Visual Assessment

New Jersey Department of Environmental Protection
Volunteer Monitoring Program

Fields marked with * are required by E2

General Sheet

*** Site Name/ID #:** _____ *** Watershed Management Area:** _____

*** Water Body Name:** _____ *** County:** _____

*** Segment Identification**

Beginning at Latitude/Longitude: _____

Ending at Latitude/Longitude: _____

*** Survey Team:** _____

*** Time:** _____ *** Date:** _____

*** Today's Weather:** ☐Clear ☐Partly Cloudy ☐Overcast ☐Light Rain
(check all that apply) ☐Steady Rain ☐Heavy Rain ☐Snow ☐Heavy Snow Melt

Rainfall: Answer or check one:
Days since last rain: _____
☐ More than one week since last rain
☐ More than one month since last rain

Air Temperature: _____ ° F

Water Temperature:_____ ° F

Water Conditions

Odor:		1. Normal 2. Sewage 3. Petroleum 4. Chemical 5. Anaerobic 6. Other
Color:		1. Clear 2. Tea 3. Milky 4. Muddy 5. Other
Surface Coating		1. None 2. Oily 3. Foam 4. Scum 5. Other

Site Sketch: include stream flow, roads, sampling locations, riffles, pools, runs, ditches, riprap, outfalls, photo and GPS reference #s

Right and left stream bank are determined facing upstream
Fields marked with ♦ are required in order for E2 to calculate habitat score
The selections entered into the grey boxes can be added together to score the stream's health.

Stream Width		**For Non-Wadable Streams**: 1. Constant 2. Widening 3. Mild constrictions 4. Sharp constriction **For Wadable Streams**: Stream Width average _____ (ft)
Stream Depth		Stream Depth average _____ (ft)
Stream Velocity		Velocity average in feet per second (divide10 (D) by the average time (T) ; V = D/T)
Stream Flows		1. Slow 2. Moderate 3. Swift 4. Combination
♦ Stream Depth / Velocity Combinations		1. Slow, deep 2. Fast, deep 3. Fast, shallow 4. Slow, shallow 5. All of the above
♦ Channel Flow Status		1. Base of both lower banks 2. Water fills greater than 75% 3. Water fills 25-75% 4. Very little water
♦ Channel Alteration		1. Stream with normal pattern 2. Some channelization present, usually in areas of bridges, etc… 3. Channelization extensive, 40 – 80% of the stream reach 4. Over 80% of the stream channelized, gabion baskets and/or riprap, and/or concert present
♦ Embeddedness (Gravel, Cobble, & Boulders)		1. 0 – 25% surrounded by fine sediment 2. 26 – 50% surrounded by fine sediment 3. 51 – 75% surrounded by fine sediment 4. Greater than 75% surrounded by fine sediment
♦ Pools and Riffles		1. Frequent occurrence 2. Infrequent occurrence 3. Occasional occurrence 4. Flat water
♦ Stream Sinuosity		1. Sharp bends 2. Somewhat curvy 3. Mild curves 4. Straight
♦ Pool Variability		1. Even mix of large-shallow, large-deep, small-shallow, small-deep pools present. 2. Majority of pools large-deep; very few shallow 3. Shallow pools much more prevalent than deep pools 4. Majority of pools small-shallow or pool absent
♦ Stream Substrate (low gradient only)		1. Mix with gravel and firm sand prevalent 2. Mix of soft sand, mud, clay, or silt 3. All mud or clay or sand bottom 4. Hard-pan clay or bedrock
♦ Epifaunal Substrate Available Cover		High Gradient Stream: 1. Greater than 70% stable habitat 2. 40-70% stable habitat 3. 20-40% stable habitat 4. less than 20% stable habitat Low Gradient Stream: 1. greater than 50% stable habitat 2. 30-50% stable habitat 3. 10-30% stable habitat 4. 10% or less stable habitat
♦ Sediment on Stream Bottom		High Gradient Stream: 1. Less than 5% 2. 5 – 30% 3. 30 -50% 4. Greater than 50% Low Gradient Stream 1. Less than 20% 2. 20 – 50 % 3. 50 – 80% 4. Greater than 80%

♦ Bank Stability	Right Bank Left Bank	1. Stable, evidence of erosion or bank failure absent or minimal; <5% of bank affected 2. Moderately Stable, small areas of erosion, mostly healed over; <5 – 30% of bank in reach has areas of erosion 3. Moderately Unstable; 31 – 60% of bank in reach has areas of erosion, high erosion potential during flooding 4. Unstable, many eroded areas, "raw" areas frequent; obvious bank sloughing; 60% or > of bank erosional scars			
♦ Riparian Vegetation	Right Bank Left Bank	1. > 18 meters / > 60 feet width 2. 12 – 18 m / 40 – 60 ft width 3. 6 – 12 m / 20 – 40 ft width 4. < 6 m / > 20 ft width			
♦ Bank Vegetative Protection	Right Bank Left Bank	1. Greater than 90% 2. 70 – 90% 3. 50 -70% 4. Less than 50%			
Coarse Particulate Organic Matter (CPOM):		1. Abundant 2. Moderate 3. Rare			
% of Tree Canopy Above Stream		1. 76 – 100% 2. 51 – 75% 3. 26 – 50% 4. 0 – 25%			
Stream Stability		1. Stable 2. Loose			
Woody Debris		1. Heavy throughout reach 2. In spots 3. None			
Woody Debris		1. Both 2. Attached 3. Free Floating			
Predominant Aquatic Vegetation		1. Rooted emergent 2. Rooted submergent 3. Rooted floating 4. Free floating			
Algae Growth		1. Absent 2. Sparsely Populated 3. Densely Populated			
Algae Location		1. None 2. On streambed 3. On surface 4. Both			
Algae Color		1. Light green 2. Dark green 3. Brown 4. Other			
Litter Concentration		1. Flood Plain Accumulation 2. Water Borne 3. From Land Use			
Structures	Bridges		Culverts	Dams	Other

Comments _____

_____

_____

_____

_____

Assessment Sheet

Streamside Land Use				
	Within 50 ft. of top of bank		Within ¼ mile	
	Left Bank	Right Bank	Left Bank	Right Bank
Residential single-family housing				
Residential multifamily housing				
Residential Lawns				
Residential Pets				
Commercial / Institutional				
Commercial / Institutional Lawns				
Roads Paved				
Roads Unpaved				
Construction Underway For:				
Housing Development				
Commercial				
Road / Bridge Construction Repair				
Agricultural Grazing Land				
Agricultural Feed Lots / Animal Holding Areas				
Agricultural Cropland				
Inactive Agricultural Land / Fields				
Recreational Power Boating				
Recreational Golfing				
Recreational Camping				
Recreational Swimming / Fishing / Canoeing				
Recreational Hiking / Paths				

	Within 50 ft. of top of bank		Within ¼ mile	
	Left Bank	**Right Bank**	**Left Bank**	**Right Bank**
Recreational Horse Trails				
Recreational Athletic Fields				
Recreational Other				
Waterfowl (with approximate #)				
Pet Waste				
Preserved Open Space				
Woodland				
Wetlands				
Cemetery				
Recycling/Waste Facility				
Industrial				
Other				

Observations: (indicate locations on map)

_____

_____

_____

_____

_____

Pipe & Drainage Ditch Inventory *(fill out one sheet for each one)*

Outfall Pipe Reference # _____ **Pipe Diameter:** _____ in. or ft.

Type: _____ 1. Storm drain 2. Residential discharge 3. Industrial Discharge (NJPDES # _____)
4. Combined sewer overflow 5. Other

Pipe Material: _____ 1. Concrete 2. Steel 3. PVC 4. Clay 5. Other _____

Pipe Location: _____ 1. In stream 2. In stream bank 3. Near stream

Pipe Flow/Appearance: _____ 1. None 2. Trickle 3. Intermittent 4. Steady 5. Heavy

Flow Color: _____

Is streambank at outfall eroded? _____

Stream channel downstream**:** _____ 1. Stable 2. Eroded

Drainage Ditch # _____ 1. Unknown 2. Outfall pipe 3. Parking Lot 4. Settlement Basin / Pond
5. Agricultural field 6. Livestock Operation

Begins At: _____

Ditch Lining: _____ 1. Stone 2. Vegetation 3. Concrete **Ditch Is:** _____ 1. Stable 2. Eroding

Ditch Flow: _____ 1. None 2. Intermittent 3. Steady

Flow Appearance: _____ 1. Clear 2. Turbid 3. Oily 4. Foamy 5. Colored _____

Stream channel downstream**:** _____ 1. Stable 2. Eroded

Observations: (indicate locations on map)

_____

_____

_____

_____

_____

Photo Reference #'s

_____

_____

_____

GPS Reference #'s

_____

_____

_____