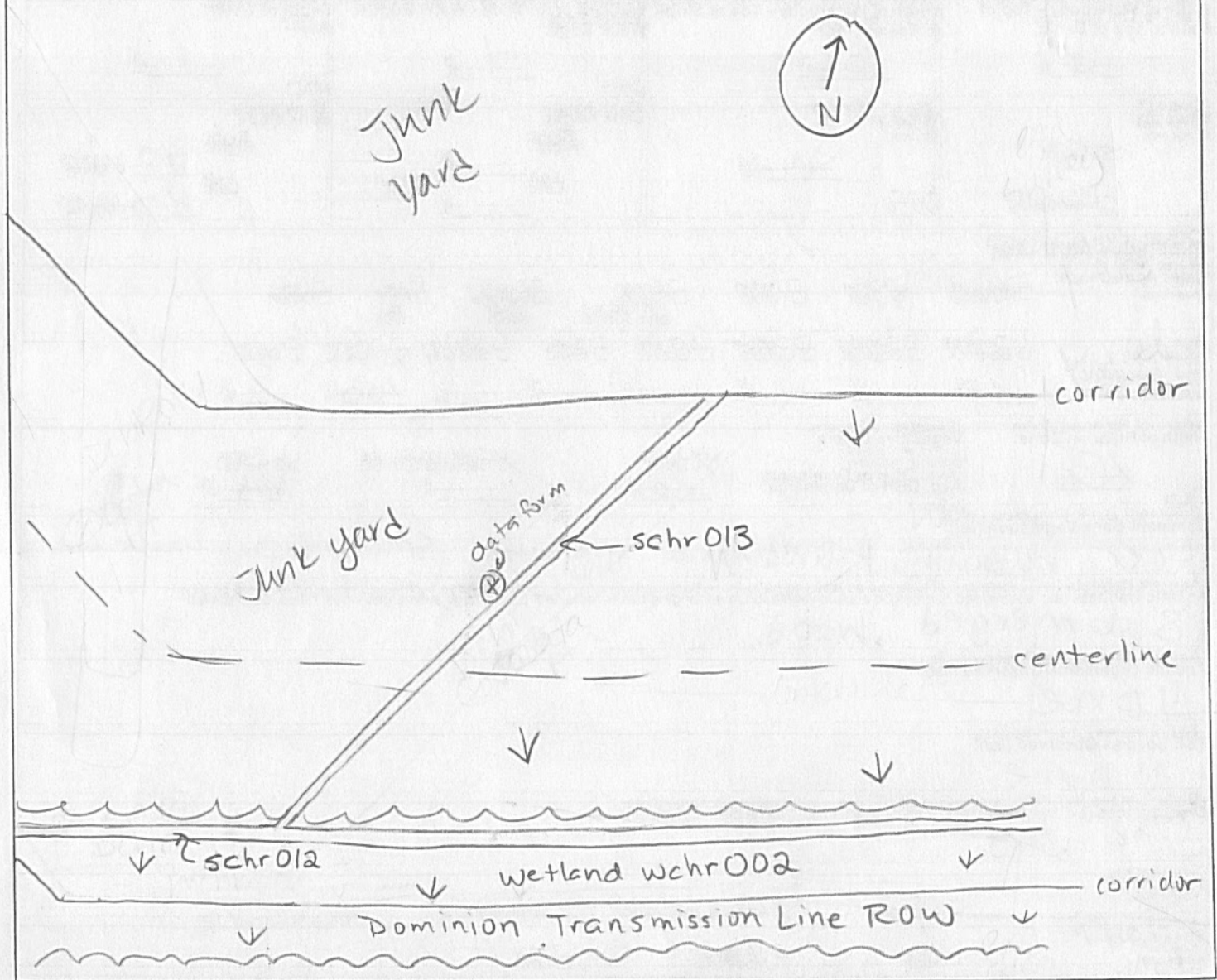
Survey Description				
Project Name: ACP		Waterbody Name: UNT to East Ditch	Waterbody ID: schr013	Date: 21 Jan. 2016
State: VA	County/Parish: Chesapeake	Company: ESI	Crew Member Initials: CAS CSM	Photos: NE, SW, NW
Tract Number(s): 27-001-D003, 27-001-D004		Nearest Milepost: 71.8	Associated Wetland ID(s): wchr002	
Survey Type: (check one) <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Stream Classification: (check one) <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial				
Waterbody Type: (check one) <input type="checkbox"/> River <input type="checkbox"/> Stream <input checked="" type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: 4 ft. Height: 0.5 ft. N/A <input type="checkbox"/>	OHWM Indicator: (check all that apply) <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input checked="" type="checkbox"/> Water staining <input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Width of Waterbody - Top of Bank to Top of Bank: 6 ft.	Width of Waterbody - Toe of Slope to Toe of Slope: 3 ft.	Width of Waterbody - Water Edge to Water Edge: 4 ft. N/A <input type="checkbox"/>	Depth of Water: (Approx.) 1 ft. N/A <input type="checkbox"/>	
Sinuosity: (check one) <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering	Water velocity: (Approx.) < 1 fps N/A <input type="checkbox"/>	Bank height Right: _____ ft. Left: _____ ft.	Bank slope Right: 40 degrees Left: 40 degrees	
Qualitative Attributes				
Water Appearance: (check one) <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: (check all that apply) <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input type="checkbox"/> Silt/clay <input checked="" type="checkbox"/> Organic <input type="checkbox"/> Other: % of Substrate: _____% _____% _____% _____% _____% _____% 100 % _____%				
Width of Riparian Zone: 16 ft. N/A <input type="checkbox"/>	Vegetative Layers: (check all that apply) <input checked="" type="checkbox"/> Trees: 6 in. <input checked="" type="checkbox"/> Saplings/Shrubs: _____ in. <input checked="" type="checkbox"/> Herbs: N/A in.			
Dominant Bank Vegetation (list): Acer rubrum, Arundinaria gigantea, Smilax sp.				
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Submerged wood				
Aquatic Organisms Observed (list): None				
T&E Species Observed (list): None				
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Junk yard				
Tributary is: (check one) <input type="checkbox"/> Natural <input checked="" type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Stream Quality *: (check one) <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low				

Waterbody ID:
schr013

- **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)



Environmental Field Surveys
Waterbody Photo Page



Waterbody schr013 facing northeast upstream.



Waterbody schr013 facing southwest downstream.

Environmental Field Surveys
Waterbody Photo Page



Waterbody schr013 facing northwest across bank.

Linear Waterbody Data Sheet

Survey Description				
Project Name: ACP		Waterbody Name: UNT to Dismal Swamp		Waterbody ID: schr006
State: VA		County/Parish: Chesapeake	Company: ESI-1	Date: 7/31/15
Tract Number(s): 27-00Z		Nearest Milepost: 70	Crew Member Initials: RAM/CSM	Photos: foting W, E
Associated Wetland ID(s): NA				
Survey Type: (check one) <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Stream Classification: (check one) <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial				
Waterbody Type: (check one) <input type="checkbox"/> River <input type="checkbox"/> Stream <input checked="" type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: 10 ft.		OHWM Indicator: (check all that apply) <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input checked="" type="checkbox"/> Water staining		
Height: 1.5 ft.		<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change		
N/A <input type="checkbox"/>				
Width of Waterbody - Top of Bank to Top of Bank: 15 ft.		Width of Waterbody - Toe of Slope to Toe of Slope: 3 ft.		Depth of Water: (Approx.) 10 ft.
Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/>		Bank height Right: 3 ft. Left: 3 ft.		Bank slope Right: 45 degrees Left: 45 degrees
Sinuosity: (check one) <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering		Water velocity: (Approx.) 0 fps		
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>		
Qualitative Attributes				
Water Appearance: (check one) <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: (check all that apply) <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:				
% of Substrate: _____% _____% _____% _____% _____% _____% _____%				
Width of Riparian Zone: 0 ft.		Vegetative Layers: (check all that apply) <input type="checkbox"/> Trees: _____ in. <input checked="" type="checkbox"/> Saplings/Shrubs: 1 in. <input type="checkbox"/> Herbs: _____ in.		
N/A <input type="checkbox"/>		Avg. DBH of Dominants: (approx.)		
Dominant Bank Vegetation (list): Vaccinium corymbosum Clethra alnifolia				
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Consistent pool				
Aquatic Organisms Observed (list): None				
T&E Species Observed (list): None				
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None				
Tributary is: (check one) <input type="checkbox"/> Natural <input checked="" type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Stream Quality*: (check one) <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low				

Waterbody ID:

Schr 006

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.

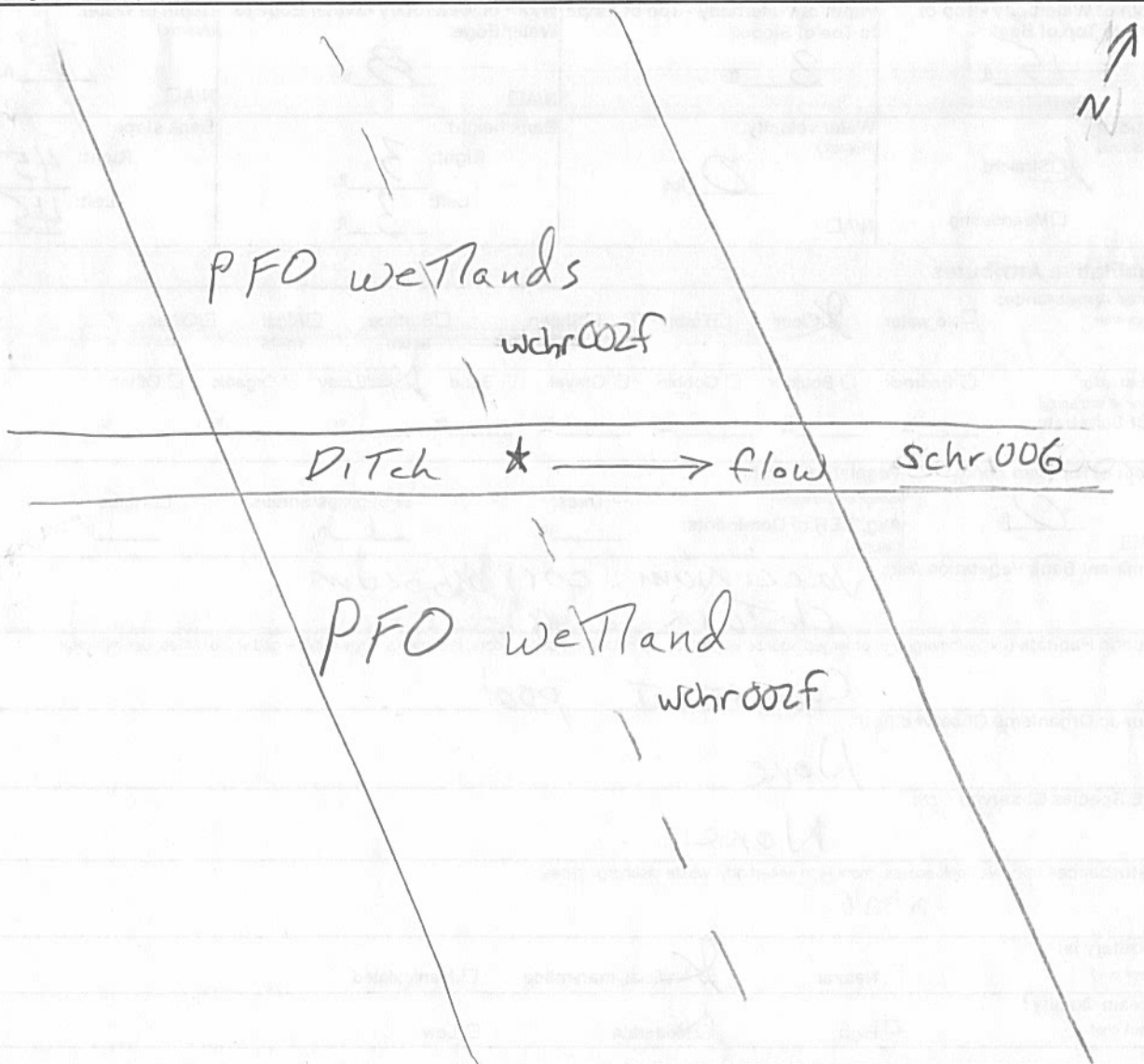
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate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

East/West Ditch, ^{NHD} Blue line feature 36.76319°N
76.42800°W

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



Environmental Field Surveys
Waterbody Photo Page



Waterbody schr006 facing west upstream



Waterbody schr006 facing east downstream

Linear Waterbody Data Sheet

Survey Description						
Project Name: <u>ACP</u>		Waterbody Name: <u>ANT to discol swamp</u>	Waterbody ID: <u>Schr 005</u>	Date: <u>7/31/15</u>		
State: <u>VA</u>	County/Parish: <u>Chesapeake</u>	Company: <u>ESI-1</u>	Crew Member Initials: <u>RAM, ESM</u>	Photos: <u>facing W, E</u>		
Tract Number(s): <u>27-002</u>		Nearest Milepost:	Associated Wetland ID(s): <u>NA</u>			
Survey Type: <small>(check one)</small> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:						
Physical Attributes						
Stream Classification: <small>(check one)</small> <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial						
Waterbody Type: <small>(check one)</small> <input type="checkbox"/> River <input type="checkbox"/> Stream <input checked="" type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:						
OHWM Width: <u>7</u> ft.	OHWM Indicator: <small>(check all that apply)</small>	<input type="checkbox"/> Clear line on bank	<input type="checkbox"/> Shelving	<input type="checkbox"/> Wrested vegetation	<input type="checkbox"/> Scouring	<input checked="" type="checkbox"/> Water staining
Height: <u>1</u> ft.	<input type="checkbox"/> Bent, matted, or missing vegetation	<input type="checkbox"/> Wrack line	<input type="checkbox"/> Litter and debris	<input type="checkbox"/> Abrupt plant community change	<input type="checkbox"/> Soil characteristic change	
N/A <input type="checkbox"/>						
Width of Waterbody - Top of Bank to Top of Bank: <u>12</u> ft.	Width of Waterbody - Toe of Slope to Toe of Slope: <u>1</u> ft.	Width of Waterbody - Water Edge to Water Edge: N/A <input checked="" type="checkbox"/>	Depth of Water: <small>(Approx.)</small> N/A <input checked="" type="checkbox"/>			
Sinuosity: <small>(check one)</small> <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering	Water velocity: <small>(Approx.)</small> N/A <input checked="" type="checkbox"/> <u> </u> fps	Bank height Right: <u>3</u> ft. Left: <u>3</u> ft.	Bank slope Right: <u>45</u> degrees Left: <u>45</u> degrees			
Qualitative Attributes						
Water Appearance: <small>(check one)</small> <input checked="" type="checkbox"/> No water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:						
Substrate: <small>(check all that apply)</small>						
<input type="checkbox"/> Bedrock	<input type="checkbox"/> Boulder	<input type="checkbox"/> Cobble	<input type="checkbox"/> Gravel	<input type="checkbox"/> Sand	<input checked="" type="checkbox"/> Silt/clay	<input type="checkbox"/> Organic <input type="checkbox"/> Other:
% of Substrate: <u> </u> %	<u> </u> %	<u> </u> %	<u> </u> %	<u> </u> %	<u>100</u> %	<u> </u> %
Width of Riparian Zone: N/A <input checked="" type="checkbox"/> <u> </u> ft.	Vegetative Layers: <small>(check all that apply)</small>	<input type="checkbox"/> Trees:	<input type="checkbox"/> Saplings/Shrubs:	<input checked="" type="checkbox"/> Herbs	<u>NA</u> in.	
	Avg. DBH of Dominants: <small>(approx.)</small>	<u> </u> in.	<u> </u> in.			
Dominant Bank Vegetation (list): <u>Woodwardia virginica</u>						
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): <u>none</u>						
Aquatic Organisms Observed (list): <u>none</u>						
T&E Species Observed (list): <u>none</u>						
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): <u>none</u>						
Tributary is: <small>(check one)</small> <input type="checkbox"/> Natural <input checked="" type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated						
Stream Quality*: <small>(check one)</small> <input type="checkbox"/> High <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Low						

Waterbody ID:

Schr005

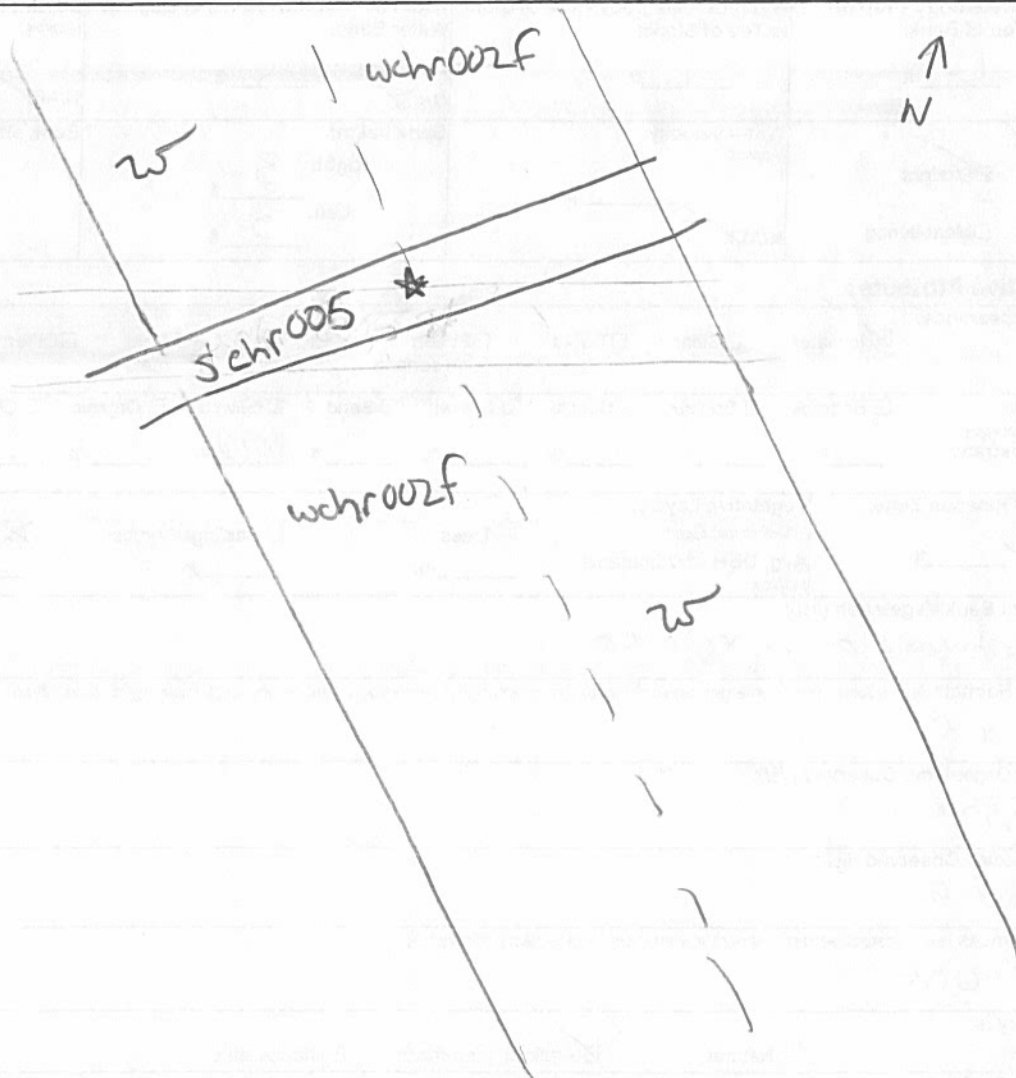
* **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



Environmental Field Surveys
Waterbody Photo Page



Waterbody schr005 facing west upstream



Waterbody schr005 facing east downstream

Linear Waterbody Data Sheet

Survey Description			
Project Name: <u>ACP</u>		Waterbody Name: <u>UNT to Dismal Swamp</u>	
Waterbody ID: <u>schr004</u>		Date: <u>7/30/15</u>	
State: <u>VA</u>	County/Parish: <u>Chesapeake</u>	Company: <u>ESI-1</u>	Crew Member Initials: <u>RAM/CSM</u>
Photos: <u>fdcing W, E</u>			
Tract Number(s): <u>27-002</u>		Nearest Milepost: <u>70.5</u>	Associated Wetland ID(s): <u>NA</u>
Survey Type: <small>(check one)</small>			
<input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Stream Classification: <small>(check one)</small>			
<input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial			
Waterbody Type: <small>(check one)</small>			
<input type="checkbox"/> River <input type="checkbox"/> Stream <input checked="" type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:			
OHWM Width: <u>15</u> ft.		OHWM Indicator: <small>(check all that apply)</small>	
Height: <u>1.5</u> ft.		<input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input checked="" type="checkbox"/> Water staining	
N/A <input type="checkbox"/>		<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change	
Width of Waterbody - Top of Bank to Top of Bank: <u>20</u> ft.		Width of Waterbody - Toe of Slope to Toe of Slope: <u>12</u> ft.	
N/A <input type="checkbox"/>		Width of Waterbody - Water Edge to Water Edge: <u>12</u> ft.	
N/A <input type="checkbox"/>		Depth of Water: <small>(Approx.)</small> <u>1.5</u> ft.	
Sinuosity: <small>(check one)</small>		Water velocity: <small>(Approx.)</small>	
<input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering		<u>1</u> fps	
N/A <input type="checkbox"/>		Bank height	
		Right: <u>4</u> ft. Left: <u>4</u> ft.	
		Bank slope	
		Right: <u>60</u> degrees Left: <u>60</u> degrees	
Qualitative Attributes			
Water Appearance: <small>(check one)</small>			
<input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: <small>(check all that apply)</small>			
<input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:			
% of Substrate: _____ % _____ % _____ % _____ % _____ % <u>100</u> % _____ % _____ %			
Width of Riparian Zone: <u>0</u> ft.		Vegetative Layers: <small>(check all that apply)</small>	
N/A <input type="checkbox"/>		<input type="checkbox"/> Trees: _____ in. <input checked="" type="checkbox"/> Saplings/Shrubs: <u>3</u> in. <input type="checkbox"/> Herbs: _____ in.	
Avg. DBH of Dominants: <small>(approx.)</small>			
Dominant Bank Vegetation (list): <u>Liquidambar styraciflua</u>			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): <u>uniformly deep, little structure</u>			
Aquatic Organisms Observed (list): <u>None</u>			
T&E Species Observed (list): <u>None</u>			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): <u>None</u>			
Tributary is: <small>(check one)</small>			
<input type="checkbox"/> Natural <input checked="" type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated			
Stream Quality*: <small>(check one)</small>			
<input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low			

Waterbody ID:

Schr 004

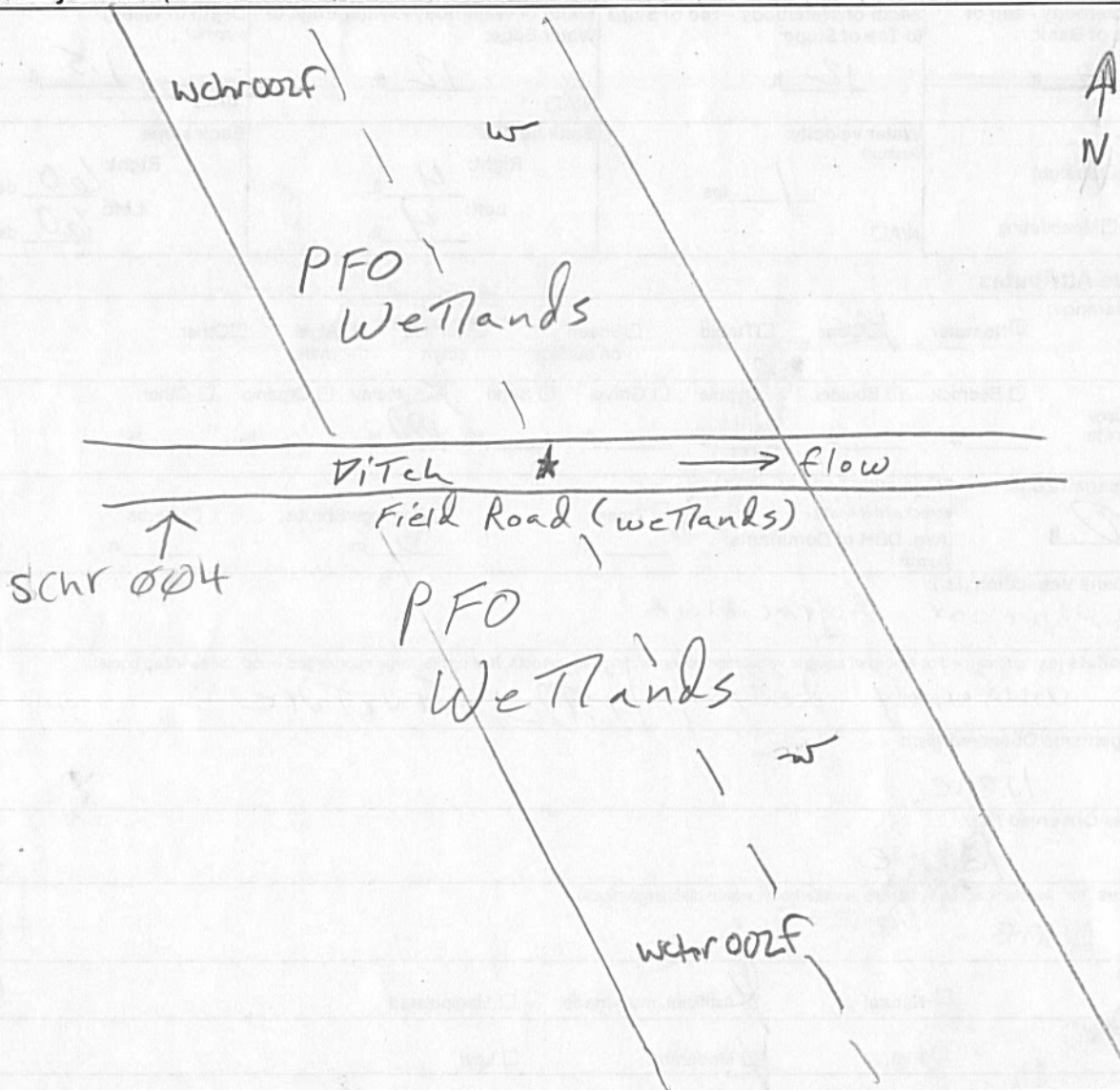
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



Environmental Field Surveys
Waterbody Photo Page



Waterbody schr004 facing west upstream



Waterbody schr004 facing east downstream

Linear Waterbody Data Sheet

Survey Description			
Project Name: <i>ACP</i>	Waterbody Name: <i>LNT to Dismal Swamp</i>	Waterbody ID: <i>Schr003</i>	Date: <i>7/30/15</i>
State: <i>VA</i>	County/Parish: <i>Chesapeake</i>	Company: <i>ESI-1</i>	Crew Member Initials: <i>RAM/CSM</i>
Tract Number(s): <i>27-002</i>		Nearest Milepost: <i>71</i>	Associated Wetland ID(s): <i>NA</i>
Survey Type: <small>(check one)</small> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Stream Classification: <small>(check one)</small> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial			
Waterbody Type: <small>(check one)</small> <input type="checkbox"/> River <input type="checkbox"/> Stream <input checked="" type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:			
OHWM Width: <i>7</i> ft.	OHWM Indicator: <small>(check all that apply)</small>	<input type="checkbox"/> Clear line on bank	<input type="checkbox"/> Shelving
Height: <i>2</i> ft.	<input type="checkbox"/> Bent, matted, or missing vegetation	<input type="checkbox"/> Wrack line	<input type="checkbox"/> Litter and debris
N/A <input type="checkbox"/>	<input type="checkbox"/> Wrested vegetation	<input type="checkbox"/> Scouring	<input checked="" type="checkbox"/> Water staining
<input type="checkbox"/> Abrupt plant community change	<input type="checkbox"/> Soil characteristic change		
Width of Waterbody - Top of Bank to Top of Bank: <i>7</i> ft.	Width of Waterbody - Toe of Slope to Toe of Slope: <i>3</i> ft.	Width of Waterbody - Water Edge to Water Edge: <i>7</i> ft.	Depth of Water: <small>(Approx.)</small> <i>2</i> ft.
Sinuosity: <small>(check one)</small> <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering	Water velocity: <small>(Approx.)</small> <i>0</i> fps	Bank height Right: <i>1</i> ft. Left: <i>1</i> ft.	Bank slope Right: <i>90</i> degrees Left: <i>90</i> degrees
Qualitative Attributes			
Water Appearance: <small>(check one)</small> <input type="checkbox"/> No water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input checked="" type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: <small>(check all that apply)</small> <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:			
% of Substrate: _____ % _____ % _____ % _____ % _____ % <i>100</i> % _____ % _____ %			
Width of Riparian Zone: <i>N/A</i> ft.	Vegetative Layers: <small>(check all that apply)</small> <input type="checkbox"/> Trees: _____ in. <input checked="" type="checkbox"/> Saplings/Shrubs: <i>4</i> in. <input type="checkbox"/> Herbs: _____ in.		
Avg. DBH of Dominants: <small>(approx.)</small> _____ in.			
Dominant Bank Vegetation (list): <i>Liquidambar, Styraciflua, Acer rubrum</i>			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): <i>Twig dams, pools, leaf packs</i>			
Aquatic Organisms Observed (list): <i>None observed</i>			
T&E Species Observed (list): <i>None</i>			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): <i>none</i>			
Tributary is: <small>(check one)</small> <input type="checkbox"/> Natural <input checked="" type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated			
Stream Quality*: <small>(check one)</small> <input type="checkbox"/> High <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Low			

Waterbody ID:

Schr003

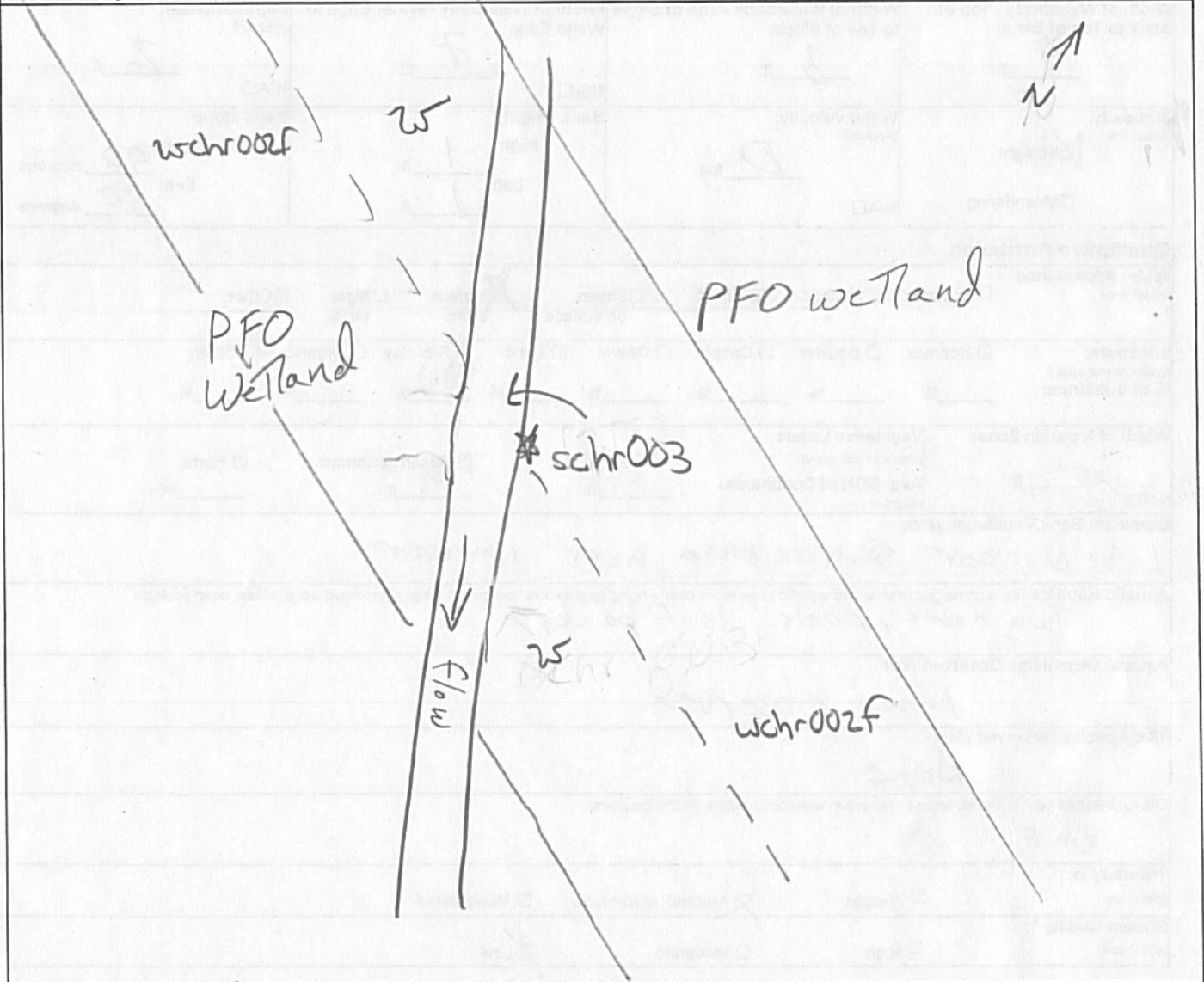
• **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



Environmental Field Surveys
Waterbody Photo Page



Waterbody schr003 facing north upstream



Waterbody schr003 facing south downstream

Linear Waterbody Data Sheet

Survey Description				
Project Name: <u>ACP</u>		Waterbody Name: <u>UNT to Dismal swamp</u>	Waterbody ID: <u>Schr 002</u>	Date: <u>7/29/15</u>
State: <u>VA</u>	County/Parish: <u>Chesapeake</u>	Company: <u>ESI-1</u>	Crew Member Initials: <u>RAM, CSM</u>	Photos: <u>facing W, E</u>
Tract Number(s): <u>27-006</u>		Nearest Milepost: <u>7.2</u>	Associated Wetland ID(s): <u>WCHR 002</u>	
Survey Type: (check one) <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Stream Classification: (check one) <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial				
Waterbody Type: (check one) <input type="checkbox"/> River <input type="checkbox"/> Stream <input checked="" type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: <u>6</u> ft.	OHWM Indicator: (check all that apply) <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input checked="" type="checkbox"/> Water staining	OHWM Height: <u>0.5</u> ft.	<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change	N/A <input type="checkbox"/>
Width of Waterbody - Top of Bank to Top of Bank: <u>15</u> ft.	Width of Waterbody - Toe of Slope to Toe of Slope: <u>3</u> ft.	Width of Waterbody - Water Edge to Water Edge: <u>2</u> ft.	Depth of Water: (Approx.) <u>0.1</u> ft.	
Sinuosity: (check one) <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering	Water velocity: (Approx.) <u>2/7</u> fps	Bank height Right: <u>12</u> ft. Left: <u>5</u> ft.	Bank slope Right: <u>60</u> degrees Left: <u>45</u> degrees	
Qualitative Attributes				
Water Appearance: (check one) <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: (check all that apply) <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:				
% of Substrate: _____% _____% _____% _____% _____% <u>100</u> % _____% _____%				
Width of Riparian Zone: <u>4</u> ft.	Vegetative Layers: (check all that apply) <input type="checkbox"/> Trees: _____ in. <input checked="" type="checkbox"/> Saplings/Shrubs: <u>2</u> in. <input checked="" type="checkbox"/> Herbs: _____ in.	Avg. DBH of Dominants: _____ in.	N/A <input type="checkbox"/>	
Dominant Bank Vegetation (list): <u>Liquidambar styraciflua, Morella cerifera, Saururus cernuus</u>				
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): <u>Emergent herbaceous Vegetation</u>				
Aquatic Organisms Observed (list): <u>damsel flies</u>				
T&E Species Observed (list): <u>NONE</u>				
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): <u>NONE</u>				
Tributary is: (check one) <input type="checkbox"/> Natural <input checked="" type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Stream Quality*: (check one) <input type="checkbox"/> High <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Low				

Waterbody ID:

Schr002

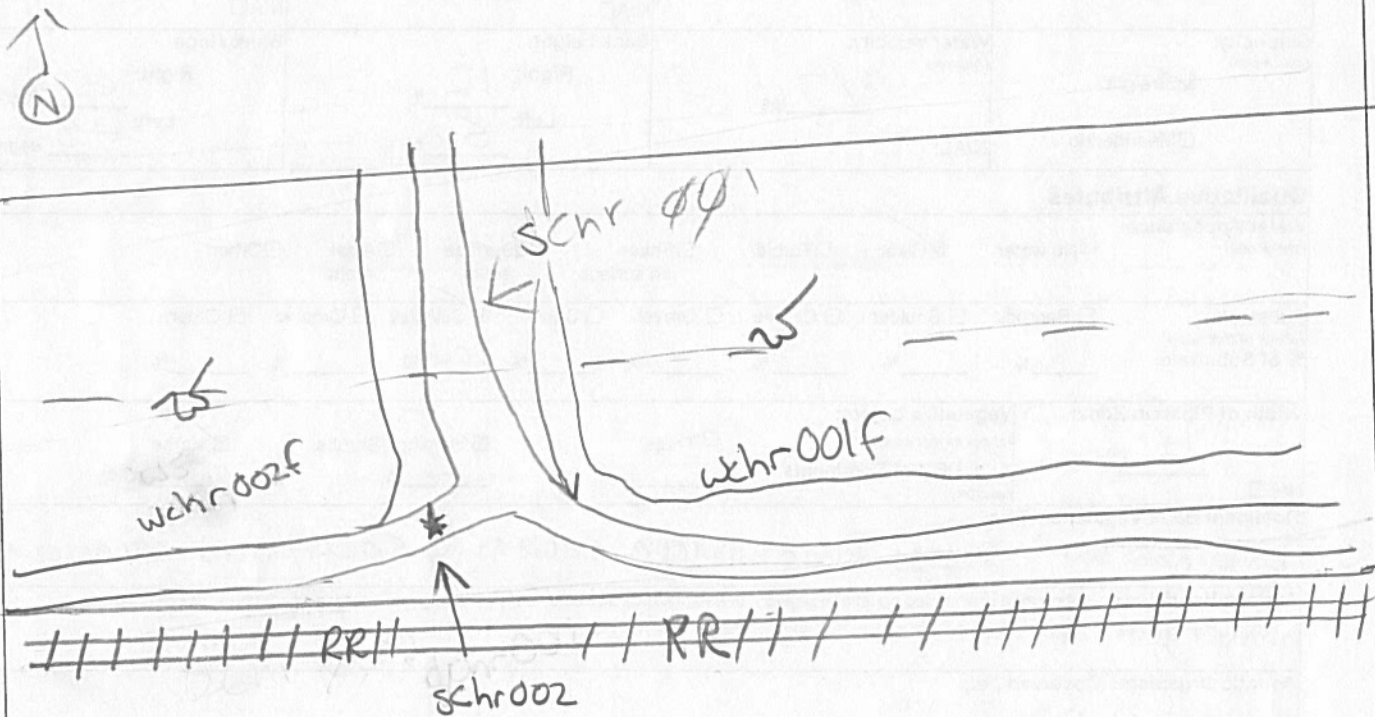
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



Environmental Field Surveys
Waterbody Photo Page



Waterbody schr002 facing west upstream



Waterbody schr002 facing east downstream

Linear Waterbody Data Sheet

Survey Description			
Project Name: ACP	Waterbody Name: UNT to Dismal Swamp	Waterbody ID: schr001	Date: 7/29/15
State: VA	County/Parish: Chesapeake	Company: EST-1	Crew Member Initials: RAM, ESM
Tract Number(s): 27-006		Nearest Milepost: 72	Photos: facing N, S
Associated Wetland ID(s): WCHR 001			
Survey Type: (check one) <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Stream Classification: (check one) <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial			
Waterbody Type: (check one) <input type="checkbox"/> River <input type="checkbox"/> Stream <input checked="" type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:			
OHWM Width: 15 ft. Height: 1.3 ft. N/A <input type="checkbox"/>		OHWM Indicator: (check all that apply) <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change	
Width of Waterbody - Top of Bank to Top of Bank: 18 ft.	Width of Waterbody - Toe of Slope to Toe of Slope: 15 ft.	Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> 15 ft.	Depth of Water: (Approx.) N/A <input type="checkbox"/> 1.0 ft.
Sinuosity: (check one) <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering	Water velocity: (Approx.) 1/15 fps N/A <input type="checkbox"/>	Bank height Right: 8 ft. Left: 8 ft.	Bank slope Right: 90 degrees Left: 60 degrees
Qualitative Attributes			
Water Appearance: (check one) <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: (check all that apply) <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/clay <input type="checkbox"/> Organic <input type="checkbox"/> Other: % of Substrate: _____% _____% _____% _____% _____% 100% _____% _____%			
Width of Riparian Zone: N/A <input type="checkbox"/> _____ ft.	Vegetative Layers: (check all that apply) <input checked="" type="checkbox"/> Trees: 4 in. <input type="checkbox"/> Saplings/Shrubs: _____ in. <input type="checkbox"/> Herbs: _____ in. Avg. DBH of Dominants: (approx.)		
Dominant Bank Vegetation (list): Acer rubrum			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): none			
Aquatic Organisms Observed (list): none			
T&E Species Observed (list): none			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): none			
Tributary is: (check one) <input type="checkbox"/> Natural <input checked="" type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated			
Stream Quality*: (check one) <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low			

Waterbody ID:

Schr001

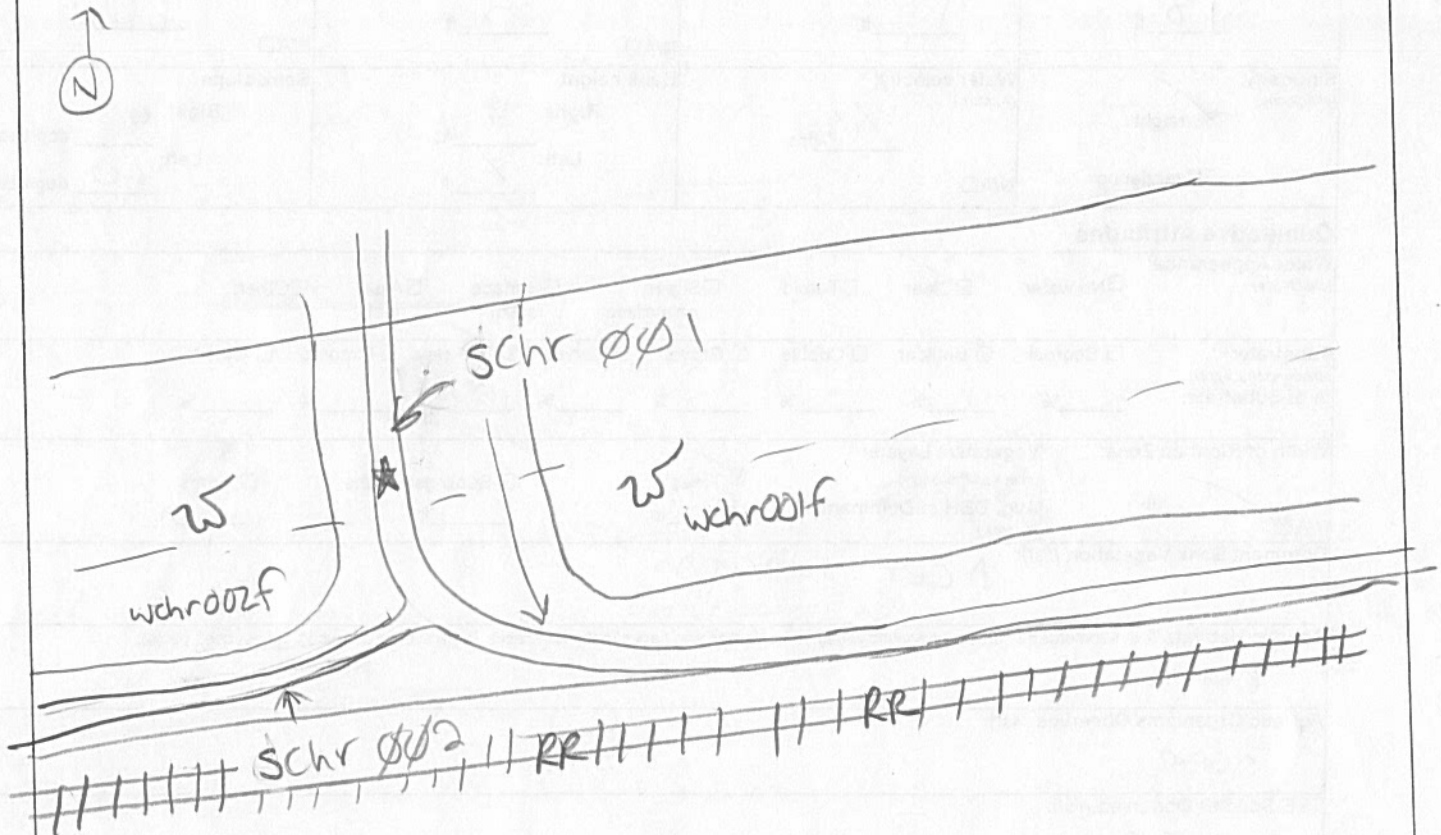
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



Environmental Field Surveys
Waterbody Photo Page



Waterbody schr001 facing north upstream



Waterbody schr001 facing south downstream

Linear Waterbody Data Sheet

Survey Description					
Project Name: <u>ACP</u>		Waterbody Name: <u>Unit to Dismal Swamp</u>		Waterbody ID: <u>Schp002</u>	Date: <u>10/26/15</u>
State: <u>VA</u>	County/Parish: <u>Chesapeake</u>	Company: <u>ESI</u>	Crew Member Initials: <u>RT, KM</u>	Photos: <u>Facing N, S, E</u>	
Tract Number(s): <u>27-606</u>		Nearest Milepost: <u>79.3</u>		Associated Wetland ID(s): <u>None</u>	
Survey Type: (check one) <input type="checkbox"/> Centerline <input checked="" type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:					
Physical Attributes					
Stream Classification: (check one) <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial					
Waterbody Type: (check one) <input type="checkbox"/> River <input type="checkbox"/> Stream <input checked="" type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:					
OHWM Width: <u>15</u> ft.	OHWM Indicator: (check all that apply)	<input checked="" type="checkbox"/> Clear line on bank	<input type="checkbox"/> Shelving	<input checked="" type="checkbox"/> Wrested vegetation	<input type="checkbox"/> Scouring
Height: <u>2</u> ft.	<input type="checkbox"/> Bent, matted, or missing vegetation	<input type="checkbox"/> Wrack line	<input checked="" type="checkbox"/> Litter and debris	<input type="checkbox"/> Abrupt plant community change	<input checked="" type="checkbox"/> Water staining
N/A <input type="checkbox"/>					
Width of Waterbody - Top of Bank to Top of Bank: <u>20</u> ft.	Width of Waterbody - Toe of Slope to Toe of Slope: <u>12</u> ft.	Width of Waterbody - Water Edge to Water Edge: <u>15</u> ft.	Depth of Water: (Approx.) <u>0.3</u> ft.	N/A <input type="checkbox"/>	N/A <input type="checkbox"/>
Sinuosity: (check one) <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering	Water velocity: (Approx.) <u>1</u> fps	Bank height Right: <u>4</u> ft. Left: <u>4</u> ft.	Bank slope Right: <u>45</u> degrees Left: <u>45</u> degrees	N/A <input type="checkbox"/>	N/A <input type="checkbox"/>
Qualitative Attributes					
Water Appearance: (check one) <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:					
Substrate: (check all that apply) <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:					
% of Substrate: _____% _____% _____% _____% <u>90</u> % <u>10</u> % _____% _____%					
Width of Riparian Zone: <u>50</u> ft.	Vegetative Layers: (check all that apply)	<input checked="" type="checkbox"/> Trees: Avg. DBH of Dominants: (approx.) <u>7</u> in.	<input checked="" type="checkbox"/> Saplings/Shrubs: <u>2</u> in.	<input checked="" type="checkbox"/> Herbs <u>NA</u> in.	N/A <input type="checkbox"/>
Dominant Bank Vegetation (list): <u>Morella cerifera, Nyssa sylvatica, Liriodendron tulipifera, Arundinaria gigantea</u>					
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): <u>submerged logs, leaf packs</u>					
Aquatic Organisms Observed (list): <u>none observed</u>					
T&E Species Observed (list): <u>none observed</u>					
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): <u>none observed</u>					
Tributary is: (check one) <input type="checkbox"/> Natural <input checked="" type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated					
Stream Quality*: (check one) <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low					

Waterbody ID:

Schp002

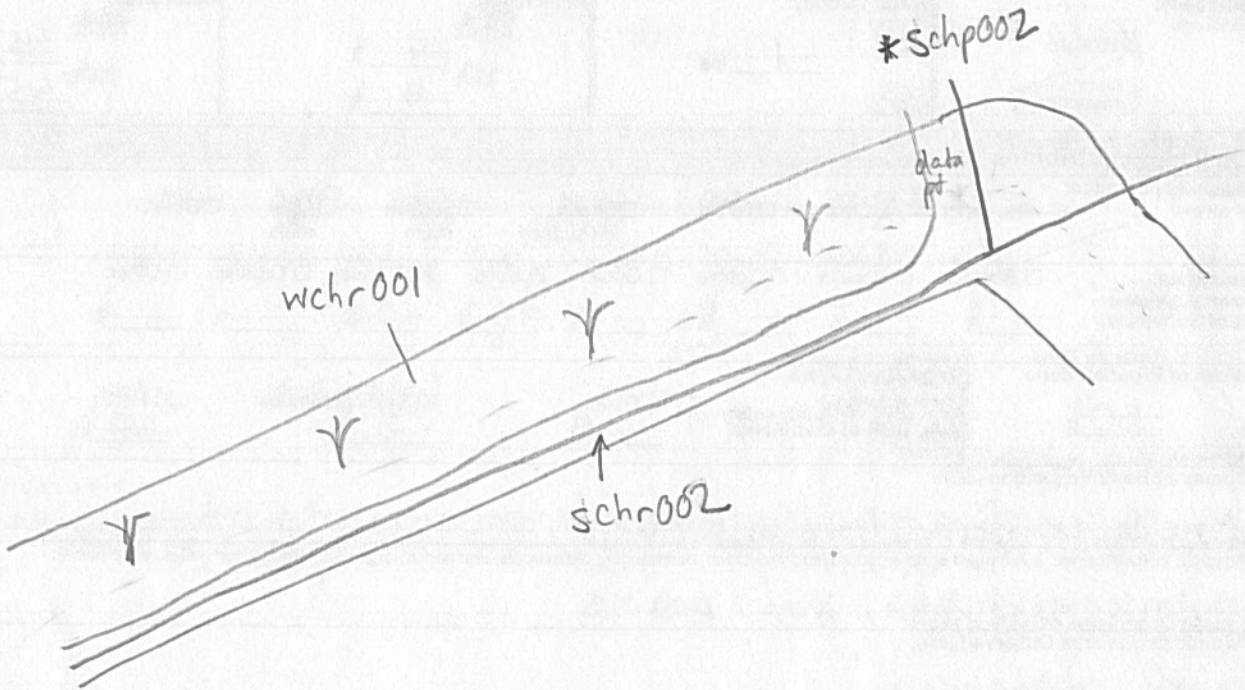
• **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



Environmental Field Surveys
Waterbody Photo Page



Waterbody schp002 facing northwest upstream.



Waterbody schp002 facing southwest downstream.

Environmental Field Surveys
Waterbody Photo Page



Waterbody schp002 facing northeast across bank.

Linear Waterbody Data Sheet

Survey Description			
Project Name: <u>ACP</u>	Waterbody Name: <u>Line to Portsmouth Ditch</u>	Waterbody ID: <u>Scho003</u>	Date: <u>24 Sep 2015</u>
State: <u>VA</u>	County/Parish: <u>Chesapeake</u>	Company: <u>ESI</u>	Crew Member Initials: <u>LKR, CSM</u>
Photos: <u>EWN</u>			
Tract Number(s): <u>27-012</u>		Nearest Milepost: <u>72.3 - 72.7</u>	Associated Wetland ID(s): <u>NA</u>
Survey Type: (check one) <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Stream Classification: (check one) <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial			
Waterbody Type: (check one) <input type="checkbox"/> River <input type="checkbox"/> Stream <input checked="" type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:			
OHWM Width: _____ ft.	OHWM Indicator: (check all that apply) <u>None</u>	<input type="checkbox"/> Clear line on bank	<input type="checkbox"/> Shelving
Height: _____ ft.	<input type="checkbox"/> Bent, matted, or missing vegetation	<input type="checkbox"/> Wrack line	<input type="checkbox"/> Litter and debris
<input checked="" type="checkbox"/> N/A		<input type="checkbox"/> Wrested vegetation	<input type="checkbox"/> Scouring
		<input type="checkbox"/> Abrupt plant community change	<input type="checkbox"/> Water staining
Width of Waterbody - Top of Bank to Top of Bank: <u>3</u> ft.	Width of Waterbody - Toe of Slope to Toe of Slope: <u>1</u> ft.	Width of Waterbody - Water Edge to Water Edge: <u>1</u> ft.	Depth of Water: (Approx.) <u>0.1</u> ft.
		<input checked="" type="checkbox"/> N/A	<input checked="" type="checkbox"/> N/A
Sinuosity: (check one) <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering	Water velocity: (Approx.) <u>0</u> fps	Bank height Right: <u>12</u> ft. Left: <u>1</u> ft.	Bank slope Right: <u>75</u> degrees Left: <u>90</u> degrees
	<input checked="" type="checkbox"/> N/A		
Qualitative Attributes			
Water Appearance: (check one) <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: (check all that apply) % of Substrate: _____% _____% <u>20</u> % <u>20</u> % <u>50</u> % <u>10</u> % _____% _____%			
<input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:			
Width of Riparian Zone: <u>20</u> ft.	Vegetative Layers: (check all that apply) Avg. DBH of Dominants: (approx.)	<input checked="" type="checkbox"/> Trees: <u>10</u> in.	<input checked="" type="checkbox"/> Saplings/Shrubs: <u>2</u> in.
<input checked="" type="checkbox"/> N/A			<input checked="" type="checkbox"/> Herbs: <u>NA</u> in.
Dominant Bank Vegetation (list): <u>Impatiens capensis, Acer rubrum, Woodwardia areolata, Pinus taeda</u>			
Aquatic Habitats (ex: submerged or emergent aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): <u>woody debris</u>			
Aquatic Organisms Observed (list): <u>None observed</u>			
T&E Species Observed (list): <u>None observed</u>			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): <u>Railroad</u>			
Tributary is: (check one) <input type="checkbox"/> Natural <input checked="" type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated			
Stream Quality*: (check one) <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low			

Waterbody ID:

Scho003

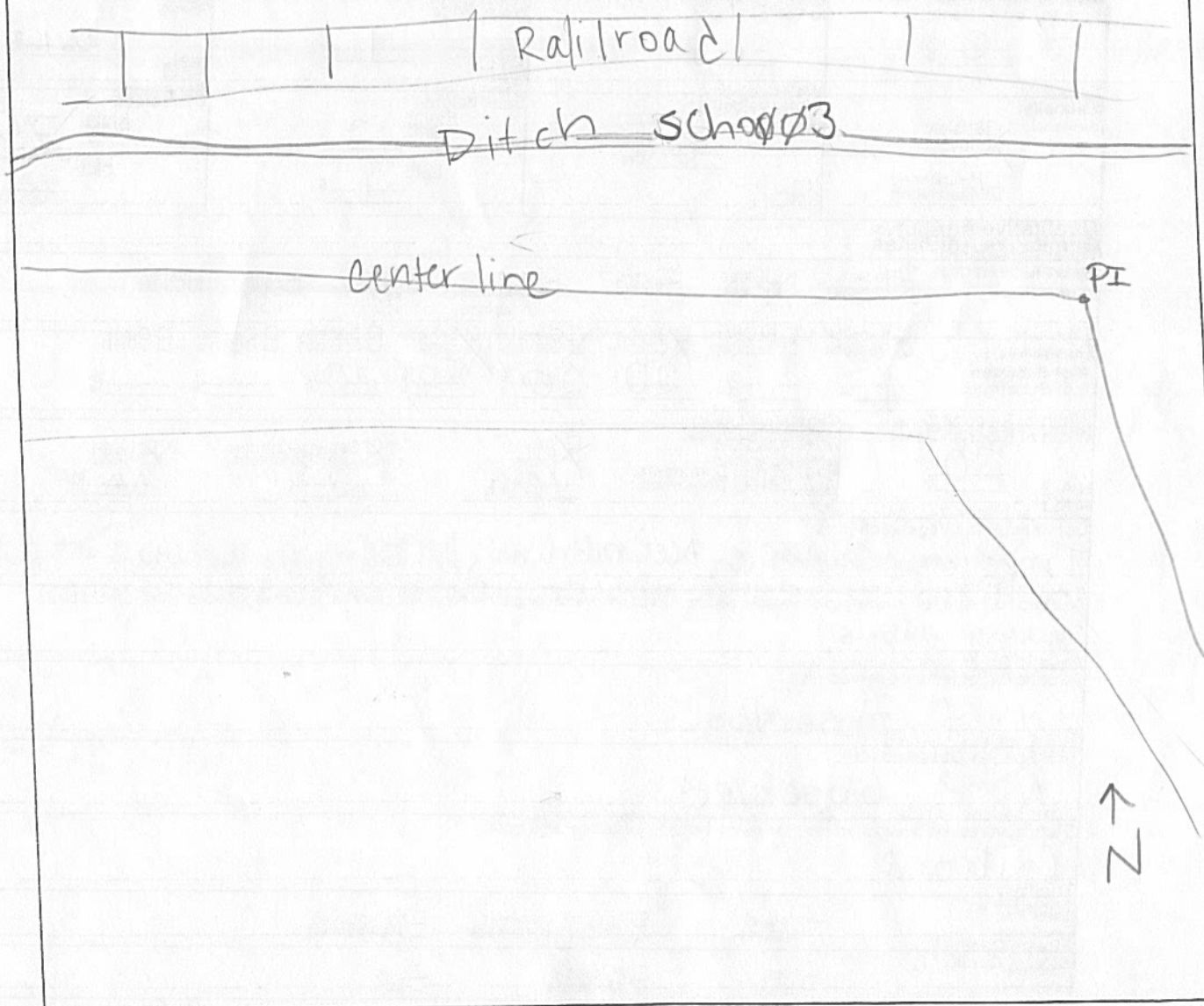
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



Environmental Field Surveys
Waterbody Photo Page



Waterbody scho003 facing west upstream.



Waterbody scho003 facing east downstream.

Environmental Field Surveys
Waterbody Photo Page



Waterbody scho003 facing north across bank.

Linear Waterbody Data Sheet

Survey Description			
Project Name: ACP	Waterbody Name: DEEP CREEK	Waterbody ID: scho001	Date: 09/30/15
State: VA	County/Parish: CHESAPEAKE	Company: ESI	Crew Member Initials: C.T., S.T.
Photos: N, S, E			
Tract Number(s): 27-026-A003, 27-026-A004 27-026-A001, 27-026-A002		Nearest Milepost: 72.8	Associated Wetland ID(s): wcho002, wcho003, wcho004
Survey Type: (check one) <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Stream Classification: (check one) <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial			
Waterbody Type: (check one) <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:			
OHWM Width: 14 ft.		OHWM Indicator: (check all that apply) <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input checked="" type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining	
Height: 2 ft.		<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input checked="" type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change	
N/A <input type="checkbox"/>			
Width of Waterbody - Top of Bank to Top of Bank: 17 ft.	Width of Waterbody - Toe of Slope to Toe of Slope: 11 ft.	Width of Waterbody - Water Edge to Water Edge: 13 ft.	Depth of Water: (Approx.) 1 ft.
Sinuosity: (check one) <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering		Water velocity: (Approx.) 2 fps	Bank height Right: 2 ft. Left: 2 ft.
N/A <input type="checkbox"/>		Bank slope Right: 45 degrees Left: 45 degrees	
Qualitative Attributes			
Water Appearance: (check one) <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: (check all that apply) <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other: % of Substrate: _____% _____% _____% _____% 100% _____% _____% _____%			
Width of Riparian Zone: 100 ft.	Vegetative Layers: (check all that apply) <input checked="" type="checkbox"/> Trees: 6 in. <input checked="" type="checkbox"/> Saplings/Shrubs: 2 in. <input checked="" type="checkbox"/> Herbs: NA in.		
N/A <input type="checkbox"/>			
Dominant Bank Vegetation (list): Arundinaria gigantea, Phytolacca americana, Murchlandia keiskei, Vaccinium corymbosum.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Large submerged wood			
Aquatic Organisms Observed (list): None observed			
T&E Species Observed (list): None observed			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): BOX CULVERTS			
Tributary is: (check one) <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated			
Stream Quality *: (check one) <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low			

Waterbody ID:

Scho001

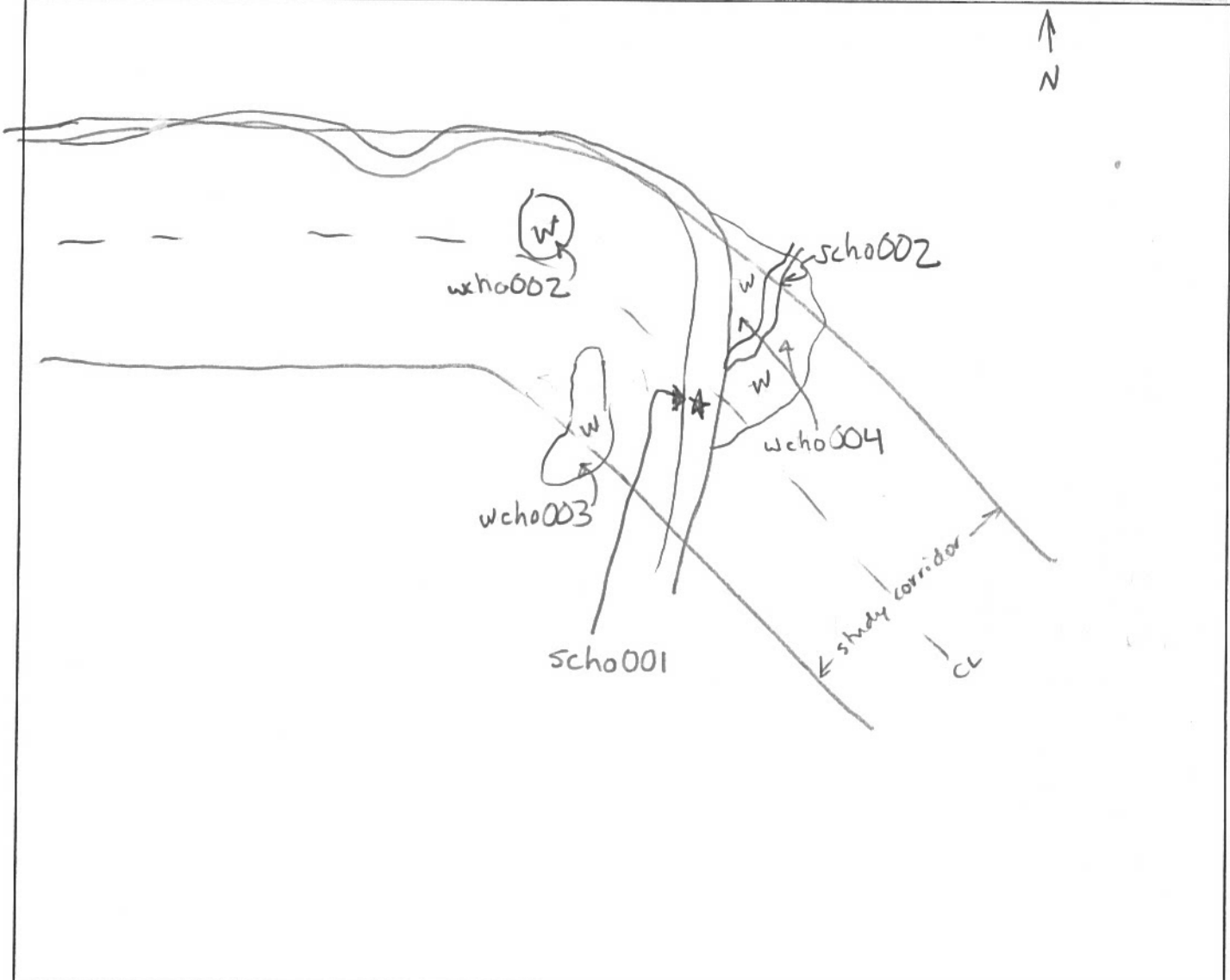
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



Environmental Field Surveys
Waterbody Photo Page



Waterbody scho001 facing north upstream.



Waterbody scho001 facing south downstream.

Environmental Field Surveys
Waterbody Photo Page



Waterbody scho001 facing east across bank.

Linear Waterbody Data Sheet

Survey Description			
Project Name: ACP		Waterbody Name: Deep Creek	Waterbody ID: scho001_s2
Date: 2/10/16			
State: VA	County/Parish: Chesapeake	Company: ESI	Crew Member Initials: LR, MS
Photos: N, S, E			
Tract Number(s): 27-026-1002 27-026-1004		Nearest Milepost: 77.4	Associated Wetland ID(s): wcho004
Survey Type: (check one) <input type="checkbox"/> Centerline <input checked="" type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Stream Classification: (check one) <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial			
Waterbody Type: (check one) <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:			
OHWM Width: 20 ft. Height: 3 ft. N/A <input type="checkbox"/>		OHWM Indicator: (check all that apply) <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining <input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change	
Width of Waterbody - Top of Bank to Top of Bank: 25 ft.	Width of Waterbody - Toe of Slope to Toe of Slope: 15 ft.	Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> 20 ft.	Depth of Water: (Approx.) N/A <input type="checkbox"/> 3 ft.
Sinuosity: (check one) <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering	Water velocity: (Approx.) 1 fps N/A <input type="checkbox"/>	Bank height Right: 4 ft. Left: 4 ft.	Bank slope Right: 45 degrees Left: 30 degrees
Qualitative Attributes			
Water Appearance: (check one) <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: (check all that apply) <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other: % of Substrate: _____% _____% _____% _____% 60% 40% _____% _____%			
Width of Riparian Zone: 100 ft. N/A <input type="checkbox"/>	Vegetative Layers: (check all that apply) <input checked="" type="checkbox"/> Trees: 5 in. <input checked="" type="checkbox"/> Saplings/Shrubs: 1 in. <input checked="" type="checkbox"/> Herbs: NA in. Avg. DBH of Dominants: (approx.)		
Dominant Bank Vegetation (list): Arundinaria gigantea, Leucothoe sp., Quercus nigra			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): leaf packs, submerged wood			
Aquatic Organisms Observed (list): none observed			
T&E Species Observed (list): none observed			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): none observed			
Tributary Is: (check one) <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated			
Stream Quality *: (check one) <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low			

Waterbody ID:

scho001-s2

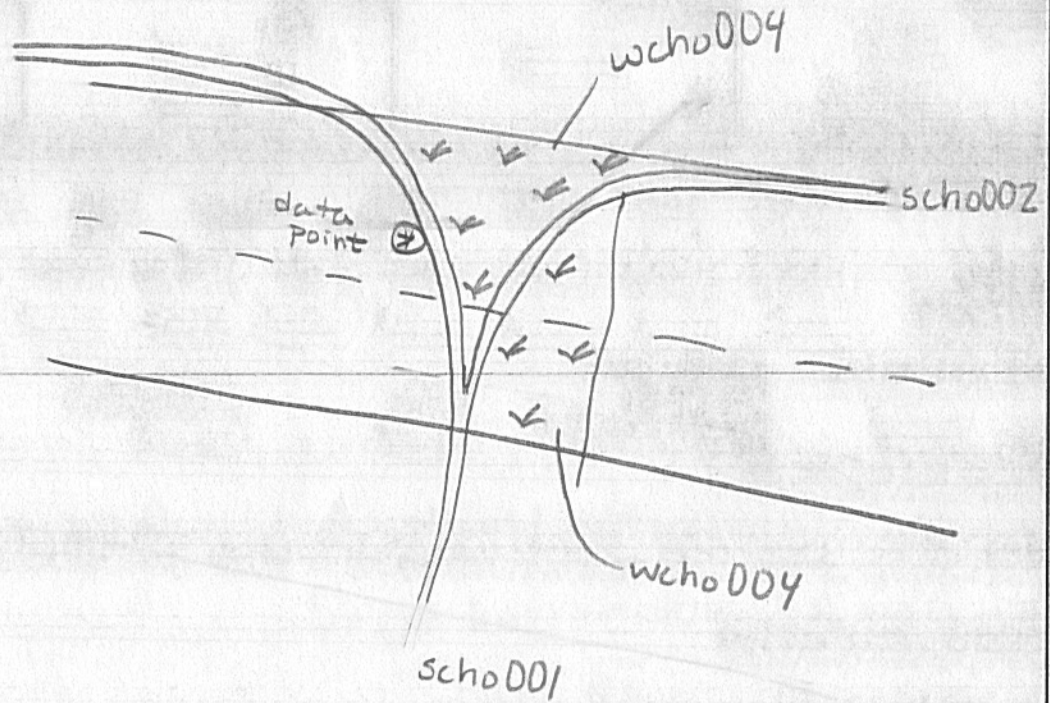
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



Environmental Field Surveys
Waterbody Photo Page



Waterbody data point scho001_s2 facing north upstream.



Waterbody data point scho001_s2 facing south downstream.

Environmental Field Surveys
Waterbody Photo Page



Waterbody data point scho001_s2 facing east across.

Linear Waterbody Data Sheet

Survey Description				
Project Name: ACP		Waterbody Name: UNT to Deep Creek		Waterbody ID: scho002
Date: 09/30/15				
State: VA	County/Parish: Chesapeake	Company: ESI	Crew Member Initials: C-J, S-I	Photos: NE, SW, NW
Tract Number(s): 27-026-A006 27-026-A003 27-026-A004		Nearest Milepost: 72.8	Associated Wetland ID(s): wcho004	
Survey Type: (check one) <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Stream Classification: (check one) <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial				
Waterbody Type: (check one) <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: 6 ft.		OHWM Indicator: (check all that apply) <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining		
OHWM Height: 2 ft.		<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change		
N/A <input type="checkbox"/>				
Width of Waterbody - Top of Bank to Top of Bank: 7 ft.		Width of Waterbody - Toe of Slope to Toe of Slope: 5 ft.		Width of Waterbody - Water Edge to Water Edge: 5 ft.
				Depth of Water: (Approx.) 1 ft.
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>		N/A <input type="checkbox"/>
Sinuosity: (check one) <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering		Water velocity: (Approx.) 2 fps		Bank height Right: 3 ft. Left: 2 ft.
		N/A <input type="checkbox"/>		Bank slope Right: 85 degrees Left: 75 degrees
Qualitative Attributes				
Water Appearance: (check one) <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: (check all that apply) <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:				
% of Substrate: _____% _____% _____% _____% 100% _____% _____% _____%				
Width of Riparian Zone: 60 ft.		Vegetative Layers: (check all that apply) <input checked="" type="checkbox"/> Trees: 4 in. <input checked="" type="checkbox"/> Saplings/Shrubs: 1 in. <input checked="" type="checkbox"/> Herbs: NA in.		
N/A <input type="checkbox"/>		Avg. DBH of Dominants: (approx.)		
Dominant Bank Vegetation (list): Murdannia keiskei, Rubus argutus, Woodwardia areolata, Lonicera japonica.				
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Leaf packs, woody debris, pools				
Aquatic Organisms Observed (list): Box turtle, Fish				
T&E Species Observed (list): none observed				
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): none observed				
Tributary is: (check one) <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Stream Quality*: (check one) <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low				

Waterbody ID:

scho002

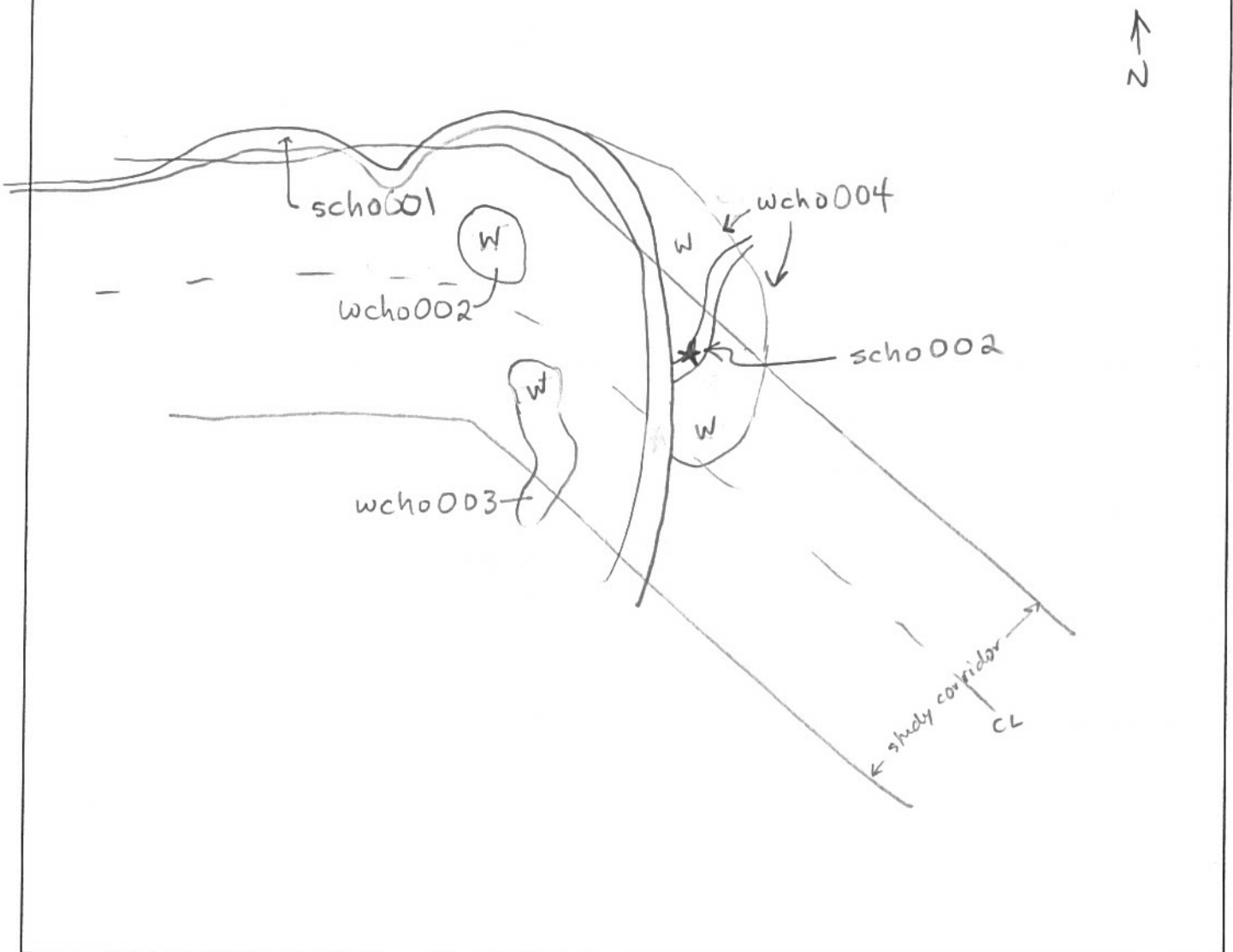
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



Environmental Field Surveys
Waterbody Photo Page



Waterbody scho002 facing northeast upstream.



Waterbody scho002 facing southwest downstream.

Environmental Field Surveys
Waterbody Photo Page



Waterbody scho002 facing northwest across bank.

Linear Waterbody Data Sheet

Survey Description				
Project Name: <u>ACP</u>		Waterbody Name: <u>LNT to Deep Creek</u>	Waterbody ID: <u>SchoD13</u>	Date: <u>2/10/16</u>
State: <u>VA</u>	County/Parish: <u>Chesapeake</u>	Company: <u>ESI</u>	Crew Member Initials: <u>LR, MS</u>	Photos: <u>Facing E, W, S</u>
Tract Number(s): <u>27-026-A006, 27-026-A005</u>		Nearest Milepost: <u>77.5</u>	Associated Wetland ID(s): <u>wcho004</u>	
Survey Type: (check one) <input type="checkbox"/> Centerline <input checked="" type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Stream Classification: (check one) <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial				
Waterbody Type: (check one) <input type="checkbox"/> River <input type="checkbox"/> Stream <input checked="" type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: <u>2</u> ft.	OHWM Height: <u>0.5</u> ft.	OHWM Indicator: (check all that apply) <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining	<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change	N/A <input type="checkbox"/>
Width of Waterbody - Top of Bank to Top of Bank: <u>3</u> ft.	Width of Waterbody - Toe of Slope to Toe of Slope: <u>1</u> ft.	Width of Waterbody - Water Edge to Water Edge: <u>2</u> ft.	Depth of Water: (Approx.) <u>0.4</u> ft.	
Sinuosity: (check one) <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering	Water velocity: (Approx.) <u>4</u> fps	Bank height Right: <u>1</u> ft. Left: <u>1</u> ft.	Bank slope Right: <u>50</u> degrees Left: <u>50</u> degrees	
Qualitative Attributes				
Water Appearance: (check one) <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: (check all that apply) <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other: % of Substrate: _____% _____% _____% _____% <u>60</u> % <u>40</u> % _____% _____%				
Width of Riparian Zone: <u>30</u> ft.	Vegetative Layers: (check all that apply) <input checked="" type="checkbox"/> Trees: <u>4</u> in. <input checked="" type="checkbox"/> Saplings/Shrubs: <u>1</u> in. <input checked="" type="checkbox"/> Herbs: <u>NA</u> in.	Avg. DBH of Dominants: (approx.) _____ in.	N/A <input type="checkbox"/>	
Dominant Bank Vegetation (list): <u>Pinus taeda, Junco effusus, Morella cerifera</u>				
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): <u>leaf packs</u>				
Aquatic Organisms Observed (list): <u>none observed</u>				
T&E Species Observed (list): <u>none observed</u>				
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): <u>none observed</u>				
Tributary Is: (check one) <input type="checkbox"/> Natural <input checked="" type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Stream Quality *: (check one) <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low				

Waterbody ID:

scho 013

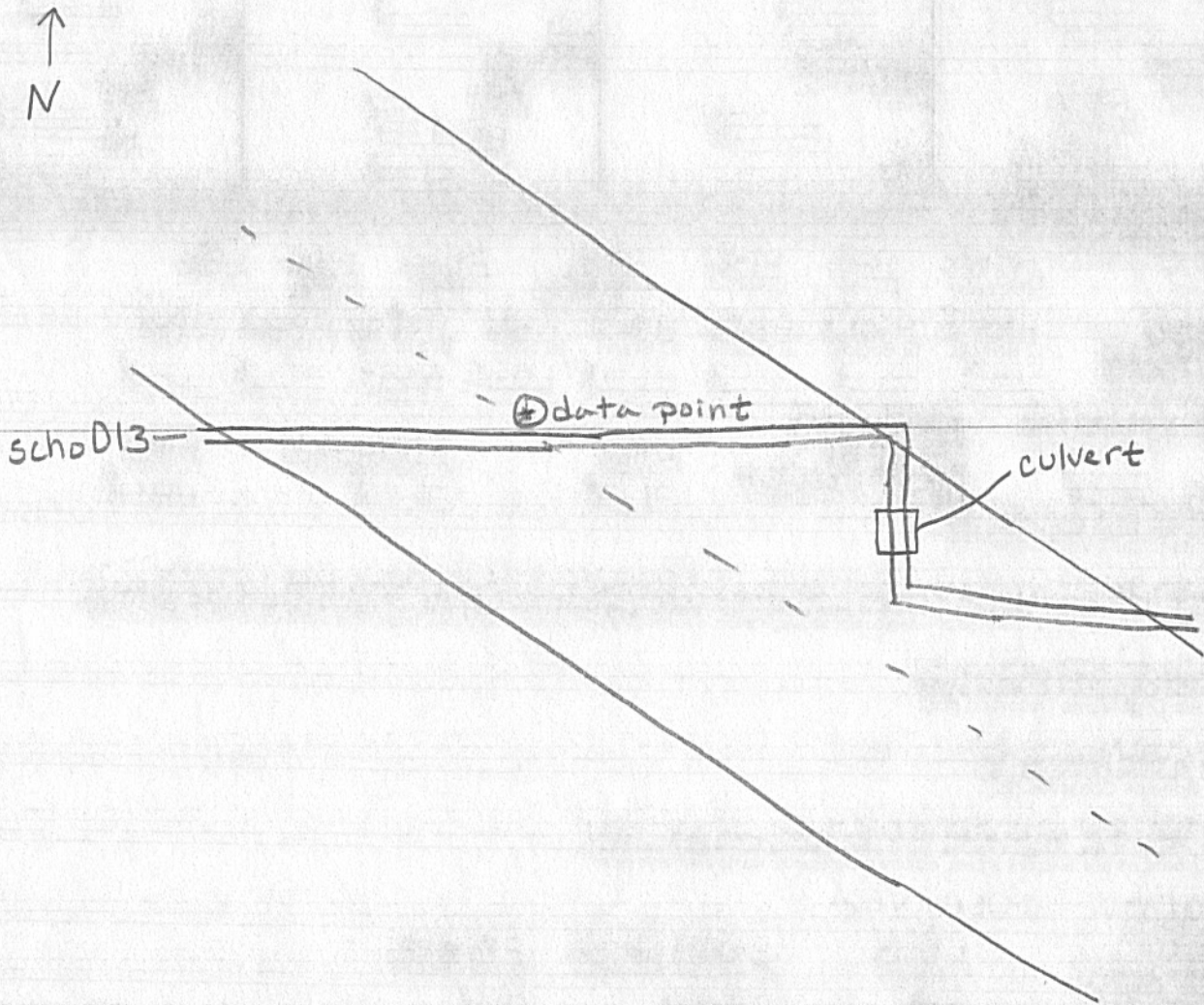
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



Environmental Field Surveys
Waterbody Photo Page



Waterbody data point scho013 facing east upstream.



Waterbody data point scho013 facing west downstream.

Environmental Field Surveys
Waterbody Photo Page



Waterbody data point scho013 facing south across.

Linear Waterbody Data Sheet

Survey Description

Project Name: ACP		Waterbody Name: UNT to Deep Creek		Waterbody ID: SCHO14	Date: 2/11/16
State: VA	County/Parish: Chesapeake	Company: ESI	Crew Member Initials: LR, MS	Photos: Facing N, S, E	
Tract Number(s): 27-046, 27-047		Nearest Milepost: 78.3		Associated Wetland ID(s): wcho D11	

Survey Type: (check one) Centerline Re-Route Access Road Other:

Physical Attributes

Stream Classification: (check one) Ephemeral Intermittent Perennial

Waterbody Type: (check one) River Stream Ditch Canal Other:

OHWM Width: <u>3</u> ft. Height: <u>1</u> ft. N/A <input type="checkbox"/>	OHWM Indicator: (check all that apply)	<input checked="" type="checkbox"/> Clear line on bank	<input type="checkbox"/> Shelving	<input type="checkbox"/> Wrested vegetation	<input type="checkbox"/> Scouring	<input type="checkbox"/> Water staining
	<input checked="" type="checkbox"/> Bent, matted, or missing vegetation	<input type="checkbox"/> Wrack line	<input type="checkbox"/> Litter and debris	<input type="checkbox"/> Abrupt plant community change	<input type="checkbox"/> Soil characteristic change	

Width of Waterbody - Top of Bank to Top of Bank: <u>4</u> ft.	Width of Waterbody - Toe of Slope to Toe of Slope: <u>2</u> ft.	Width of Waterbody - Water Edge to Water Edge: <u>3</u> ft. N/A <input type="checkbox"/>	Depth of Water: (Approx.) <u>0.5</u> ft. N/A <input type="checkbox"/>
Sinuosity: (check one) <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering	Water velocity: (Approx.) <u>0</u> fps N/A <input type="checkbox"/>	Bank height Right: <u>2</u> ft. Left: <u>3</u> ft.	Bank slope Right: <u>90</u> degrees Left: <u>90</u> degrees

Qualitative Attributes

Water Appearance: (check one) No water Clear Turbid Sheen on surface Surface scum Algal mats Other:

Substrate: (check all that apply) Bedrock Boulder Cobble Gravel Sand Silt/clay Organic Other:
% of Substrate: _____% _____% _____% _____% 70% 30% _____% _____%

Width of Riparian Zone: <u>20</u> ft. N/A <input type="checkbox"/>	Vegetative Layers: (check all that apply) Avg. DBH of Dominants: <u>9</u> in.	<input checked="" type="checkbox"/> Trees: <u>2</u> in.	<input checked="" type="checkbox"/> Saplings/Shrubs: <u>NA</u> in.	<input checked="" type="checkbox"/> Herbs: <u>NA</u> in.
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Dominant Bank Vegetation (list): **Clethra alnifolia, Liquidambar styraciflua, Arundinaria gigantea**

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): **leaf packs**

Aquatic Organisms Observed (list): **none observed**

T&E Species Observed (list): **none observed**

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): **ditch between homes and powerline ROW**

Tributary is: (check one) Natural Artificial, man-made Manipulated

Stream Quality *: (check one) High Moderate Low

Waterbody ID:

scho014

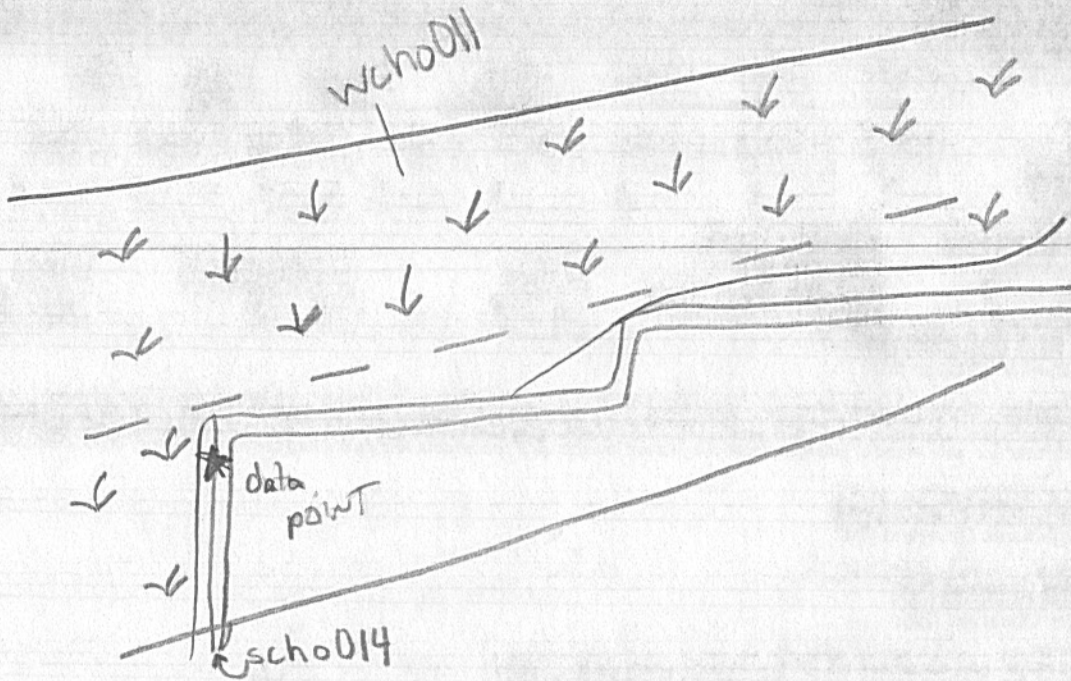
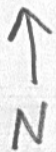
▪ **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



Environmental Field Surveys
Waterbody Photo Page



Waterbody data point scho014 facing north upstream.



Waterbody data point scho014 facing south downstream.

Environmental Field Surveys
Waterbody Photo Page



Waterbody data point scho014 facing east across.

Linear Waterbody Data Sheet

Survey Description			
Project Name: ACP	Waterbody Name: UNT to Deep Creek	Waterbody ID: SchoD11	Date: 12/14/15
State: VA	County/Parish: Chesapeake	Company: ESI	Crew Member Initials: RT, LR
Tract Number(s): 27-048		Nearest Milepost: 78.6	Photos: S, N, E
Associated Wetland ID(s): wchoD11			
Survey Type: (check one) <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Stream Classification: (check one) <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial			
Waterbody Type: (check one) <input type="checkbox"/> River <input type="checkbox"/> Stream <input checked="" type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:			
OHWM Width: 6 ft.	OHWM Height: 2 ft.	OHWM Indicator: (check all that apply) <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input checked="" type="checkbox"/> Water staining <input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change	
Width of Waterbody - Top of Bank to Top of Bank: 10 ft.	Width of Waterbody - Toe of Slope to Toe of Slope: 5 ft.	Width of Waterbody - Water Edge to Water Edge: N/A	Depth of Water: (Approx.) 2 ft.
Sinuosity: (check one) <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering	Water velocity: (Approx.) 0 fps	Bank height Right: 5 ft. Left: 4 ft.	Bank slope Right: 60 degrees Left: 60 degrees
Qualitative Attributes			
Water Appearance: (check one) <input type="checkbox"/> No water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input checked="" type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: (check all that apply) <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:			
% of Substrate: _____% _____% _____% _____% 30% 70% _____% _____%			
Width of Riparian Zone: 20 ft.	Vegetative Layers: (check all that apply) <input type="checkbox"/> Trees: _____ in. <input checked="" type="checkbox"/> Saplings/Shrubs: 2 in. <input checked="" type="checkbox"/> Herbs: NA in.		
Avg. DBH of Dominants: (approx.) _____ in.			
Dominant Bank Vegetation (list): Morella cerifera, Rubus argutus			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): submerged wood			
Aquatic Organisms Observed (list): none			
T&E Species Observed (list): none			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): powerline easement, roadside ditch			
Tributary is: (check one) <input type="checkbox"/> Natural <input checked="" type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated			
Stream Quality *: (check one) <input type="checkbox"/> High <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Low			

Waterbody ID:

Scho011

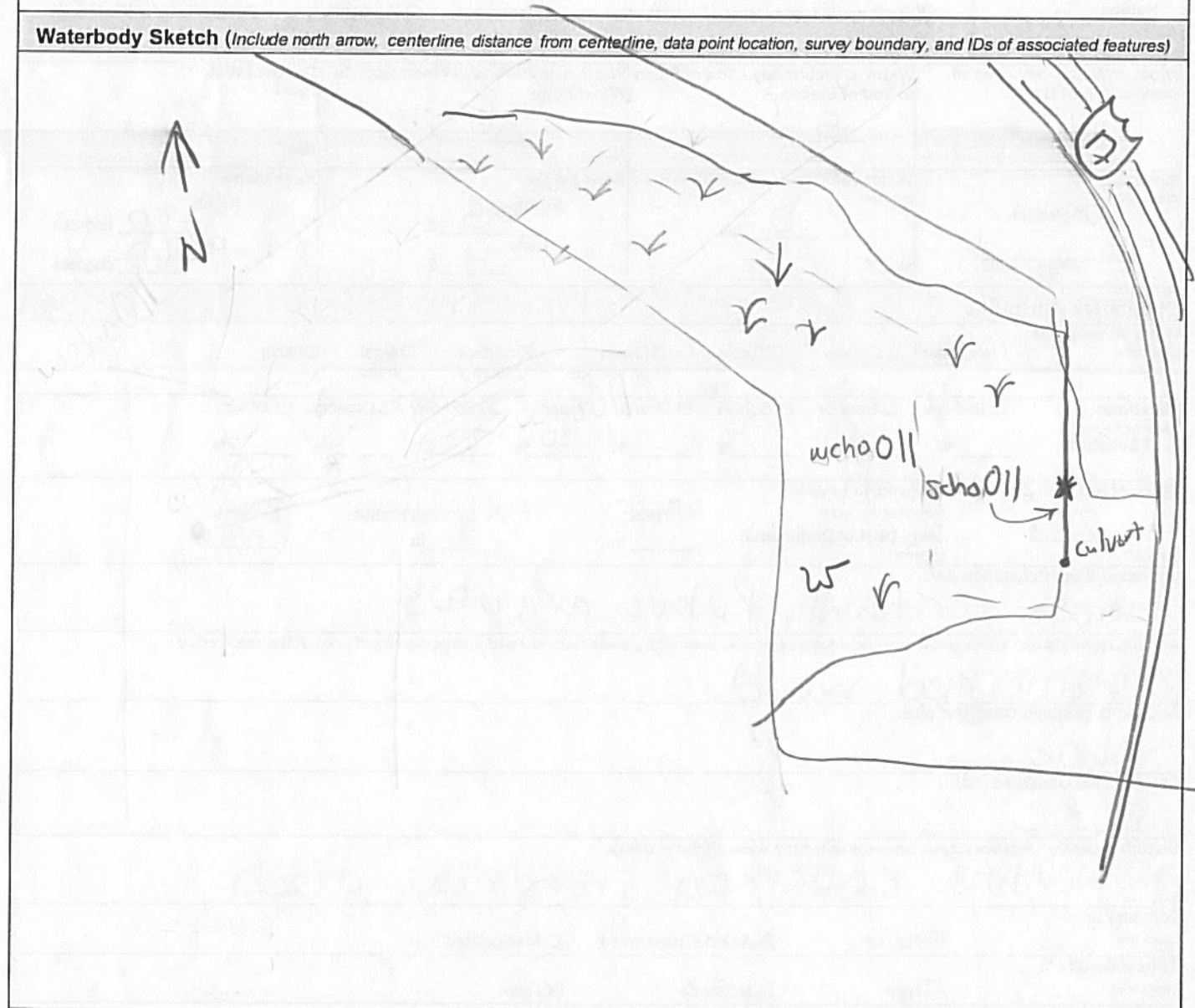
▪ **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



Environmental Field Surveys
Waterbody Photo Page



Waterbody scho011 facing south upstream.



Waterbody scho011 facing north downstream.

Environmental Field Surveys
Waterbody Photo Page



Waterbody scho011 facing east across bank.

Linear Waterbody Data Sheet

Survey Description			
Project Name: ACP	Waterbody Name: UNT to Deep Creek	Waterbody ID: Scho004	Date: 10/15/15
State: VA	County/Parish: chesapeake	Company: ESI	Crew Member Initials: K.M, S.I.
Photos: N, S, E			
Tract Number(s): 27-051 / unnumbered		Nearest Milepost: 75.3	Associated Wetland ID(s): N/A
Survey Type: (check one) <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Stream Classification: (check one) <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial			
Waterbody Type: (check one) <input type="checkbox"/> River <input type="checkbox"/> Stream <input checked="" type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:			
OHWM Width: 7 ft.	OHWM Indicator: (check all that apply) <input type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input checked="" type="checkbox"/> Water staining	<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change	
OHWM Height: <0.1 ft.	N/A <input type="checkbox"/>		
Width of Waterbody - Top of Bank to Top of Bank: 14 ft.	Width of Waterbody - Toe of Slope to Toe of Slope: 7 ft.	Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> 6 ft.	Depth of Water: (Approx.) N/A <input type="checkbox"/> <0.1 ft.
Sinuosity: (check one) <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering	Water velocity: (Approx.) 0 fps N/A <input type="checkbox"/>	Bank height Right: 3 ft. Left: 3 ft.	Bank slope Right: 45 degrees Left: 45 degrees
Qualitative Attributes			
Water Appearance: (check one) <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: (check all that apply) <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:			
% of Substrate: _____% _____% _____% _____% 10% 90% _____% _____%			
Width of Riparian Zone: N/A <input checked="" type="checkbox"/> _____ ft.	Vegetative Layers: (check all that apply) <input type="checkbox"/> Trees: _____ in. <input type="checkbox"/> Saplings/Shrubs: _____ in. <input checked="" type="checkbox"/> Herbs: N/A in.		
Avg. DBH of Dominants: (approx.)			
Dominant Bank Vegetation (list): mowed lawn, grasses & herbs.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): vegetation			
Aquatic Organisms Observed (list): mosquito fish			
T&E Species Observed (list): N/A			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Artificial man-made ditch			
Tributary is: (check one) <input type="checkbox"/> Natural <input checked="" type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated			
Stream Quality *: (check one) <input type="checkbox"/> High <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Low			

Waterbody ID:
Scho004

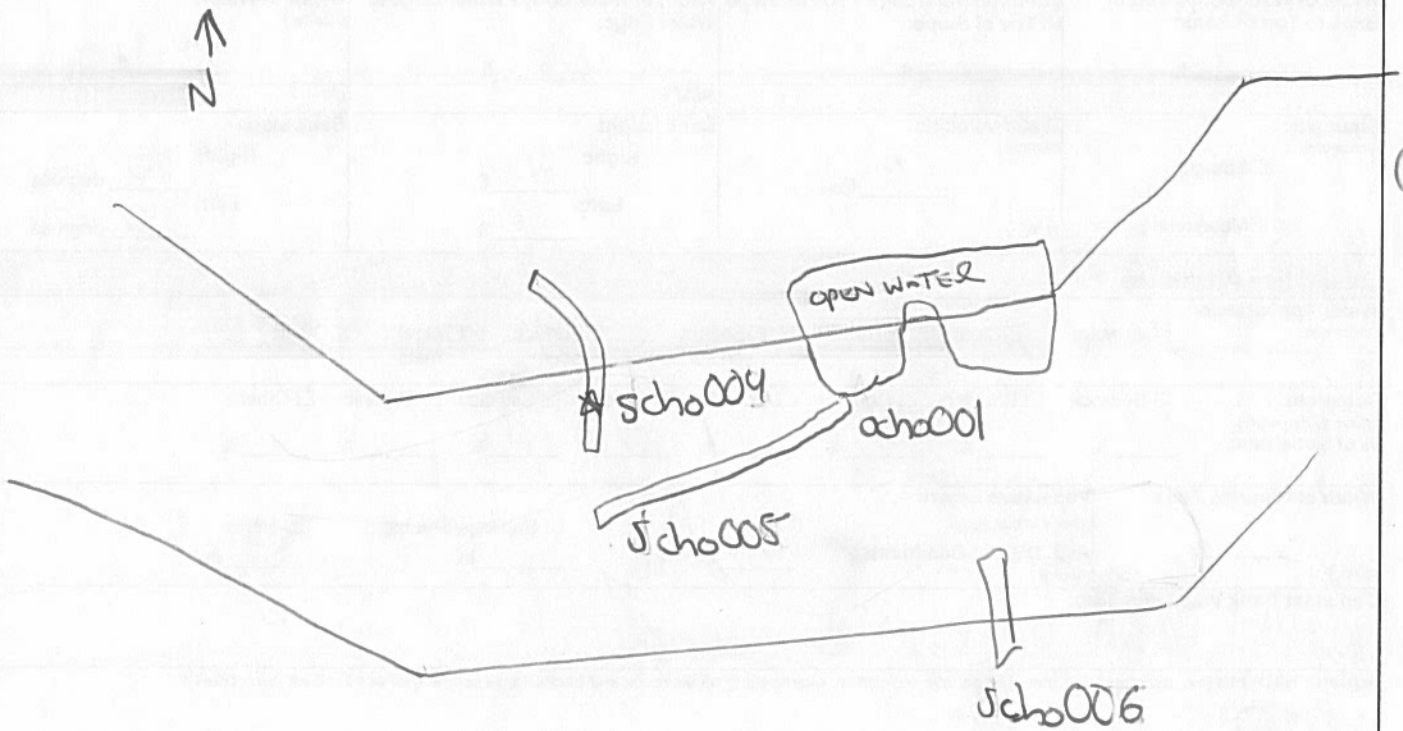
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



Environmental Field Surveys
Waterbody Photo Page



Waterbody scho004 facing north upstream.



Waterbody scho004 facing south downstream.

Environmental Field Surveys
Waterbody Photo Page



Waterbody scho004 facing east across bank.

Linear Waterbody Data Sheet

Survey Description					
Project Name: ACP		Waterbody Name: LNT to Deep Creek		Waterbody ID: Scho005	Date: 10/16/15
State: VA	County/Parish: Chesapeake	Company: ESI	Crew Member Initials: K.M, C.I.	Photos: W, E, N	
Tract Number(s): 27-051		Nearest Milepost: 75.3	Associated Wetland ID(s): N/A		
Survey Type: <small>(check one)</small> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:					
Physical Attributes					
Stream Classification: <small>(check one)</small> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial					
Waterbody Type: <small>(check one)</small> <input type="checkbox"/> River <input type="checkbox"/> Stream <input checked="" type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:					
OHWM Width: 6 ft.	OHWM Height: 0.1 ft.	OHWM Indicator: <small>(check all that apply)</small>	<input type="checkbox"/> Clear line on bank	<input checked="" type="checkbox"/> Shelving	<input type="checkbox"/> Wrested vegetation
N/A <input type="checkbox"/>		<input type="checkbox"/> Bent, matted, or missing vegetation	<input checked="" type="checkbox"/> Wrack line	<input type="checkbox"/> Litter and debris	<input type="checkbox"/> Scouring
			<input type="checkbox"/> Abrupt plant community change	<input type="checkbox"/> Soil characteristic change	<input type="checkbox"/> Water staining
Width of Waterbody - Top of Bank to Top of Bank: 14 ft.	Width of Waterbody - Toe of Slope to Toe of Slope: 6 ft.	Width of Waterbody - Water Edge to Water Edge: 6 ft.	Depth of Water: <small>(Approx.)</small> 0.1 ft.	N/A <input type="checkbox"/>	N/A <input type="checkbox"/>
Sinuosity: <small>(check one)</small> <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering	Water velocity: <small>(Approx.)</small> < 1 fps	Bank height Right: 3 ft. Left: 5 ft.	Bank slope Right: 45 degrees Left: 90 degrees	N/A <input type="checkbox"/>	N/A <input type="checkbox"/>
Qualitative Attributes					
Water Appearance: <small>(check one)</small> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:					
Substrate: <small>(check all that apply)</small> <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other: % of Substrate: _____% _____% _____% _____% 5% 95% _____% _____%					
Width of Riparian Zone: N/A <input type="checkbox"/>	Vegetative Layers: <small>(check all that apply)</small>	Avg. DBH of Dominants: <small>(approx.)</small>	<input type="checkbox"/> Trees: _____ in.	<input checked="" type="checkbox"/> Saplings/Shrubs: 2 in.	<input checked="" type="checkbox"/> Herbs: N/A in.
Dominant Bank Vegetation (list): Morella cerifera, Acer rubrum, Prunus serotina, mowed grasses.					
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): emerged aquatic vegetation					
Aquatic Organisms Observed (list): Mosquitofish					
T&E Species Observed (list): N/A					
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Artificial man-made ditch					
Tributary Is: <small>(check one)</small> <input type="checkbox"/> Natural <input checked="" type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated					
Stream Quality *: <small>(check one)</small> <input type="checkbox"/> High <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Low					

Waterbody ID:

Scho005

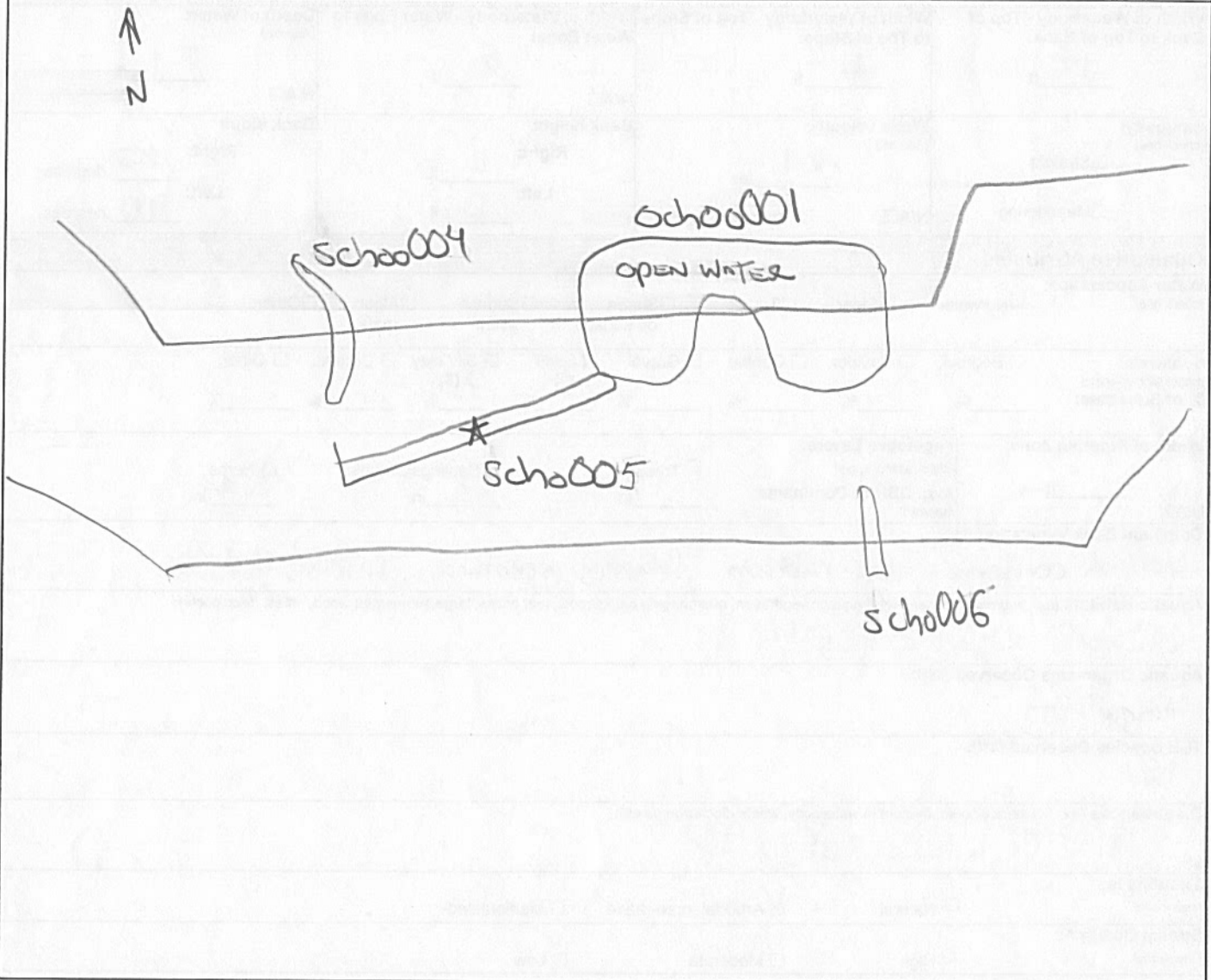
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



Environmental Field Surveys
Waterbody Photo Page



Waterbody scho005 facing west upstream.



Waterbody scho005 facing east downstream.

Environmental Field Surveys
Waterbody Photo Page



Waterbody scho005 facing north across bank.

Open Waterbody Data Sheet

Survey Description			
Project Name: <u>ACP</u>	Waterbody Name: <u>UNNAMED POND</u>	Waterbody ID: <u>0cho001</u>	Date: <u>10/15/15</u>
State: <u>VA</u>	County: <u>chesapeake</u>	Company: <u>ESTJ</u>	Crew Member Initials: <u>K-M, S.J</u>
Photos: <u>NW, NE</u>	Tract Number(s): <u>27-051</u>	Nearest Milepost: <u>75.3</u>	Associated Wetland ID(s): <u>NA</u>
Survey Type: (check one) <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Waterbody Type: (check one) <input type="checkbox"/> Stock Pond <input type="checkbox"/> Natural Pond <input type="checkbox"/> Lake <input type="checkbox"/> Reservoir <input type="checkbox"/> Impoundment <input type="checkbox"/> Oxbow <input checked="" type="checkbox"/> Other: <u>stormwater pond</u>			
Hydrologic Regime: <input checked="" type="checkbox"/> Permanently Flooded <input type="checkbox"/> Semipermanently Flooded <input type="checkbox"/> Seasonally Flooded <input type="checkbox"/> Temporarily Flooded			
OHWM Height: <u>N/A</u> ft.	OHWM Indicator: (check all that apply) <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining <input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change		
Depth of Water: <u>>3</u> ft. N/A <input type="checkbox"/>	Bank height (average): <u>N/A</u> ft.	Bank slope (average): <u>45</u> degrees	
Qualitative Attributes			
Water Appearance: (check one) <input type="checkbox"/> No water <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: (check all that apply) <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input checked="" type="checkbox"/> Other: <u>N/A</u>			
% of Substrate: _____% _____% _____% _____% _____% _____% _____%			
Width of Riparian Zone: <u>N/A</u> ft.	Vegetative Layers: (check all that apply) <input type="checkbox"/> Trees: <input type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs: <u>N/A</u>		
Avg. DBH of Dominants: (approx.) _____ in. _____ in. <u>N/A</u> in.			
Dominant Bank Vegetation (list): <u>Salix nigra, Morella cerifera, Baccharis halimifolia, Lespedeza cuneata</u>			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): <u>deep water, overhanging vegetation, emergent fringe</u>			
Aquatic Organisms Observed (list): <u>Fish</u>			
T&E Species Observed (list): <u>N/A</u>			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): <u>Man made storm water pond</u>			
Waterbody is: (check one) <input type="checkbox"/> Natural <input checked="" type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated			
Waterbody Quality *: (check one) <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low			

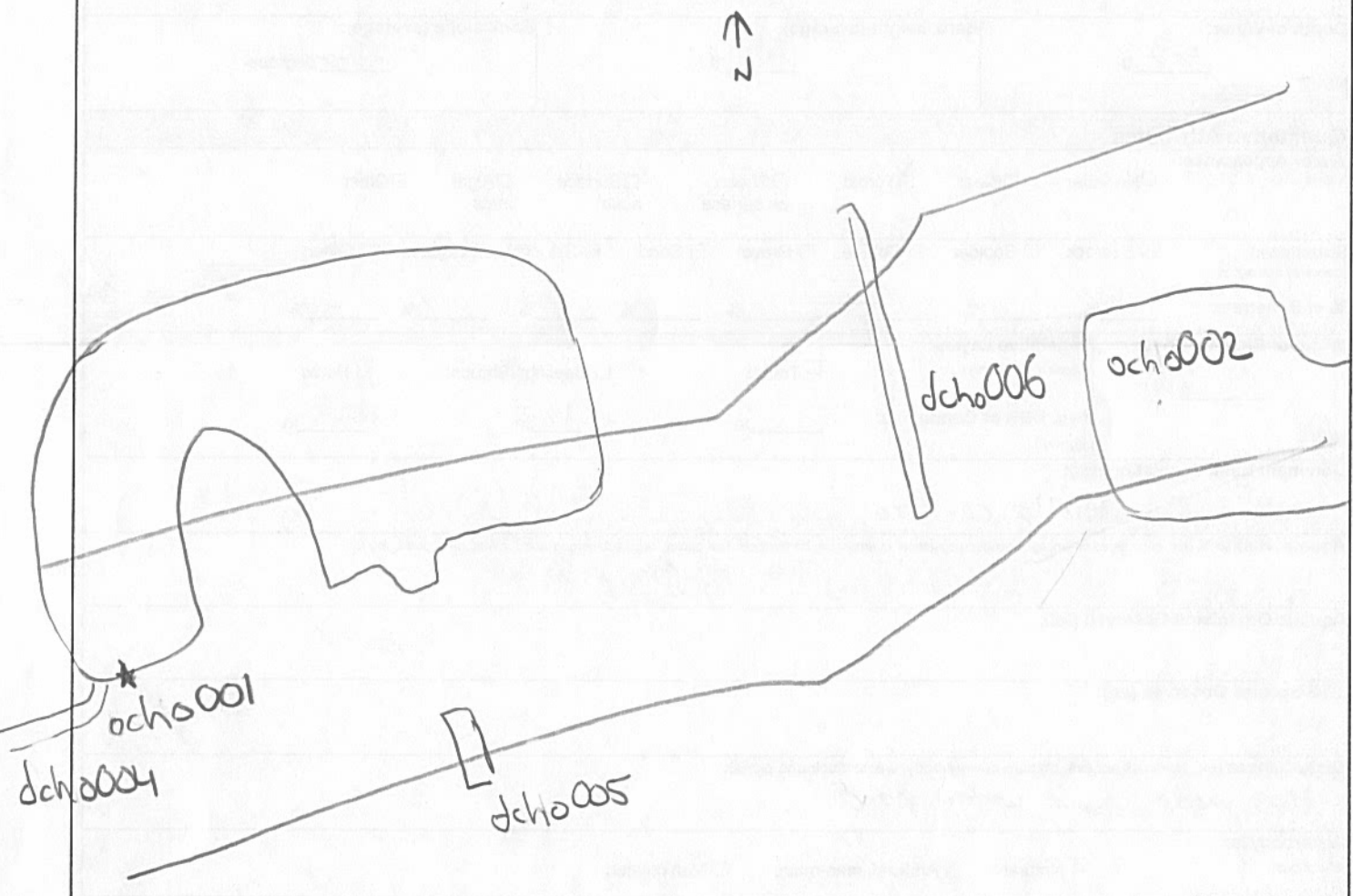
Waterbody ID:

och001

- **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)



Environmental Field Surveys
Open Water Point Photo Page



Open Waterbody ocho001 facing northwest.



Open Waterbody ocho001 facing northeast.

Linear Waterbody Data Sheet

Survey Description				
Project Name: <u>ACP</u>		Waterbody Name: <u>LNT to Deep Creek</u>		Waterbody ID: <u>Scho006</u>
Date: <u>10/15/15</u>				
State: <u>VA</u>	County/Parish: <u>Chesapeake</u>	Company: <u>ESI</u>	Crew Member Initials: <u>K.M, S.I</u>	Photos: <u>S,N,E</u>
Tract Number(s): <u>27-052</u>		Nearest Milepost: <u>75.4</u>		Associated Wetland ID(s): <u>N/A</u>
Survey Type: <small>(check one)</small> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Stream Classification: <small>(check one)</small> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial				
Waterbody Type: <small>(check one)</small> <input type="checkbox"/> River <input type="checkbox"/> Stream <input checked="" type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: <u>8</u> ft. Height: <u>0.3</u> ft. N/A <input type="checkbox"/>		OHWM Indicator: <small>(check all that apply)</small> <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input checked="" type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining <input type="checkbox"/> Bent, matted, or missing vegetation <input checked="" type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change		
Width of Waterbody - Top of Bank to Top of Bank: <u>16</u> ft.	Width of Waterbody - Toe of Slope to Toe of Slope: <u>8</u> ft.	Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> <u>8</u> ft.	Depth of Water: <small>(Approx.)</small> <u>0.3</u> ft.	
Sinuosity: <small>(check one)</small> <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering	Water velocity: <small>(Approx.)</small> <u>0</u> fps N/A <input type="checkbox"/>	Bank height Right: <u>4</u> ft. Left: <u>3</u> ft.	Bank slope Right: <u>45</u> degrees Left: <u>45</u> degrees	
Qualitative Attributes				
Water Appearance: <small>(check one)</small> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: <small>(check all that apply)</small> % of Substrate: _____% _____% _____% _____% <u>10</u> % <u>90</u> % _____% _____%				
Width of Riparian Zone: <u>0</u> ft. N/A <input type="checkbox"/>	Vegetative Layers: <small>(check all that apply)</small> <input type="checkbox"/> Trees: _____ in. <input checked="" type="checkbox"/> Saplings/Shrubs: <u>1</u> in. <input checked="" type="checkbox"/> Herbs: <u>N/A</u> in.			
Dominant Bank Vegetation (list): <u>Liquidambar styraciflua, Acer rubrum, Morella cerifera, Eupatorium capillifolium, Andropogon virginicus</u>				
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): <u>overhanging vegetation, leaf packs</u>				
Aquatic Organisms Observed (list): <u>FISH</u>				
T&E Species Observed (list): <u>None</u>				
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): <u>Man-made ditch</u>				
Tributary is: <small>(check one)</small> <input type="checkbox"/> Natural <input checked="" type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Stream Quality*: <small>(check one)</small> <input type="checkbox"/> High <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Low				

Waterbody ID:

Scho006

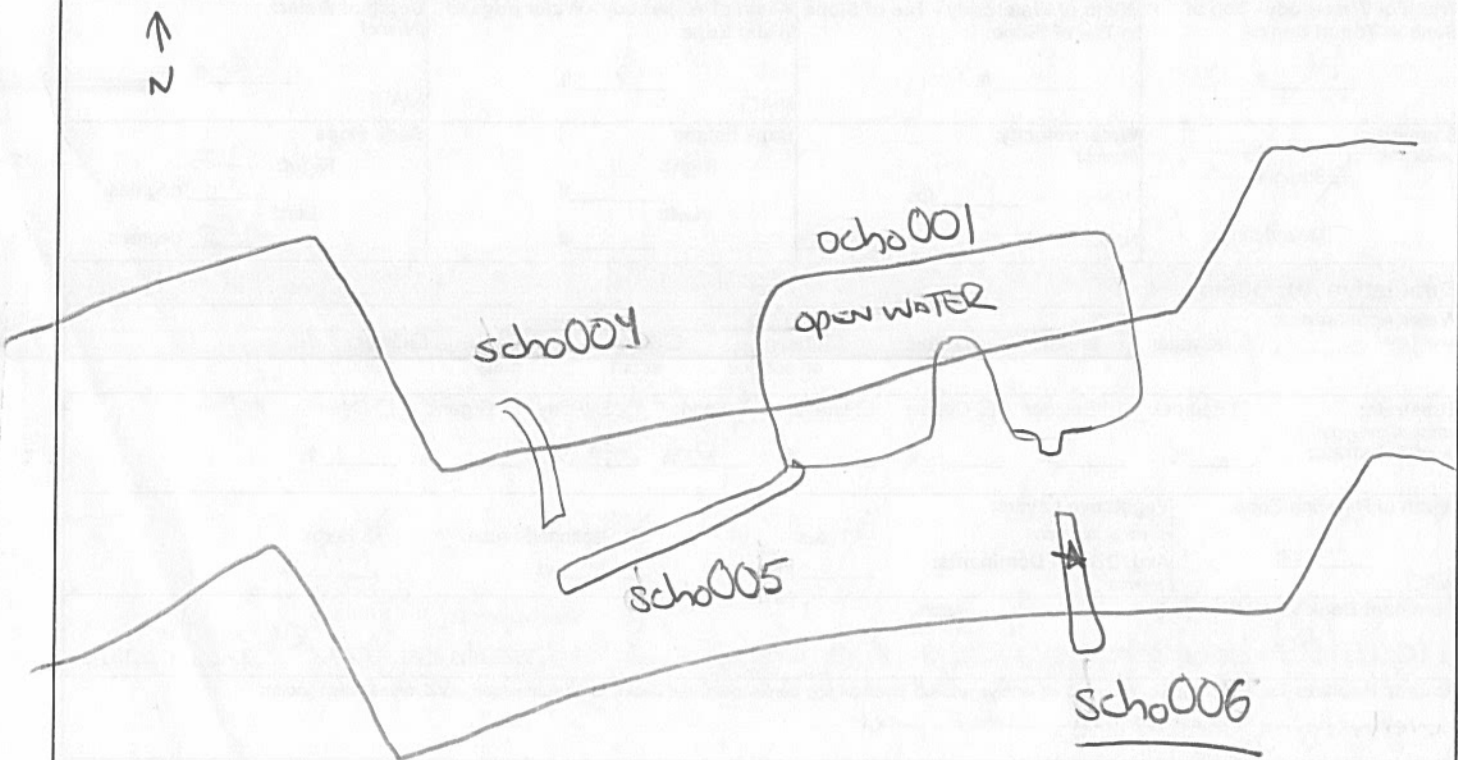
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



Environmental Field Surveys
Waterbody Photo Page



Waterbody scho006 facing south upstream.



Waterbody scho006 facing north downstream.

Environmental Field Surveys
Waterbody Photo Page



Waterbody scho006 facing east across bank.

Open Waterbody Data Sheet

Survey Description				
Project Name: ACP	Waterbody Name: UNNAMED Pond	Waterbody ID: 0cho002	Date: 10/19/15	
State: VA	County: Chesapeake	Company: ESI	Crew Member Initials: K.M, S.I	Photos: NE, NW
Tract Number(s): 27-055	Nearest Milepost: 15.6	Associated Wetland ID(s): N/A		
Survey Type: (check one) <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Waterbody Type: (check one) <input type="checkbox"/> Stock Pond <input type="checkbox"/> Natural Pond <input type="checkbox"/> Lake <input type="checkbox"/> Reservoir <input type="checkbox"/> Impoundment <input type="checkbox"/> Oxbow <input checked="" type="checkbox"/> Other: stormwater pond				
Hydrologic Regime: <input checked="" type="checkbox"/> Permanently Flooded <input type="checkbox"/> Semipermanently Flooded <input type="checkbox"/> Seasonally Flooded <input type="checkbox"/> Temporarily Flooded				
OHWM Height: N/A ft.	OHWM Indicator: (check all that apply) <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining <input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change			
Depth of Water: N/A <input type="checkbox"/> > 3 ft.	Bank height (average): N/A ft.	Bank slope (average): 45 degrees		
Qualitative Attributes				
Water Appearance: (check one) <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: (check all that apply) <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other: % of Substrate: _____ % _____ % _____ % _____ % _____ % _____ % _____ % N/A				
Width of Riparian Zone: N/A <input checked="" type="checkbox"/> _____ ft.	Vegetative Layers: (check all that apply) <input type="checkbox"/> Trees: _____ <input type="checkbox"/> Saplings/Shrubs: _____ <input checked="" type="checkbox"/> Herbs: N/A in. Avg. DBH of Dominants: (approx.) _____ in. _____ in.			
Dominant Bank Vegetation (list): Mowed and maintained lawn grasses and herbs.				
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Deep water				
Aquatic Organisms Observed (list): Paper pondshell, largemouth bass, bluegill, mosquitofish				
T&E Species Observed (list): None				
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Man made storm water pond				
Waterbody is: (check one) <input type="checkbox"/> Natural <input checked="" type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Waterbody Quality * : (check one) <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low				

Waterbody ID:

ocho002

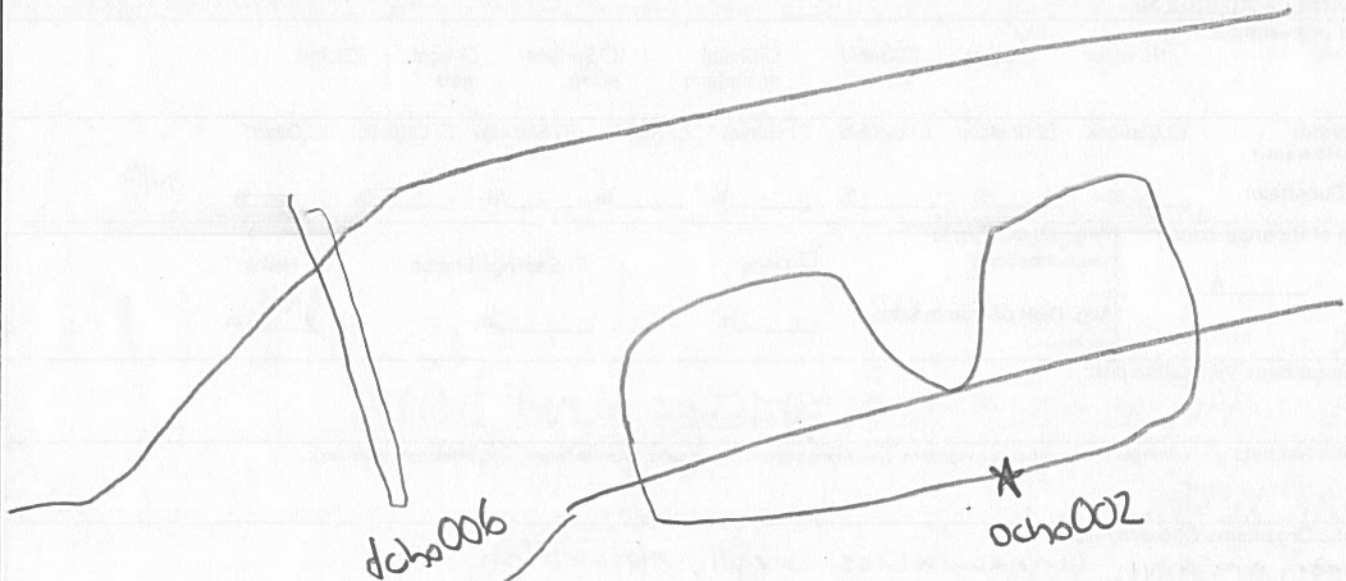
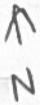
▪ **High Quality:** Natural, natural bank vegetation around entire waterbody; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

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)



Environmental Field Surveys
Open Water Point Photo Page



Open Waterbody ocho002 facing northeast.



Open Waterbody ocho002 facing northwest.

Linear Waterbody Data Sheet

Survey Description			
Project Name: ACP	Waterbody Name: LNT to Deep Creek	Waterbody ID: Scho 007	Date: 10/15/15
State: VA	County/Parish: Chesapeake	Company: ESI	Crew Member Initials: K.M, S.I Photos: N, S, W
Tract Number(s): 27-090 & 27-091		Nearest Milepost: 76.0	Associated Wetland ID(s): wcho006
Survey Type: (check one) <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Stream Classification: (check one) <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial			
Waterbody Type: (check one) <input type="checkbox"/> River <input type="checkbox"/> Stream <input checked="" type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:			
OHWM Width: 2 ft.	OHWM Indicator: (check all that apply)	<input type="checkbox"/> Clear line on bank	<input type="checkbox"/> Shelving
Height: 0.3 ft.	<input type="checkbox"/> Bent, matted, or missing vegetation	<input checked="" type="checkbox"/> Wrack line	<input checked="" type="checkbox"/> Wrested vegetation
N/A <input type="checkbox"/>		<input type="checkbox"/> Litter and debris	<input type="checkbox"/> Scouring
		<input type="checkbox"/> Abrupt plant community change	<input checked="" type="checkbox"/> Water staining
Width of Waterbody - Top of Bank to Top of Bank: 10 ft.	Width of Waterbody - Toe of Slope to Toe of Slope: 2 ft.	Width of Waterbody - Water Edge to Water Edge: 2 ft.	Depth of Water: (Approx.) 0.3 ft.
Sinuosity: (check one) <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering	Water velocity: (Approx.) 2 fps	Bank height Right: 2 ft. Left: 2 ft.	Bank slope Right: 30 degrees Left: 30 degrees
Qualitative Attributes			
Water Appearance: (check one) <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: (check all that apply) <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input checked="" type="checkbox"/> Other: Concrete			
% of Substrate: _____% _____% _____% _____% _____% _____% 100%			
Width of Riparian Zone: N/A <input type="checkbox"/>	Vegetative Layers: (check all that apply)		
	<input type="checkbox"/> Trees:	<input checked="" type="checkbox"/> Saplings/Shrubs: 2 in.	<input checked="" type="checkbox"/> Herbs: 2 in.
Avg. DBH of Dominants: (approx.) _____ in.			
Dominant Bank Vegetation (list): Acer rubrum, Morella cerifera, Liquidambar styraciflua, Rubus argutus			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): overhanging vegetation, woody debris			
Aquatic Organisms Observed (list): None			
T&E Species Observed (list): None			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Artificial			
Tributary is: (check one) <input type="checkbox"/> Natural <input checked="" type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated			
Stream Quality *: (check one) <input type="checkbox"/> High <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Low			

Waterbody ID:

scho007

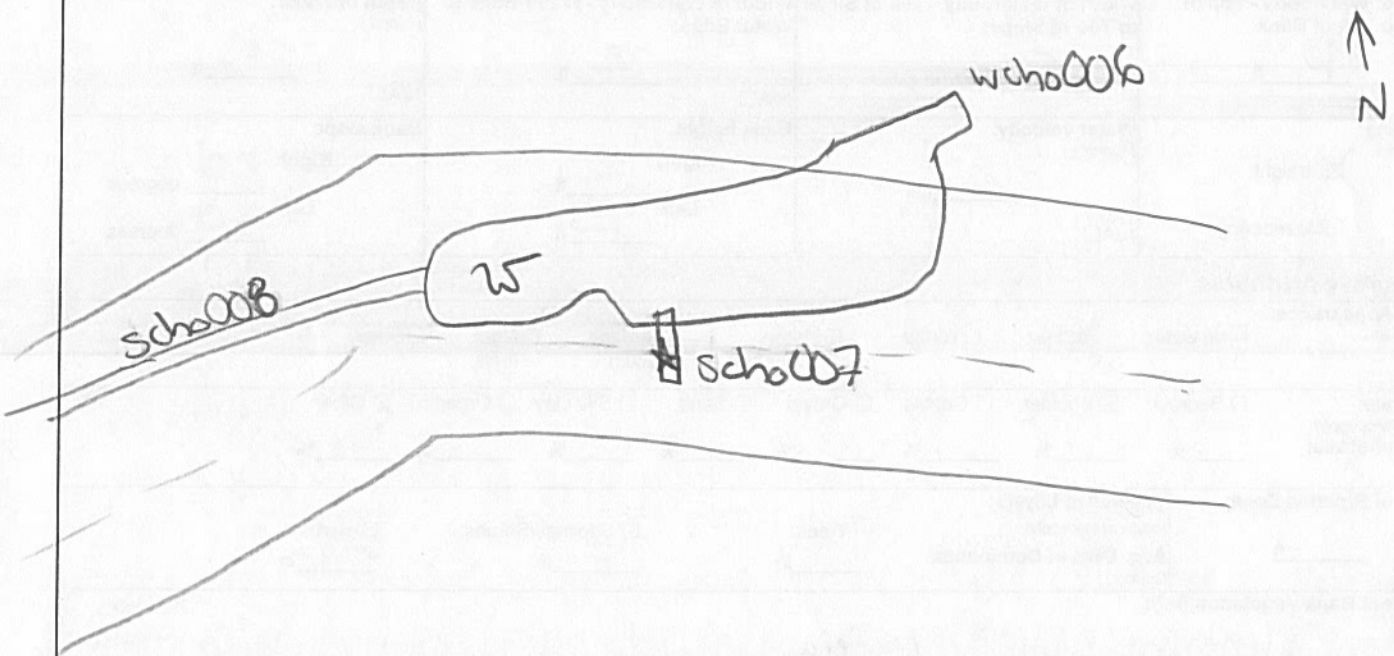
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



Environmental Field Surveys
Waterbody Photo Page



Waterbody scho007 facing north upstream.



Waterbody scho007 facing south downstream.

Environmental Field Surveys
Waterbody Photo Page



Waterbody scho007 facing west across bank.

Linear Waterbody Data Sheet

Survey Description			
Project Name: ACP	Waterbody Name: LNT to Deep Creek	Waterbody ID: Scho009	Date: 10/16/15
State: VA	County/Parish: Chesapeake	Company: ESI	Crew Member Initials: K.M, S-I
Photos: NE, SW, SE			
Tract Number(s): 27-101, 27-102		Nearest Milepost: 76.1	Associated Wetland ID(s): waho005
Survey Type: (check one) <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Stream Classification: (check one) <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial			
Waterbody Type: (check one) <input type="checkbox"/> River <input type="checkbox"/> Stream <input checked="" type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:			
OHWM Width: 5 ft.	OHWM Indicator: (check all that apply)	<input type="checkbox"/> Clear line on bank	<input type="checkbox"/> Shelving
OHWM Height: 1 ft.	<input type="checkbox"/> Bent, matted, or missing vegetation	<input checked="" type="checkbox"/> Wrack line	<input checked="" type="checkbox"/> Wrested vegetation
N/A <input type="checkbox"/>		<input type="checkbox"/> Litter and debris	<input type="checkbox"/> Scouring
		<input type="checkbox"/> Abrupt plant community change	<input type="checkbox"/> Water staining
Width of Waterbody - Top of Bank to Top of Bank: 12 ft.	Width of Waterbody - Toe of Slope to Toe of Slope: 4 ft.	Width of Waterbody - Water Edge to Water Edge: 5 ft.	Depth of Water: (Approx.) 2 ft.
		N/A <input type="checkbox"/>	N/A <input type="checkbox"/>
Sinuosity: (check one) <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering	Water velocity: (Approx.) N/A <input checked="" type="checkbox"/>	Bank height Right: 4 ft. Left: 7 ft.	Bank slope Right: 60 degrees Left: 60 degrees
Qualitative Attributes			
Water Appearance: (check one) <input type="checkbox"/> No water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input checked="" type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: (check all that apply)			
% of Substrate: _____% _____% _____% _____% _____% _____% 90% 10% rip rap			
Width of Riparian Zone: N/A <input checked="" type="checkbox"/>	Vegetative Layers: (check all that apply)		
	<input type="checkbox"/> Trees: _____ in. <input type="checkbox"/> Saplings/Shrubs: _____ in. <input checked="" type="checkbox"/> Herbs: N/A in.		
Avg. DBH of Dominants: (approx.)			
Dominant Bank Vegetation (list): Polygonum sp.			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): standing water			
Aquatic Organisms Observed (list): Mosquitofish			
T&E Species Observed (list): None			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): man made ditch			
Tributary is: (check one) <input type="checkbox"/> Natural <input checked="" type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated			
Stream Quality * : (check one) <input type="checkbox"/> High <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Low			

Waterbody ID:

scho009

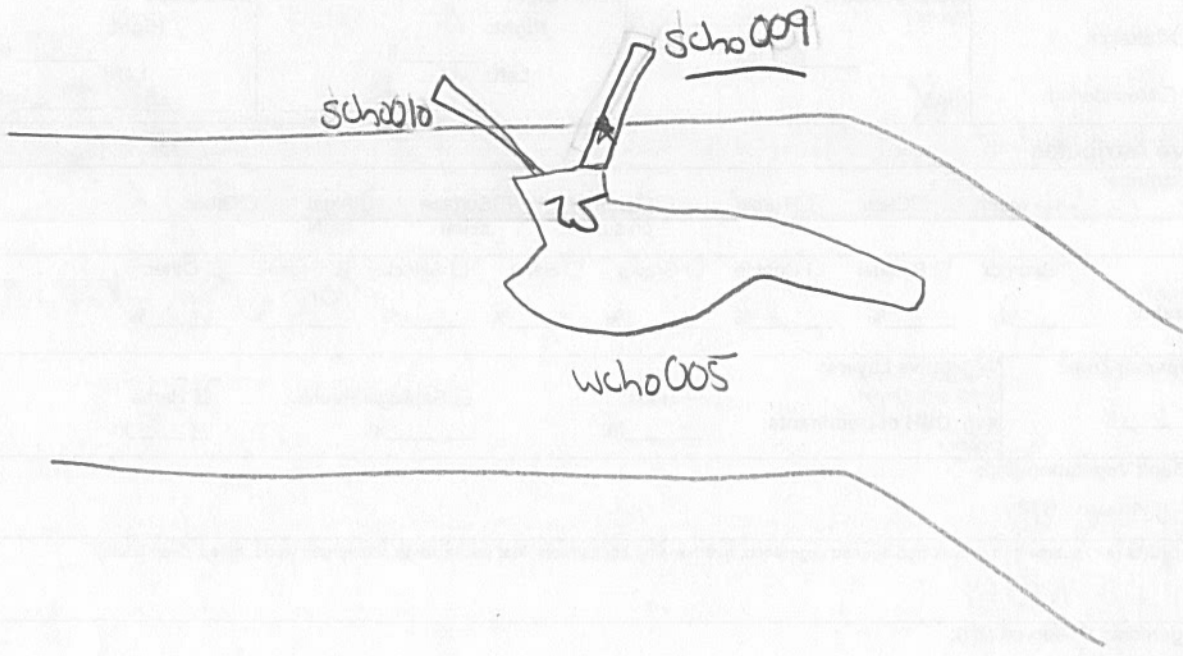
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



Environmental Field Surveys
Waterbody Photo Page



Waterbody scho009 facing northeast upstream.



Waterbody scho009 facing southwest downstream.

Environmental Field Surveys
Waterbody Photo Page



Waterbody scho009 facing southeast across bank.

Open Waterbody Data Sheet

Survey Description			
Project Name: ACP	Waterbody Name: POND	Waterbody ID: OCHO003	Date: 10/20/15
State: VA	County: Chesapeake	Company: ESI	Crew Member Initials: L.R., S.I
Photos: SE, SW			
Tract Number(s): 27-116, 27-117		Nearest Milepost: 76.3	Associated Wetland ID(s): N/A
Survey Type: (check one) <input checked="" type="checkbox"/> Centerline <input checked="" type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Waterbody Type: (check one) <input checked="" type="checkbox"/> Stock Pond <input type="checkbox"/> Natural Pond <input type="checkbox"/> Lake <input type="checkbox"/> Reservoir <input type="checkbox"/> Impoundment <input type="checkbox"/> Oxbow <input type="checkbox"/> Other:			
Hydrologic Regime: <input checked="" type="checkbox"/> Permanently Flooded <input type="checkbox"/> Semipermanently Flooded <input type="checkbox"/> Seasonally Flooded <input type="checkbox"/> Temporarily Flooded			
OHWM Height: 1 ft.		OHWM Indicator: (check all that apply) <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining	
<input type="checkbox"/> Bent, matted, or missing vegetation		<input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change	
Depth of Water: N/A <input type="checkbox"/> > 2 ft.	Bank height (average): 3 ft.	Bank slope (average): 45 degrees	
Qualitative Attributes			
Water Appearance: (check one) <input type="checkbox"/> No water <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: (check all that apply) <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:			
% of Substrate: _____% _____% _____% _____% 85% 15% _____% _____%			
Width of Riparian Zone: N/A <input checked="" type="checkbox"/> _____ ft.	Vegetative Layers: (check all that apply) <input type="checkbox"/> Trees: _____ <input type="checkbox"/> Saplings/Shrubs: _____ <input checked="" type="checkbox"/> Herbs: N/A in.		
Avg. DBH of Dominants: (approx.) _____ in. _____ in. _____ in.			
Dominant Bank Vegetation (list): Liquidambar styraciflua, Andropogon virginicus, mowed/maintained grass/herbs			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Deep standing water			
Aquatic Organisms Observed (list): None			
T&E Species Observed (list): None			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Artificial stormwater retention pond.			
Waterbody is: (check one) <input type="checkbox"/> Natural <input checked="" type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated			
Waterbody Quality *: (check one) <input type="checkbox"/> High <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Low			

Waterbody ID:

ocho003

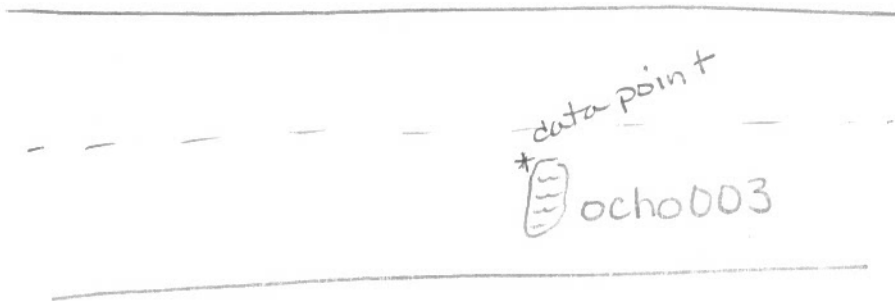
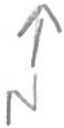
▪ **High Quality:** Natural, natural bank vegetation around entire waterbody; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

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)



Environmental Field Surveys
Waterbody Photo Page



Waterbody ocho003 facing southeast.



Waterbody ocho003 facing southwest.

Linear Waterbody Data Sheet

Survey Description				
Project Name: <u>ACP</u>	Waterbody Name: <u>LWT to Deep Creek</u>	Waterbody ID: <u>SchODIZ</u>	Date: <u>12/15/15</u>	
State: <u>VA</u>	County/Parish: <u>Chesapeake</u>	Company: <u>ESI</u>	Crew Member Initials: <u>RT, LR</u>	Photos: <u>W, E, S</u>
Tract Number(s): <u>27-177</u>		Nearest Milepost: <u>81.0</u>	Associated Wetland ID(s): <u>NA</u>	
Survey Type: <small>(check one)</small> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Stream Classification: <small>(check one)</small> <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial				
Waterbody Type: <small>(check one)</small> <input type="checkbox"/> River <input type="checkbox"/> Stream <input checked="" type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: <u>3</u> ft.		OHWM Indicator: <small>(check all that apply)</small> <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input checked="" type="checkbox"/> Water staining		
Height: <u>1</u> ft.		<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change		
N/A <input type="checkbox"/>				
Width of Waterbody - Top of Bank to Top of Bank: <u>5</u> ft.	Width of Waterbody - Toe of Slope to Toe of Slope: <u>2</u> ft.	Width of Waterbody - Water Edge to Water Edge: <u>2</u> ft.	Depth of Water: <small>(Approx.)</small> <u>1</u> ft.	
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>		
Sinuosity: <small>(check one)</small> <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering		Water velocity: <small>(Approx.)</small> <u>0</u> fps		Bank height: Right: <u>2</u> ft. Left: <u>2</u> ft.
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>		Bank slope: Right: <u>80</u> degrees Left: <u>80</u> degrees
Qualitative Attributes				
Water Appearance: <small>(check one)</small> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: <small>(check all that apply)</small> <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:				
% of Substrate: _____% _____% _____% _____% <u>30</u> % <u>70</u> % _____% _____%				
Width of Riparian Zone: <u>20</u> ft.		Vegetative Layers: <small>(check all that apply)</small> <input checked="" type="checkbox"/> Trees: <u>7</u> in. <input checked="" type="checkbox"/> Saplings/Shrubs: <u>1</u> in. <input checked="" type="checkbox"/> Herbs: <u>NA</u> in.		
N/A <input type="checkbox"/>				
Dominant Bank Vegetation (list): <u>Juncus effusus, Liquidambar styraciflua, Morella cerifera</u>				
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): <u>leaf packs</u>				
Aquatic Organisms Observed (list): <u>none</u>				
T&E Species Observed (list): <u>none</u>				
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): <u>power line easement, roadside ditch</u>				
Tributary is: <small>(check one)</small> <input type="checkbox"/> Natural <input checked="" type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Stream Quality *: <small>(check one)</small> <input type="checkbox"/> High <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Low				

Waterbody ID:

schoD12

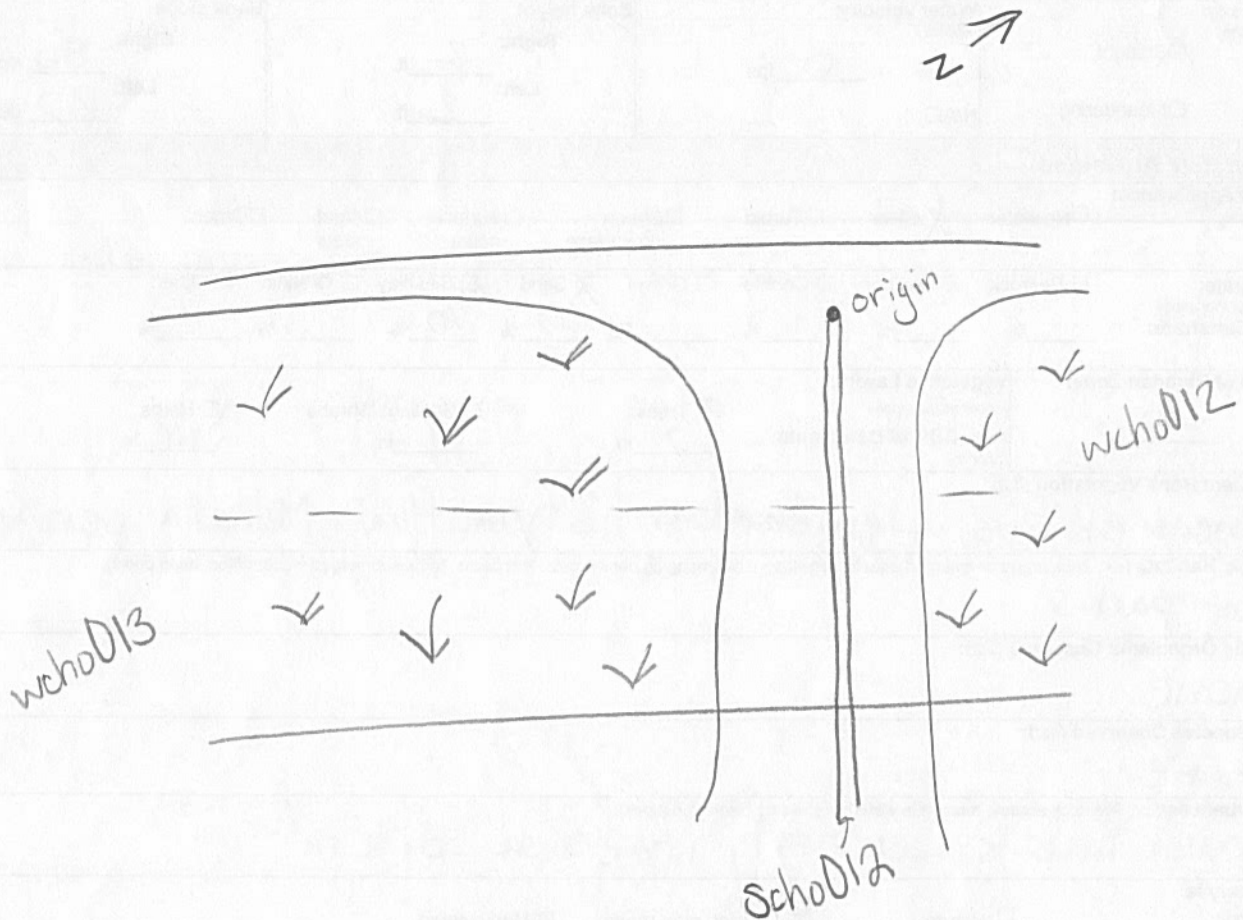
• **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



Environmental Field Surveys
Waterbody Photo Page



Waterbody scho012 facing west upstream.



Waterbody scho012 facing east downstream.

Environmental Field Surveys
Waterbody Photo Page



Waterbody scho012 facing south across bank.

Open Waterbody Data Sheet

Survey Description				
Project Name: <u>ACP</u>		Waterbody Name: <u>UNNAMED POND</u>		Waterbody ID: <u>0cho005</u>
Date: <u>12/15/15</u>				
State: <u>VA</u>	County: <u>Chesapeake</u>	Company: <u>ESI</u>	Crew Member Initials: <u>LR, RT</u>	Photos: <u>SESW</u>
Tract Number(s): <u>27-177</u>		Nearest Milepost: <u>81.2</u>		Associated Wetland ID(s): <u>NA</u>
Survey Type: <small>(check one)</small>				
<input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Waterbody Type: <small>(check one)</small>				
<input checked="" type="checkbox"/> Stock Pond <input type="checkbox"/> Natural Pond <input type="checkbox"/> Lake <input type="checkbox"/> Reservoir <input type="checkbox"/> Impoundment <input type="checkbox"/> Oxbow <input type="checkbox"/> Other:				
Hydrologic Regime:				
<input checked="" type="checkbox"/> Permanently Flooded <input type="checkbox"/> Semipermanently Flooded <input type="checkbox"/> Seasonally Flooded <input type="checkbox"/> Temporarily Flooded				
OHWM Height: <u>>3</u> ft.		OHWM Indicator: <small>(check all that apply)</small>		
		<input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining		
		<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input checked="" type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change		
Depth of Water: N/A <input type="checkbox"/> <u>UNK</u> ft.		Bank height (average): <u>4</u> ft.		Bank slope (average): <u>60</u> degrees
Qualitative Attributes				
Water Appearance: <small>(check one)</small>				
<input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: <small>(check all that apply)</small>				
<input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other: <u>UNK</u>				
% of Substrate: _____% _____% _____% _____% _____% _____% _____%				
Width of Riparian Zone: _____ ft.		Vegetative Layers: <small>(check all that apply)</small>		
N/A <input checked="" type="checkbox"/>		<input type="checkbox"/> Trees: <input type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs		
		Avg. DBH of Dominants: <small>(approx.)</small> _____ in. _____ in. <u>NA</u> in.		
Dominant Bank Vegetation <small>(list)</small> : <u>mowed grasses</u>				
Aquatic Habitats <small>(ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.):</small> <u>none observed</u>				
Aquatic Organisms Observed <small>(list)</small> : <u>none observed</u>				
T&E Species Observed <small>(list)</small> : <u>none observed</u>				
Disturbances <small>(ex: livestock access, manure in waterbody, waste discharge pipes):</small> <u>pond inside fence at power plant</u>				
Waterbody is: <small>(check one)</small>				
<input type="checkbox"/> Natural <input checked="" type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Waterbody Quality*: <small>(check one)</small>				
<input type="checkbox"/> High <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Low				

Waterbody ID:

ocho005

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.

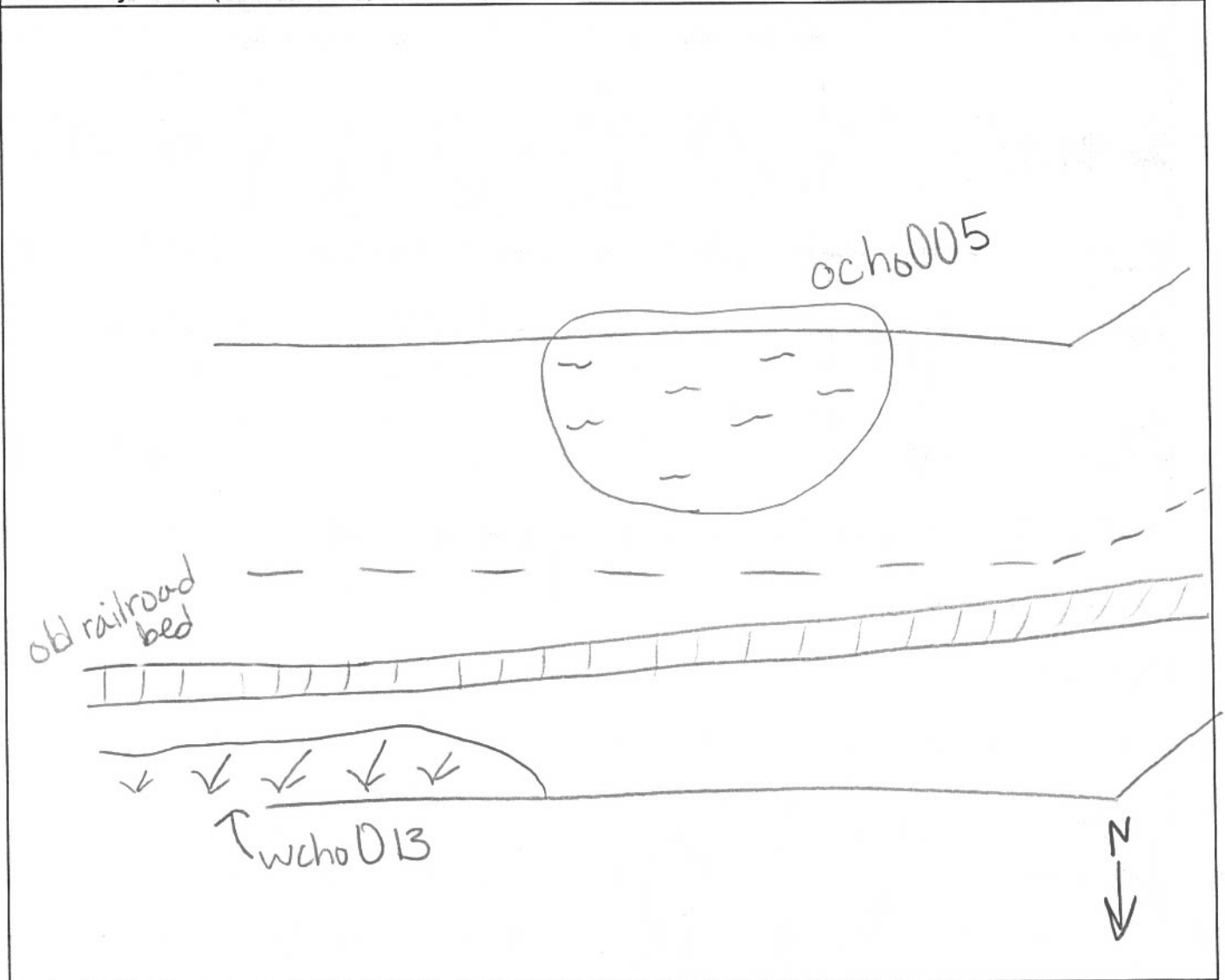
Moderate Quality: Altered by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or bank vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers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

could not GPS waterbody. could not cross fence at power plant

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



Environmental Field Surveys
Waterbody Photo Page



Waterbody ocho005 facing southeast.



Waterbody ocho005 facing southwest.

Open Waterbody Data Sheet

Survey Description			
Project Name: <u>ACP</u>		Waterbody Name: <u>UNNAMED Pond</u>	
Waterbody ID: <u>ocho004</u>		Date: <u>12/15/15</u>	
State: <u>VA</u>	County: <u>Chesapeake</u>	Company: <u>ESI</u>	Crew Member Initials: <u>LR, RT</u>
Photos: <u>N, NE</u>			
Tract Number(s): <u>27-177</u>		Nearest Milepost: <u>81.6</u>	Associated Wetland ID(s): <u>NA</u>
Survey Type: <small>(check one)</small>			
<input type="checkbox"/> Centerline <input checked="" type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Waterbody Type: <small>(check one)</small>			
<input checked="" type="checkbox"/> Stock Pond <input type="checkbox"/> Natural Pond <input type="checkbox"/> Lake <input type="checkbox"/> Reservoir <input type="checkbox"/> Impoundment <input type="checkbox"/> Oxbow <input type="checkbox"/> Other:			
Hydrologic Regime:			
<input checked="" type="checkbox"/> Permanently Flooded <input type="checkbox"/> Semipermanently Flooded <input type="checkbox"/> Seasonally Flooded <input type="checkbox"/> Temporarily Flooded			
OHWM Height: <u>1</u> ft.		OHWM Indicator: <small>(check all that apply)</small>	
		<input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining	
		<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change	
Depth of Water: <u>2</u> ft.		Bank height (average): <u>4</u> ft.	
N/A <input type="checkbox"/>		Bank slope (average): <u>45</u> degrees	
Qualitative Attributes			
Water Appearance: <small>(check one)</small>			
<input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: <small>(check all that apply)</small>			
<input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:			
% of Substrate: _____% _____% _____% _____% <u>70</u> % <u>30</u> % _____% _____%			
Width of Riparian Zone: _____ ft.		Vegetative Layers: <small>(check all that apply)</small>	
N/A <input checked="" type="checkbox"/>		<input type="checkbox"/> Trees: <input type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs	
		Avg. DBH of Dominants: <small>(approx.)</small> _____ in. _____ in. <u>NA</u> in.	
Dominant Bank Vegetation (list): <u>Phragmites australis, mowed grasses</u>			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): <u>none observed</u>			
Aquatic Organisms Observed (list): <u>none observed</u>			
T&E Species Observed (list): <u>none observed</u>			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): <u>pond on power plant near old railroad bed</u>			
Waterbody is: <small>(check one)</small>			
<input type="checkbox"/> Natural <input checked="" type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated			
Waterbody Quality*: <small>(check one)</small>			
<input type="checkbox"/> High <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Low			

Waterbody ID:

0cho004

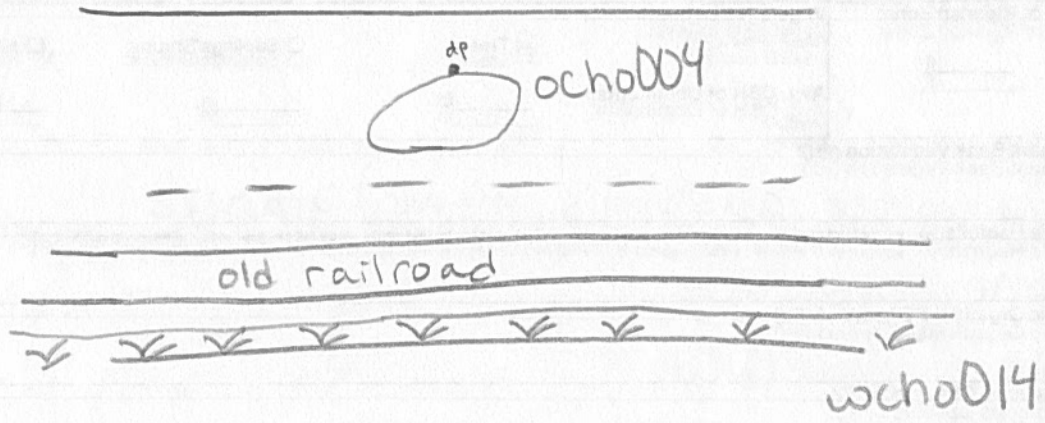
High Quality: Natural, natural bank vegetation around entire waterbody; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

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)



Environmental Field Surveys
Waterbody Photo Page



Waterbody ocho004 facing north.



Waterbody ocho004 facing northeast.

Linear Waterbody Data Sheet

Survey Description			
Project Name: ACP	Waterbody Name: South Branch of Elizabeth River	Waterbody ID: schp 001	Date: 12/11/15
State: VA	County/Parish: Chesapeake	Company: ESI	Crew Member Initials: MKS, KSM Photos: facing W, E, N
Tract Number(s): 27-001-B212, 27-005RR, 27-177		Nearest Milepost: 81.9	Associated Wetland ID(s): NA
Survey Type: (check one) <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Stream Classification: (check one) <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial			
Waterbody Type: (check one) <input checked="" type="checkbox"/> River <input type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:			
OHWM Width: 840 ft. Height: 30 ft. N/A <input type="checkbox"/>	OHWM Indicator: (check all that apply) <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining <input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change		
Width of Waterbody - Top of Bank to Top of Bank: 850 ft.	Width of Waterbody - Toe of Slope to Toe of Slope: 800 ft. (approx)	Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> 840 ft.	Depth of Water: (Approx.) 30 ft. N/A <input type="checkbox"/>
Sinuosity: (check one) <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering	Water velocity: (Approx.) 0.5 fps N/A <input type="checkbox"/>	Bank height Right: 6* ft. *above water level Left: 6* ft.	Bank slope Right: 45 degrees Left: 90 degrees
Qualitative Attributes			
Water Appearance: (check one) <input type="checkbox"/> No water <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: (check all that apply) <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other: undetermined - too deep to check.			
% of Substrate: _____%	_____%	_____%	_____%
Width of Riparian Zone: >1000 ft. N/A <input type="checkbox"/>	Vegetative Layers: (check all that apply) <input type="checkbox"/> Trees: _____ in. <input type="checkbox"/> Saplings/Shrubs: _____ in. <input type="checkbox"/> Herbs: _____ in. Avg. DBH of Dominants: _____ in.		
Dominant Bank Vegetation (list): none present, bulk-headed			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): wooden structures (bulkhead)			
Aquatic Organisms Observed (list): fish			
T&E Species Observed (list): none			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): dredging, hardened shoreline			
Tributary is: (check one) <input type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input checked="" type="checkbox"/> Manipulated			
Stream Quality *: (check one) <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low			

Waterbody ID:

schp001

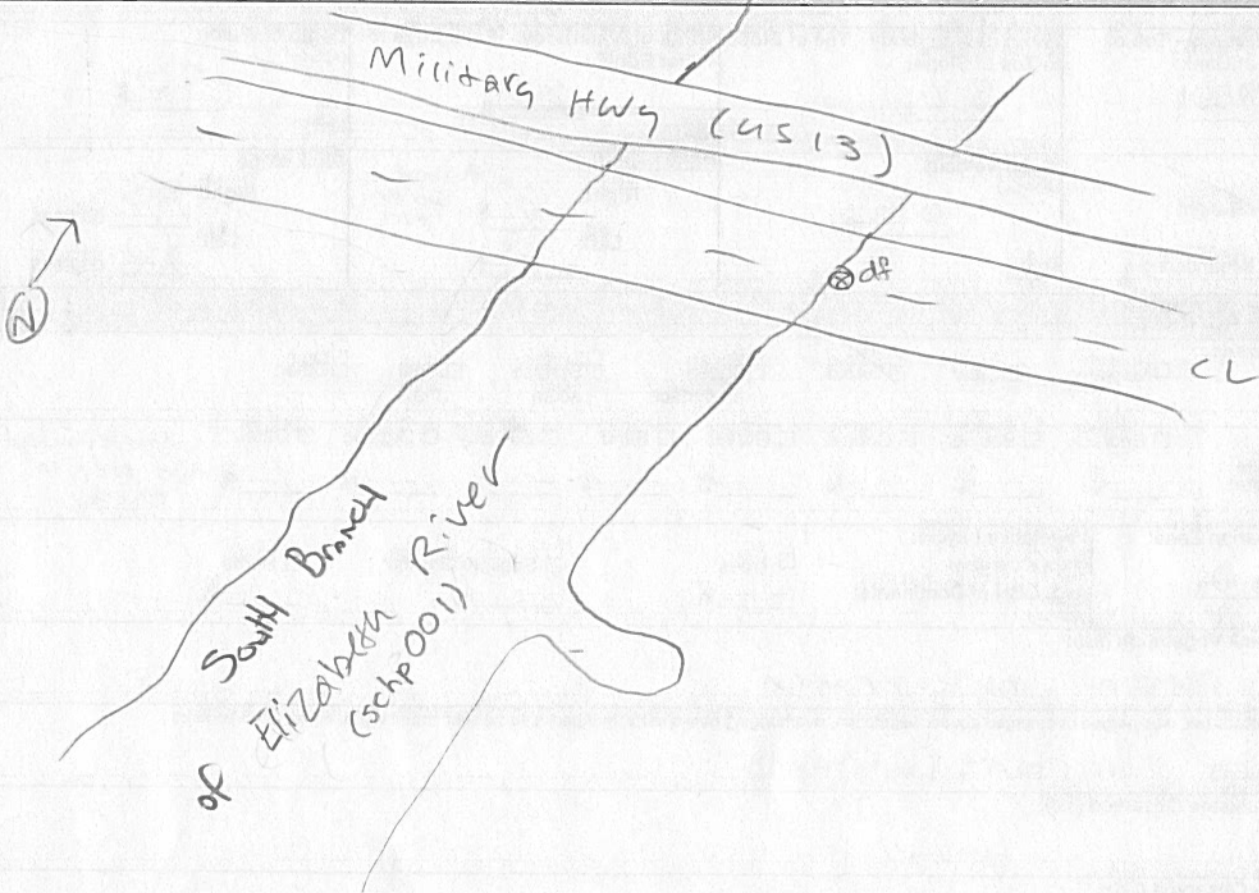
• **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



Environmental Field Surveys
Waterbody Photo Page



Waterbody data point schp001 facing west upstream.



Waterbody data point schp001 facing east downstream.

Environmental Field Surveys
Waterbody Photo Page



Waterbody data point schp001 facing north across bank.

Linear Waterbody Data Sheet

Survey Description				
Project Name: ACP		Waterbody Name: LINT RIVER to South Branch Elizabeth		Waterbody ID: Schp003
Date: 12/4/15				
State: VA	County/Parish: Chesapeake	Company: ESI-1	Crew Member Initials: MKS, KSM	Photos: Facing N, W, E
Tract Number(s): 27-005-RR, 27-001-B212		Nearest Milepost: NA	Associated Wetland ID(s): NA	
Survey Type: (check one) <input type="checkbox"/> Centerline <input checked="" type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Stream Classification: (check one) <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial				
Waterbody Type: (check one) <input type="checkbox"/> River <input type="checkbox"/> Stream <input checked="" type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: 6 ft.		OHWM Indicator: (check all that apply) <input checked="" type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input checked="" type="checkbox"/> Water staining		
OHWM Height: 1 ft.		<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change		
N/A <input type="checkbox"/>				
Width of Waterbody - Top of Bank to Top of Bank: 8 ft.	Width of Waterbody - Toe of Slope to Toe of Slope: 6 ft.	Width of Waterbody - Water Edge to Water Edge: 6 ft.	Depth of Water: (Approx.) 1 ft.	
N/A <input type="checkbox"/>				
Sinuosity: (check one) <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering		Water velocity: (Approx.) < 1 fps		Bank slope Right: 45 degrees Left: 45 degrees
N/A <input type="checkbox"/>				
Qualitative Attributes				
Water Appearance: (check one) <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: (check all that apply) <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:				
% of Substrate: _____% _____% _____% _____% 10% 90% _____% _____%				
Width of Riparian Zone: 40 ft.		Vegetative Layers: (check all that apply) <input type="checkbox"/> Trees: _____ in. <input type="checkbox"/> Saplings/Shrubs: 1 in. <input checked="" type="checkbox"/> Herbs: NA in.		
N/A <input type="checkbox"/>				
Dominant Bank Vegetation (list): Andropogon virginicus, Baccharis halimifolia				
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): none				
Aquatic Organisms Observed (list): none observed				
T&E Species Observed (list): none observed				
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): none				
Tributary is: (check one) <input type="checkbox"/> Natural <input checked="" type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Stream Quality*: (check one) <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low				

Waterbody ID:

Schp 003

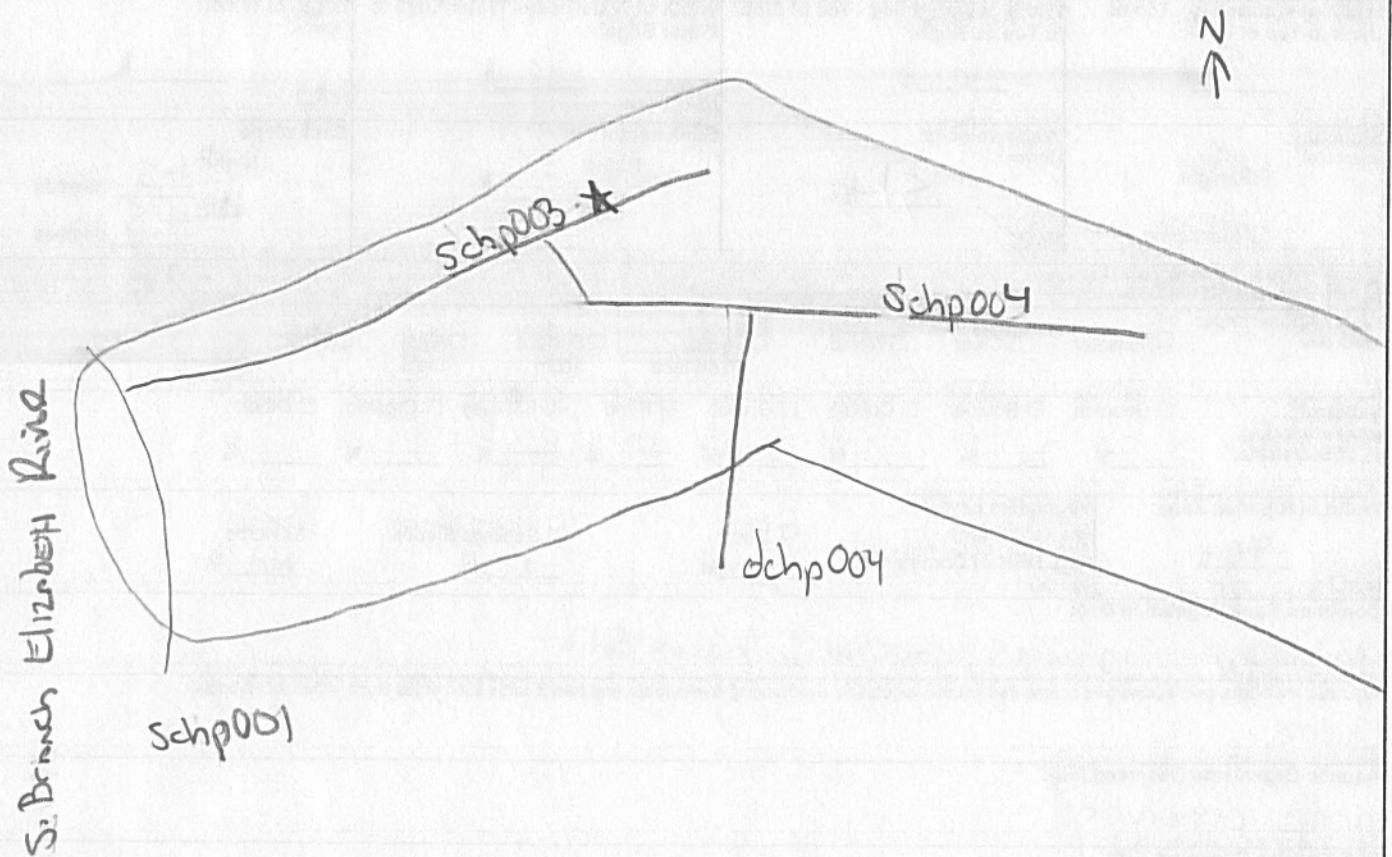
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



Environmental Field Surveys
Waterbody Photo Page



Waterbody data point schp003 facing north upstream.



Waterbody data point schp003 facing west downstream.

Environmental Field Surveys
Waterbody Photo Page



Waterbody data point schp003 facing east across bank.

Linear Waterbody Data Sheet

Survey Description					
Project Name: ACP		Waterbody Name: 4NT to South Branch Elizabeth River		Waterbody ID: schp 009	Date: 12/4/15
State: VA	County/Parish: Chesapeake	Company: EST-1	Crew Member Initials: MKS, KSM	Photos: Facing SE, W, NE	
Tract Number(s): 27-005-RR, 27-001-B212		Nearest Milepost: NA	Associated Wetland ID(s): NA		
Survey Type: (check one) <input type="checkbox"/> Centerline <input checked="" type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:					
Physical Attributes					
Stream Classification: (check one) <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial					
Waterbody Type: (check one) <input type="checkbox"/> River <input type="checkbox"/> Stream <input checked="" type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:					
OHWM Width: 6 ft.	OHWM Height: 1 ft.	OHWM Indicator: (check all that apply)	<input checked="" type="checkbox"/> Clear line on bank	<input type="checkbox"/> Shelving	<input checked="" type="checkbox"/> Wrested vegetation
N/A <input type="checkbox"/>		<input type="checkbox"/> Bent, matted, or missing vegetation	<input type="checkbox"/> Wrack line	<input type="checkbox"/> Litter and debris	<input type="checkbox"/> Scouring
		<input type="checkbox"/> Abrupt plant community change	<input type="checkbox"/> Soil characteristic change	<input checked="" type="checkbox"/> Water staining	
Width of Waterbody - Top of Bank to Top of Bank: 12 ft.	Width of Waterbody - Toe of Slope to Toe of Slope: 6 ft.	Width of Waterbody - Water Edge to Water Edge: 6 ft.	Depth of Water: (Approx.) 1 ft.	N/A <input type="checkbox"/>	N/A <input type="checkbox"/>
Sinuosity: (check one) <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering	Water velocity: (Approx.) < 1 fps	Bank height Right: 3 ft. Left: 3 ft.	Bank slope Right: 45 degrees Left: 45 degrees	N/A <input checked="" type="checkbox"/>	
Qualitative Attributes					
Water Appearance: (check one) <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:					
Substrate: (check all that apply)					
% of Substrate:				10%	90%
Width of Riparian Zone: 50 ft.	Vegetative Layers: (check all that apply)	Trees:	Saplings/Shrubs:	Herbs: N/A in.	
N/A <input type="checkbox"/>	Avg. DBH of Dominants: (approx.)	in.	in.		
Dominant Bank Vegetation (list): Phragmites australis, Aster sp. (mowed)					
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): none					
Aquatic Organisms Observed (list): none observed					
T&E Species Observed (list): none observed					
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Discharge pipe					
Tributary is: (check one) <input type="checkbox"/> Natural <input checked="" type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated					
Stream Quality*: (check one) <input type="checkbox"/> High <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Low					

Waterbody ID:

Schp004

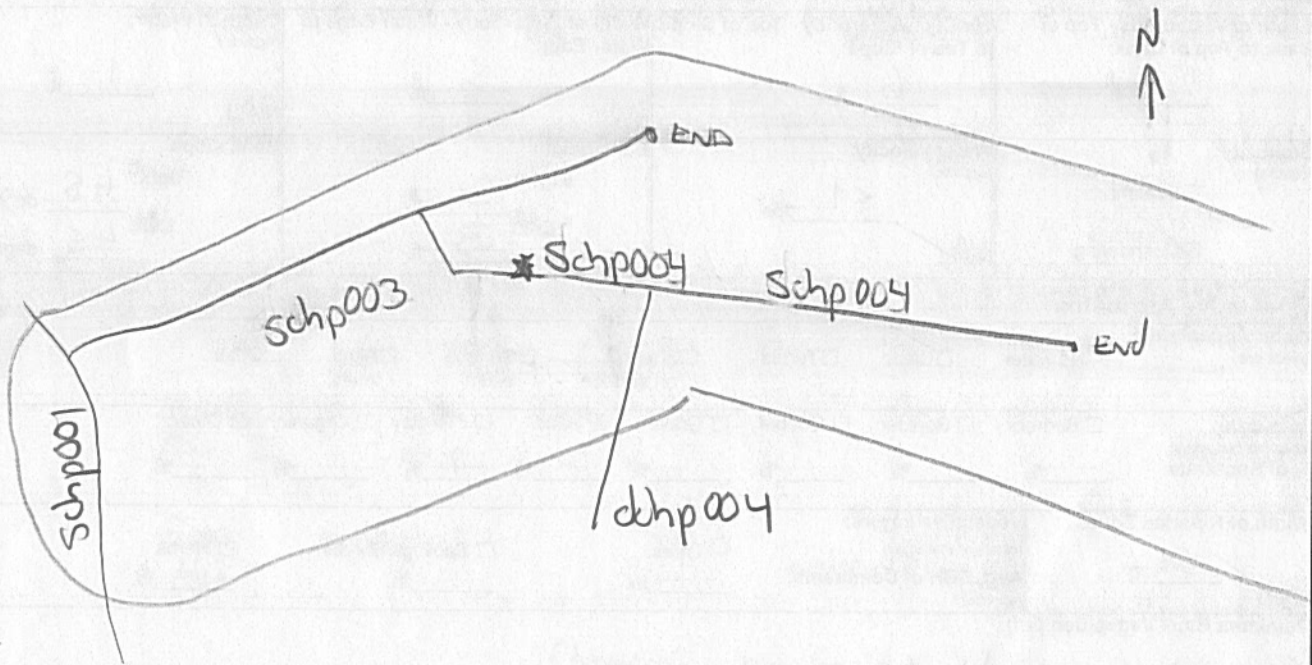
▪ **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



East
Bank
of
South
Branch
Elizabeth
River

Environmental Field Surveys
Waterbody Photo Page



Waterbody data point schp004 facing southeast upstream.



Waterbody data point schp004 facing west downstream.

Environmental Field Surveys
Waterbody Photo Page



Waterbody data point schp004 facing northeast across bank.

Linear Waterbody Data Sheet

Survey Description

Project Name: ALP Waterbody Name: UNT to Great Dismal Ditch Swamp Waterbody ID: Schr007 p and e Date: 14 Jan 2016

State: VA County/Parish: Chesapeake Company: ESI Crew Member Initials: CAS CSM Photos: NW, NE, SE

Tract Number(s): 27-001-B211 Nearest Milepost: 82.4 Associated Wetland ID(s): wchb001

Survey Type: (check one) Centerline Re-Route Access Road Other:

Physical Attributes

Stream Classification: (check one) Ephemeral Intermittent Perennial

Waterbody Type: (check one) River Stream Ditch Canal Other:

OHWM Width: 5 ft. Height: 0.5 ft. N/A

OHWM Indicator: (check all that apply) Clear line on bank Shelving Wrested vegetation Scouring Water staining Bent, matted, or missing vegetation Wrack line Litter and debris Abrupt plant community change Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank: 6 ft. Width of Waterbody - Toe of Slope to Toe of Slope: 5 ft. Width of Waterbody - Water Edge to Water Edge: 5 ft. N/A Depth of Water: (Approx.) 0.5 ft. N/A

Sinuosity: (check one) Straight Meandering

Water velocity: (Approx.) 1 fps N/A

Bank height Right: 0.5 ft. Left: 0.5 ft.

Bank slope Right: 45 degrees Left: 60 degrees

Qualitative Attributes

Water Appearance: (check one) No water Clear Turbid Sheen on surface Surface scum Algal mats Other:

Substrate: (check all that apply) Bedrock Boulder Cobble Gravel Sand Silt/clay Organic Other:

% of Substrate: _____% _____% _____% _____% 20% 60% 20% _____%

Width of Riparian Zone: 8 ft. N/A

Vegetative Layers: (check all that apply) Trees: _____ in. Saplings/Shrubs: _____ in. Herbs N/A in.

Avg. DBH of Dominants: _____ in.

Dominant Bank Vegetation (list): Phragmites australis, Typha latifolia

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): None

Aquatic Organisms Observed (list): None

T&E Species Observed (list): None

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Road

Tributary is: (check one) Natural Artificial, man-made Manipulated

Stream Quality *: (check one) High Moderate Low

Waterbody ID:

Schr007

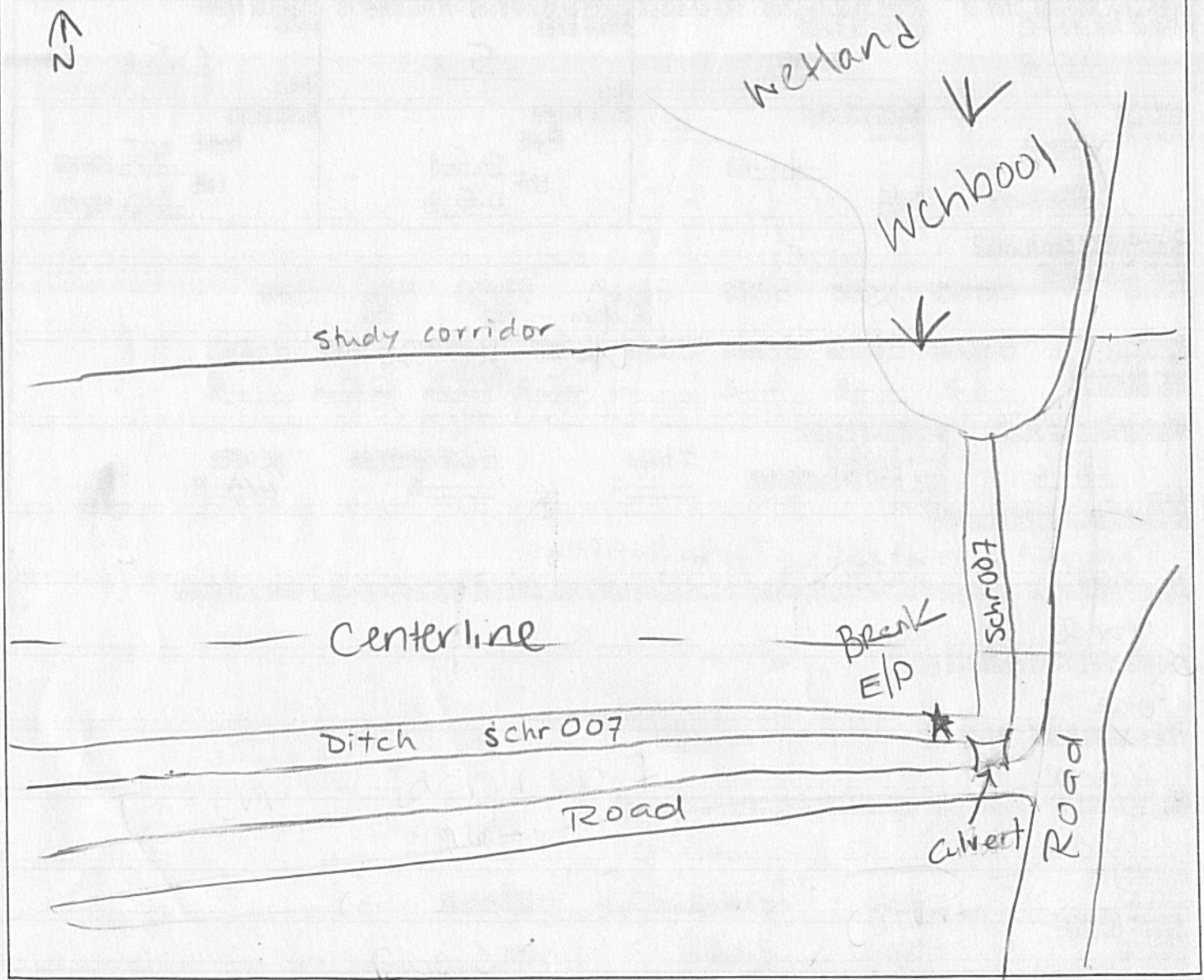
▪ **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



Environmental Field Surveys
Waterbody Photo Page



Waterbody schr007 facing northwest upstream.



Waterbody schr007 facing northeast downstream.

Environmental Field Surveys
Waterbody Photo Page



Waterbody schr007 facing southeast across bank.

Linear Waterbody Data Sheet

Survey Description

Project Name: ALP Waterbody Name: UNT to Great Dismal Ditch Swamp Waterbody ID: Schr007 p and e Date: 14 Jan 2016

State: VA County/Parish: Chesapeake Company: ESI Crew Member Initials: CAS CSM Photos: NW, NE, SE

Tract Number(s): 27-001-B211 Nearest Milepost: 82.4 Associated Wetland ID(s): wchb001

Survey Type: (check one) Centerline Re-Route Access Road Other:

Physical Attributes

Stream Classification: (check one) Ephemeral Intermittent Perennial

Waterbody Type: (check one) River Stream Ditch Canal Other:

OHWM Width: 5 ft. Height: 0.5 ft. N/A

OHWM Indicator: (check all that apply) Clear line on bank Shelving Wrested vegetation Scouring Water staining Bent, matted, or missing vegetation Wrack line Litter and debris Abrupt plant community change Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank: 6 ft. Width of Waterbody - Toe of Slope to Toe of Slope: 5 ft. Width of Waterbody - Water Edge to Water Edge: 5 ft. N/A Depth of Water: (Approx.) 0.5 ft. N/A

Sinuosity: (check one) Straight Meandering

Water velocity: (Approx.) 1 fps N/A

Bank height Right: 0.5 ft. Left: 0.5 ft.

Bank slope Right: 45 degrees Left: 60 degrees

Qualitative Attributes

Water Appearance: (check one) No water Clear Turbid Sheen on surface Surface scum Algal mats Other:

Substrate: (check all that apply) Bedrock Boulder Cobble Gravel Sand Silt/clay Organic Other:

% of Substrate: _____ % _____ % _____ % _____ % 20 % 60 % 20 % _____ %

Width of Riparian Zone: 8 ft. N/A

Vegetative Layers: (check all that apply) Trees: _____ in. Saplings/Shrubs: _____ in. Herbs N/A in.

Avg. DBH of Dominants: _____ in.

Dominant Bank Vegetation (list): Phragmites australis, Typha latifolia

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): None

Aquatic Organisms Observed (list): None

T&E Species Observed (list): None

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Road

Tributary is: (check one) Natural Artificial, man-made Manipulated

Stream Quality *: (check one) High Moderate Low

Waterbody ID:

Schr007

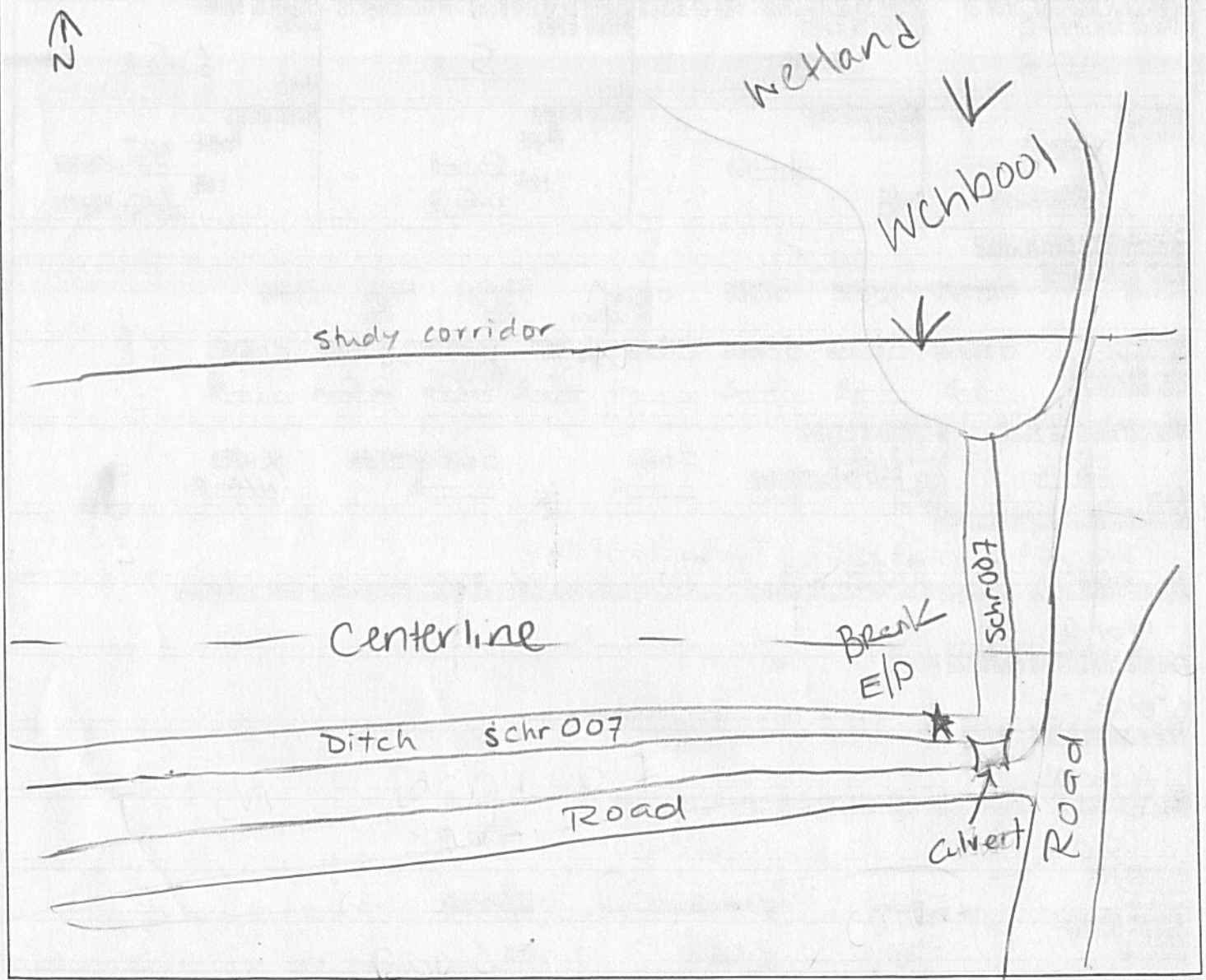
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



Environmental Field Surveys
Waterbody Photo Page



Waterbody schr007 facing northwest upstream.



Waterbody schr007 facing northeast downstream.

Environmental Field Surveys
Waterbody Photo Page



Waterbody schr007 facing southeast across bank.

Linear Waterbody Data Sheet

Survey Description

Project Name: ALP Waterbody Name: UNT to Great Dismal Ditch Swamp Waterbody ID: Schr007 p and e Date: 14 Jan 2016

State: VA County/Parish: Chesapeake Company: ESI Crew Member Initials: CAS CSM Photos: NW, NE, SE

Tract Number(s): 27-001-B211 Nearest Milepost: 82.4 Associated Wetland ID(s): wchb001

Survey Type: (check one) Centerline Re-Route Access Road Other:

Physical Attributes

Stream Classification: (check one) Ephemeral Intermittent Perennial

Waterbody Type: (check one) River Stream Ditch Canal Other:

OHWM Width: 5 ft. Height: 0.5 ft. N/A

OHWM Indicator: (check all that apply) Clear line on bank Shelving Wrested vegetation Scouring Water staining Bent, matted, or missing vegetation Wrack line Litter and debris Abrupt plant community change Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank: 6 ft. Width of Waterbody - Toe of Slope to Toe of Slope: 5 ft. Width of Waterbody - Water Edge to Water Edge: 5 ft. N/A Depth of Water: (Approx.) 0.5 ft. N/A

Sinuosity: (check one) Straight Meandering

Water velocity: (Approx.) 1 fps N/A

Bank height Right: 0.5 ft. Left: 0.5 ft.

Bank slope Right: 45 degrees Left: 60 degrees

Qualitative Attributes

Water Appearance: (check one) No water Clear Turbid Sheen on surface Surface scum Algal mats Other:

Substrate: (check all that apply) Bedrock Boulder Cobble Gravel Sand Silt/clay Organic Other:

% of Substrate: _____% _____% _____% _____% 20% 60% 20% _____%

Width of Riparian Zone: 8 ft. N/A

Vegetative Layers: (check all that apply) Trees: _____ in. Saplings/Shrubs: _____ in. Herbs N/A in.

Avg. DBH of Dominants: _____ in.

Dominant Bank Vegetation (list): Phragmites australis, Typha latifolia

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): None

Aquatic Organisms Observed (list): None

T&E Species Observed (list): None

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Road

Tributary is: (check one) Natural Artificial, man-made Manipulated

Stream Quality *: (check one) High Moderate Low

Waterbody ID:

Schr007

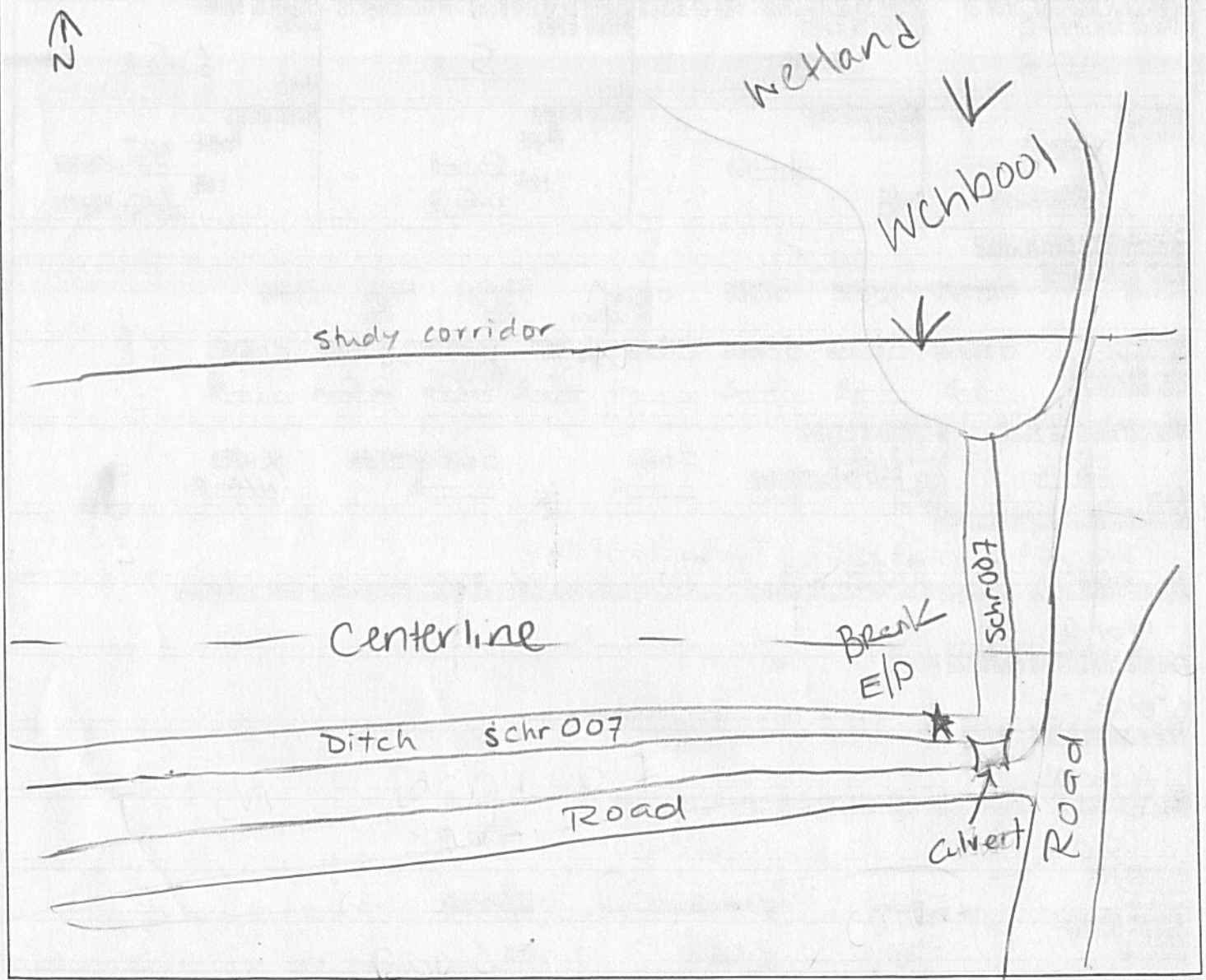
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



Environmental Field Surveys
Waterbody Photo Page



Waterbody schr007 facing northwest upstream.



Waterbody schr007 facing northeast downstream.

Environmental Field Surveys
Waterbody Photo Page



Waterbody schr007 facing southeast across bank.

Linear Waterbody Data Sheet

Survey Description

Project Name: ALP Waterbody Name: UNT to Great Dismal Ditch Swamp Waterbody ID: Schr007 p and e Date: 14 Jan 2016

State: VA County/Parish: Chesapeake Company: ESI Crew Member Initials: CAS CSM Photos: NW, NE, SE

Tract Number(s): 27-001-B211 Nearest Milepost: 82.4 Associated Wetland ID(s): wchb001

Survey Type: (check one) Centerline Re-Route Access Road Other:

Physical Attributes

Stream Classification: (check one) Ephemeral Intermittent Perennial

Waterbody Type: (check one) River Stream Ditch Canal Other:

OHWM Width: 5 ft. Height: 0.5 ft. N/A

OHWM Indicator: (check all that apply) Clear line on bank Shelving Wrested vegetation Scouring Water staining Bent, matted, or missing vegetation Wrack line Litter and debris Abrupt plant community change Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank: 6 ft. Width of Waterbody - Toe of Slope to Toe of Slope: 5 ft. Width of Waterbody - Water Edge to Water Edge: 5 ft. N/A Depth of Water: (Approx.) 0.5 ft. N/A

Sinuosity: (check one) Straight Meandering

Water velocity: (Approx.) 1 fps N/A

Bank height Right: 0.5 ft. Left: 0.5 ft.

Bank slope Right: 45 degrees Left: 60 degrees

Qualitative Attributes

Water Appearance: (check one) No water Clear Turbid Sheen on surface Surface scum Algal mats Other:

Substrate: (check all that apply) Bedrock Boulder Cobble Gravel Sand Silt/clay Organic Other:

% of Substrate: _____% _____% _____% _____% 20% 60% 20% _____%

Width of Riparian Zone: 8 ft. N/A

Vegetative Layers: (check all that apply) Trees: _____ in. Saplings/Shrubs: _____ in. Herbs N/A in.

Avg. DBH of Dominants: _____ in.

Dominant Bank Vegetation (list): Phragmites australis, Typha latifolia

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): None

Aquatic Organisms Observed (list): None

T&E Species Observed (list): None

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Road

Tributary is: (check one) Natural Artificial, man-made Manipulated

Stream Quality *: (check one) High Moderate Low

Waterbody ID:

Schr007

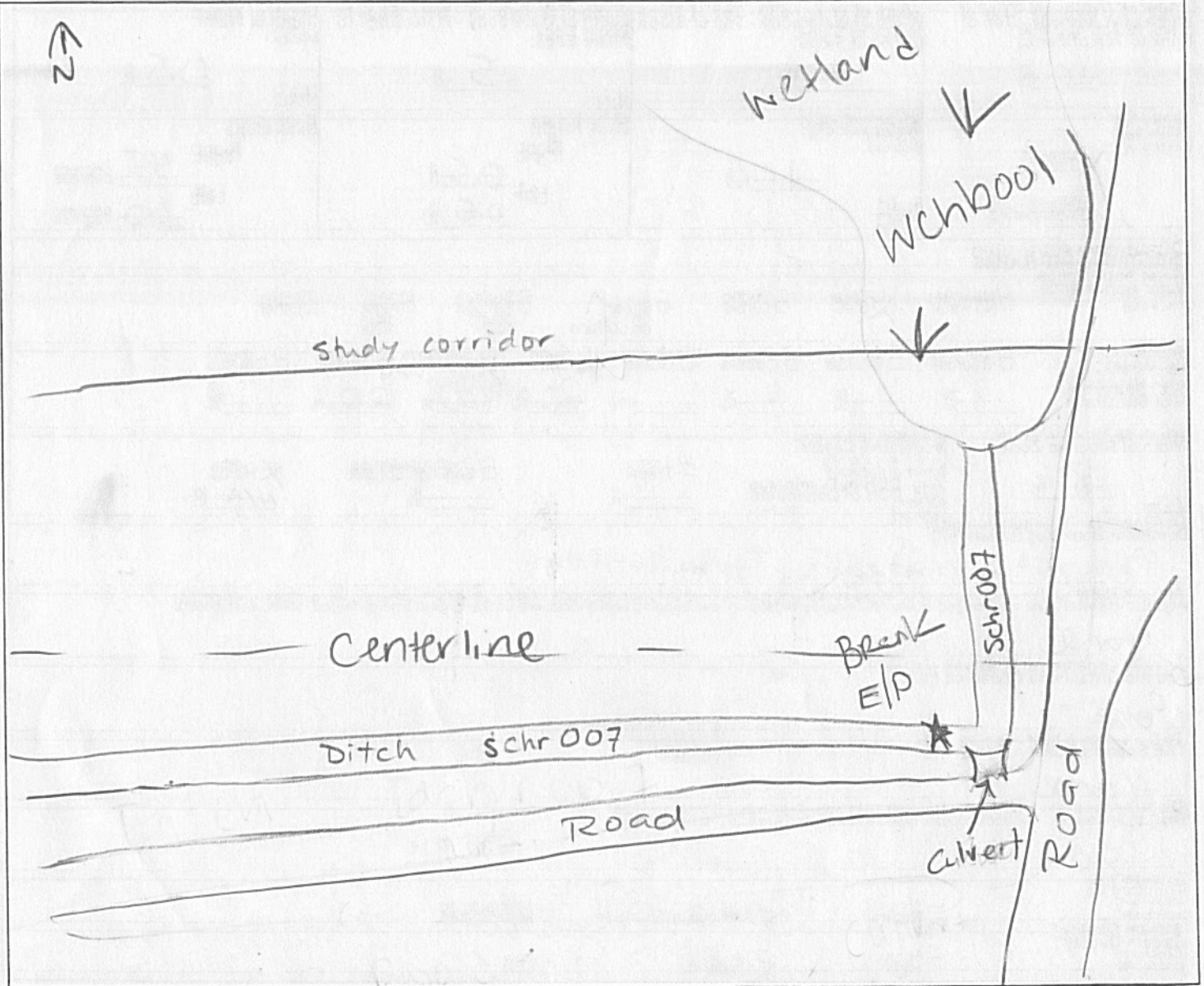
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



Environmental Field Surveys
Waterbody Photo Page



Waterbody schr007 facing northwest upstream.



Waterbody schr007 facing northeast downstream.

Environmental Field Surveys
Waterbody Photo Page



Waterbody schr007 facing southeast across bank.