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Memorandum

To	Michael Liberati, DuPont CRG Ralph Stahl, DuPont CRG	Page 1 of 3
CC	Nancy Grosso, DuPont CRG Ceil Mancini, AECOM	
Subject	2016 Short-term Monitoring Annual Field Summary Memo Former DuPont Waynesboro Site, Area of Concern 4	
From	Bill Reese, AECOM Joshua Collins, AECOM	
Date	March 1, 2017	

In accordance with the United States Environmental Protection Agency (US EPA) Resource Conservation and Recovery Act (RCRA) Corrective Action Permit Number VAD005114832 (amended February 2014), interim measures are being implemented by E.I. du Pont de Nemours and Company (DuPont) to address mercury released to the South River from the former DuPont facility in Waynesboro, Virginia. The preliminary (Phase 1) interim measures involves bank stabilization, which is being implemented at Bank Management Areas (BMAs) beginning with the first two relative river miles (RRM), RRM 0 to RRM 2.0 downstream of the site (Anchor QEA and URS Corporation, 2015).

Short- and Long-term Monitoring (STM and LTM, respectively) are being conducted to evaluate the performance of the interim measures and proposed remedial approach. STM data will be used to evaluate the effectiveness of the remedial approach over a short period of time (i.e., two to ten years) within a limited spatial extent (i.e., adjacent to a particular BMA), and includes monitoring of the following:

- Bank stability
- Mercury concentrations in:
    - Sediment
    - Filtered pore water
    - Periphyton
    - Transplanted Asiatic clams (*Corbicula fluminea*)
- Riparian vegetation
- Aquatic and riparian habitat [Rapid Bioassessment Protocols (RBPs; Barbour et al., 1999)]

The following ancillary habitat assessments and public access feature surveys were also conducted in order to address stakeholder concerns:

- Reach condition evaluations [Unified Stream Methodology (USM; USACE, 2007) and Evaluation of Planned Wetlands (EPW; Bartoldus, 1994)
- Canopy cover
- Substrate grain size distributions
- Benthic community structure
- River access / aesthetics

This technical memorandum summarizes the June and October 2016 STM events, which were conducted to assess pre-remediation (i.e., baseline) conditions. The 2016 STM Report

is being prepared to provide a more detailed description of 2016 STM data and will be submitted in the first quarter of 2017.

The June and October 2016 STM events focused on STM stations STM -01, STM-05, and STM-07 (Figure 1). Monitoring was conducted in accordance with the Final AOC 4 Short-term Monitoring Plan (URS Corporation, 2015) and modifications, including revised habitat metrics (AECOM, 2015). Table 1 provides an overview of the monitoring plan design, including performance objectives, metrics, success criteria, and adaptive management outcomes; additional detail is provided in the Monitoring Plan and associated appendices (URS Corporation, 2015). Sediment, pore water, periphyton, transplanted *Corbicula,* and riparian vegetation data collected as part of the spring and fall 2016 STM program are presented in Tables 2 through 6, and summarized below.

Sediment

- Sediment concentrations for both IHg and MeHg were generally similar between seasons [spring (June) and fall (October)] in 2016 for the majority of samples collected (Table 2); and
- Among the three STM stations, sediment concentrations of both IHg and MeHg were generally higher at STM-05 compared to STM-01 and STM-07 (Table 2).

Filtered Pore Water

- MeHg concentrations in filtered pore water were clearly higher in the spring compared to the fall (Table 3); however, IHg concentrations in filtered pore water were found to be only slightly higher in the spring compared to the fall in 2016 (Table 3); and
- Among the three STM stations, IHg concentrations in filtered pore water were generally higher at STM-01 and STM-05 compared to STM-07 (Table 3); whereas, MeHg concentrations in filtered pore water were generally higher at STM-01 compared to STM-05 and STM-07 (Table 3).

Periphyton

- IHg and MeHg concentrations in near-bank periphyton generally increased with distance downstream, from location STMP-01 to STMP-07 (Table 4); this spatial trend was less apparent for IHg and MeHg concentrations in mid-channel periphyton (Table 4);
- IHg and MeHg concentrations in periphyton were higher in near-bank environments than in mid-channel environments at locations STM-05 and STM-07 (Table 4); and
- IHg concentrations in periphyton were generally higher in the fall compared to the spring; this trend was less apparent for MeHg concentrations in periphyton (Table 4).

Transplanted Corbicula

- IHg and MeHg concentrations in transplanted *Corbicula* were generally similar among samples collected at all three STM stations in 2016 (Table 5);
- MeHg concentrations in seeded transplanted *Corbicula* were generally higher in the spring compared to the fall (Table 5);
- MeHg concentrations in transplanted *Corbicula* were generally higher in near-bank environments compared to mid-channel environments (Table 5); and
- MeHg tissue concentrations were generally higher in seeded than in caged transplanted *Corbicula* (Table 5).

Riparian Vegetation

- Riparian vegetation conditions were similar in the spring and fall among all three STM stations monitored in 2016 (STM-01, STM-05, and STM-07);

- Species identified in the tree stratum were relatively similar among the three STM stations; black locust and American sycamore were present at all STM stations and black walnut was present at two STM stations (STM-05 and STM-07);
- The sapling/shrub and herbaceous strata were comparatively different among all three STM stations; and
- Non-native, invasive plant species (e.g., Japanese Knotweed and multiflora rose) were present at each STM station in the spring as well as the fall in 2016 (Table 6).

Ancillary habitat/public access assessments are summarized below:

- Average stream canopy cover was generally limited at STM-01, STM-05, and STM-07; arithmetic mean percent canopy was 15%, 32%, and 35%, respectively (Table 7).
- Sediment grain size distributions at STM-01 and STM-05 were similar and consisted primarily of sand/fines, coarse gravel and small to medium cobble (Figure 2). STM-07 displayed a more even grain size distribution, with a larger proportion of smaller grain sizes (i.e., very fine to medium gravels) compared to STM-01 and STM-05 (Figure 2).
- Benthic community samples were collected at RRM 0.5, 1.0, 1.5, and 2.0; the results of the sample analyses and evaluation will be provided in the 2016 STM Report.
- Improvised access and LWD features observed at STM-01, STM-05, and STM-07 in 2016 were generally consistent with those observed in 2015 (Figure 1).

The forthcoming 2016 STM Report will provide a more detailed summary and evaluation of the results of the 2016 STM. Consistent with the adaptive management principles, future STM reports may also include recommendations for corrective actions or modifications to the STM plan if warranted. Specifically, monitoring data which do not materially impact the remedial decision process may be reduced or eliminated.

REFERENCES

AECOM, 2015. Memorandum to DuPont – Short-term Monitoring Plan – Revised Habitat Metrics. DuPont Former Waynesboro Site, Area of Concern 4.

Anchor QEA and URS Corporation. 2015. Interim Measures Design, Implementation and Monitoring Work Plan. Phase I, South River Area of Concern 4. February 2015.

Barbour, M.T., J. Gerritsen, B.D. Snyder, and J.B. Stribling. 1999. Rapid Bioassessment Protocols for Use in Streams and Wadeable Rivers: Periphyton, Benthic Macroinvertebrates and Fish, Second Edition. USEPA 841-B-99-002. USEPA Office of Water, Washington, D.C.

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Tables

Table 1
Short-term Monitoring Plan Summary
2016 Short-Term Monitoring Annual Field Summary Memo
Former DuPont Waynesboro Site, Area of Concern 4

Short-Term Remedial Action Objectives				Monitoring Plan Designs			Adaptive Management Outcomes	
General Objective	**Performance Objective**	**Measurable Metric**	**Preliminary Success Criteria**	**General Station Locations**	**Monitoring Frequency (post construction)**	**Analytical Parameters**	**Contingency Actions**	**Decision Analysis**
Reduce Mercury Transport and Exposure	Increase in Bank Stability	Topography	Maintenance of Post-Construction Bank Condition	BMA Evaluated Holistically	Twice Annually for First 3 Years; Post-storm	Continuous Bank Angle / Grade	Structural and/or Vegetative Stabilization	Refine Effectiveness Estimates
		Vegetation	>80% Cover; <10% Invasives	Vegetation Plots at Each BMA	Twice Annually for First 3 Years; Post-storm	Cover and Species Composition	Additional Vegetation Enhancement	Refine Effectiveness Estimates
		Design and Implementation	Landowner Approvals and Permits	BMA Properties	NA	NA	NA	Refine Implementation Estimates
	Reduce Mercury Loading from Bank	Surface Sediment	>75% Mercury Concentration Reduction	Transects Spaced ~100-200' at each BMA	Twice Annually for First 3 Years	IHg and MeHg Concentrations	NA	Refine Effectiveness Estimates
		Pore Water	>75% Mercury Concentration Reduction	Transects Spaced ~100-200' at each BMA	Twice Annually for First 3 Years	IHg and MeHg Concentrations	NA	Refine Effectiveness Estimates
		Periphyton	>75% Mercury Concentration Reduction	Downstream of Representative BMAs (Near-shore)	Twice Annually for First 3 Years	IHg and MeHg Concentrations	NA	Refine Effectiveness Estimates
		Asiatic Clam Sampling	>75% Mercury Concentration Reduction	Downstream of Representative BMAs (Near-shore)	Twice Annually for First 3 Years	IHg and MeHg Concentrations	NA	Refine Effectiveness Estimates
	Reduce In-Channel Mercury Exposure	Periphyton	>50% Mercury Concentration Reduction	Downstream of Representative BMAs (Channel)	Annually for First 10 Years	IHg and MeHg Concentrations	NA	Refine CSM
		Asiatic Clam Sampling	>50% Mercury Concentration Reduction	Downstream of Representative BMAs (Channel)	Annually for First 10 Years	IHg and MeHg Concentrations	NA	Refine CSM
Maintain or Improve Riparian and Aquatic Habitat	Improve Bank Vegetation	Vegetation	>80% Cover; <10% Invasives	Vegetation Plots at Each BMA	Twice Annually for First 3 Years	Cover and Species Composition	Additional Vegetation Enhancement	Refine Effectiveness Estimates
	Improve In-Stream Habitat	Rapid Bioassessment Protocols	Visual Stream Classification	Each BMA Assessed Independently	Quarterly for the First Year and Semi Annually (Q1/Q3) for years 2-10[1]	Rapid Bioassessment Protocol Scores	NA	Refine Effectiveness Estimates
	Maintain Detrital Input/Stream Shading	Canopy Cover	Achievement of Baseline Canopy Coverage	Transects Spaced ~ 100-200' at each BMA	Annually for First 3 Years	Percent Canopy Coverage (Spherical Densiometer)	Additional Vegetation Enhancement	Refine Effectiveness Estimates
	Maintain Stream Substrate Condition	Wolman Pebble Counts	Maintenance / Improvement of Baseline Conditions	Transects Spaced ~100-200' at each BMA	Annually for First 3 Years	Particle Size Analysis	Structural and/or Vegetative Stabilization	Refine Effectiveness Estimates
	Maintain In-stream Habitat Features	# of In-stream Habitat Features	Maintenance / Improvement of Baseline Conditions	Each BMA Assessed Independently	Twice Annually for First 3 Years	# of In-stream Habitat Features	Structural Stabilization	Refine Effectiveness Estimates
	Habitat Function and Ecological Value	EPW & USM	Maintenance / Improvement of Baseline Conditions	Each BMA Assessed Independently	Annually for first 3 Years	USM Methodology & EPW Non-tidal Stream - Fish FCI	Structural and/or Vegetative Stabilization	Refine Effectiveness Estimates
Maintain or Improve Benthic Community	Maintenance of Benthic Community	Benthic Invertebrate Metrics	Maintenance / Improvement of Baseline Conditions	Four Locations Within the Interim Measures Area (RRM 0.5, RRM 1.0, RRM 1.5, RRM 2.0)	Twice Annually for First 3 Years	300 Organism Sub-count	NA	Refine Effectiveness Estimates
River Access / Aesthetics	Provide Stable River Access Points	Stable Access Points	Maintenance / Improvement of Baseline Conditions	Each BMA Assessed Independently	Twice Annually for First 3 Years	# of Stable and Improvised Access Points	Structural Stabilization	Refine Effectiveness Estimates

Notes:
EPW, Evaluation for Planned Wetlands
FCI, Functional Capacity Index
USM, Unified Stream Methodology
RRM, Relative River Mile
NA, Not applicable
IHg, Inorganic mercury
MeHg, Methylmercury
CSM, Conceptual Site Model
BMA, Bank Management Area
Ancillary habitat/ public access metrics

Table 2
Sediment Data Summary
2016 Short-Term Monitoring Annual Field Summary Memo
Former DuPont Waynesboro Site, Area of Concern 4

Sample Replicate[1]	Sediment Type	IHg (mg/kg, dw)		MeHg (µg/kg, dw)	
		June	October	June	October
STM-01					
A	Bulk	0.24	0.24	1.95	3.72
B		0.59	0.65	1.85	4.1
C		0.54	1.09	1.32	4.05
D		82.7	40.2	83.9	39.2
E		2	1.87	5.18	2.25
STM-05					
A	Bulk	6.58	4.93	24.6	16.4
B		10.6	15	6.39	7.14
C		23.4	18.7	26.4	16.6
D		4.40	2.01	29.5	5.16
E		14.8	14.9	58.9	28.8
F		38.0	33.4	10.8	14.3
G		47.1	88	17.4	44.3
H		19	12.6	13	11
I		51.2	18.3	11.0	10.2
J		106	8.34	11.4	5.77
STM-07					
A	Bulk	3.98	1.79	1.41	1.23
B		7.46	3.86	16.4	7.3
C		2.68	5.81	1.5	2.64
D		18	19.1	17.2	17.6
E		7.12	2.67	12	6.56
F		6.78	2.11	5.41	1.32
G		22.9	21.5	31.1	19.6
H		4.20	3.65	4.87	6.76
I		5.13	4.20	10.9	7.84
J		3.82	1.94	4.3	2.48
K		3.93	18	2.15	25

Notes:

1, Per STM station, sample replicates increase alphebetically with distance downstream

IHg, Inorganic mercury

MeHg, Methylmercury

dw, Dry weight

Table 3
Filtered Pore Water Data Summary
2016 Short-Term Monitoring Annual Field Summary Memo
Former DuPont Waynesboro Site, Area of Concern 4

Sample Replicate[1]	FIHg (ng/L)		FMeHg (ng/L)	
	June	October	June	October
STM-01				
A	2.6	3.91	1.22	1.32
B	14.2	11.4	1.47	1.16
C	4.7	3.03	4.73	0.19
D	142.0	49.3	34.7	2.16
E	15.8	10.3	3.49	0.22
STM-05				
A	37.8	11.9	6.29	0.57
B	10.3	3.15	1.63	0.28
C	5.1	9.49	0.9	0.4
D	3.1	8.68	0.84	0.58
E	7.5	7.16	8.51	2.54
F	159.3	20.1	13.4	0.72
G	93.7	53.1	3.15	1
H	3.4	4.98	1.09	0.14
I	10.9	14.6	0.25	0.37
J	9.3	19.3	0.34	1.13
STM-07				
A	7.9	4.8	4.44	0.03
B	1.6	1.5	0.2	0.02
C	15.4	11.6	0.37	0.18
D	2.4	2.35	0.17	0.02
E	13.4	4.25	1.19	0.66
F	4.7	3.93	2.43	0.98
G	7.1	4.49	0.42	0.19
H	5.4	5.41	0.58	1.18
I	8.5	2.7	2.6	1.96
J	9.3	7.8	0.29	0.1
K	16.3	1.68	0.32	0.12

Notes:

1, Per STM station, sample replicates increase alphebetically with distance downstream

FIHg, Inorganic mercury (filtered fraction)

FMeHg, Methylmercury (filtered fraction)

Table 4
Periphyton Data Summary
2016 Short-Term Monitoring Annual Field Summary Memo
Former DuPont Waynesboro Site, Area of Concern 4

Sample Replicate	Sample Environment	IHg (µg/kg, ww)		MeHg (µg/kg, ww)	
		June	October	June	October
STM-01					
A	Mid-Channel	332	—	0.27	—
B		121	—	0.34	—
C		143	—	0.35	—
A	Near Bank	48.4	467	0.26	0.82
B		37.4	188	0.32	0.53
C		71.0	197	0.48	0.45
STM-05					
A	Mid-Channel	253	—	0.13	—
B		224	—	0.13	—
C		193	—	0.09	—
A	Near Bank	663	1005	0.45	1.19
B		550	1109	0.54	0.98
C		626	1345	0.39	1.20
STM-07					
A	Mid-Channel	240	—	1.07	—
B		268	—	1.26	—
C		235	—	0.78	—
A	Near Bank	875	3565	4.17	1.55
B		1090	1564	1.83	1.02
C		1108	2116	2.11	1.21

Notes:
IHg, Inorganic mercury
MeHg, Methylmercury
ww, Wet weight
--, Not sampled

Table 5
Transplanted *Corbicula* Data Summary
2016 Short-Term Monitoring Annual Field Summary Memo
Former DuPont Waynesboro Site, Area of Concern 4

Sample Replicate	Sample Environment	IHg (µg/kg, ww)		MeHg (µg/kg, ww)	
		June	October	June	October
STM-01					
A	Mid-Channel Caged	11.5	—	5.62	—
B		12.4	—	5.39	—
C		24.8	—	6.47	—
A	Near Bank Caged	14.6	17	10.5	7.47
B		14	16.5	9.76	8.01
C		23.8	13.4	17.2	7.39
A	Near-Bank Seeded	20.3	19.2	26.2	9.91
B		9.64	15.1	14.3	8.99
C		13.5	17.1	13.3	8.35
STM-05					
A	Mid-Channel Caged	22.9	—	8.56	—
B		16	—	7.52	—
C		9.7	—	5.13	—
A	Near Bank Caged	59.2	18	36.8	10.6
B		38.7	21.5	20.6	8.49
C		54.4	22.6	32.3	9.79
A	Near Bank Seeded	32.2	20.2	47.4	10.2
B		42.8	24.8	56.1	12.1
C		42.1	17.8	39.6	12.9
STM-07					
A	Mid-Channel Caged	28	—	9.18	—
B		10.6	—	3.68	—
C		21.7	—	10.3	—
A	Near Bank Caged	59.3	21.1	25.8	7.53
B		31.1	22.2	22.6	6.76
C		37.1	18.3	24.7	6.16
A	Near Bank Seeded	62.1	22.1	48.4	15.7
B		60.2	27.3	58.4	13.7
C		20.1	25.6	18.9	14.6

Notes:
IHg, Inorganic mercury
MeHg, Methylmercury
ww, Wet weight
--, Not sampled

Table 6
Riparian Vegetation Plot Data Summary
2016 Short-Term Monitoring Annual Field Summary Memo
Former DuPont Waynesboro Site, Area of Concern 4

Vegetative Species		Absolute % Cover[1]	
Scientific Name	**Common Name**	**Spring 2016**	**Fall 2016**
STM-01			
Tree/Vine Stratum			
Robinia pseudoacacia	Black Locust	0-40	0-40
Platanus occidentalis	American Sycamore	0-10	0-10
Sapling/Shrub Stratum			
Robinia pseudoacacia	Black Locust	0-10	0-10
Lonicera tatarica	Tartarian Honeysuckle	0-70	0-70
Phytolacca americana	American Pokeweed	NA	0-5
Herbaceous Stratum			
Fallopia japonica	Japanese Knotweed	60-80	60-80
Rumex crispus	Curly Dock	0-5	0-5
Alliaria petiolata	Garlic Mustard	5-10	5-10
Arctium minus	Lesser Burdock	5-5	5-5
Rubus allegheniensis	Common Blackberry	0-10	0-10
Rubus pensilvanicus	Pennsylvania Blackberry	0-10	0-10
STM-05			
Tree/Vine Stratum			
Juglans nigra	Black Walnut	60-70	60-70
Robinia pseudoacacia	Black Locust	0-15	0-15
Platanus occidentalis	American Sycamore	0-20	0-20
Catalpa speciosa	Northern Catalpa	0-15	0-15
Sapling/Shrub Stratum			
Lonicera tatarica	Tartarian Honeysuckle	40-50	40-50
Juglans nigra	Black Walnut	0-30	0-30
Cornus amomum	Silky Dogwood	0-15	0-15
Rhus typhina	Staghorn Sumac	0-15	0-15
Acer platanoides	Norway Maple	0-10	0-10
Rosas multiflora	Multiflora Rose	0-5	0-5
Quercus montana	Chestnut Oak	0-5	0-5
Albizia julibrissin	Persian Silk Tree	0-5	0-5
Herbaceous Stratum			
None Observed	NA	NA	NA
STM-07			
Tree/Vine Stratum			
Rhus typhina	Staghorn Sumac	0-50	0-50
Juglans nigra	Black Walnut	40-50	40-50
Robinia pseudoacacia	Black Locust	0-20	0-20
Acer negundo	Ash-Leaf Maple	0-10	0-10
Platanus occidentalis	American Sycamore	0-10	0-10
Sapling/Shrub Stratum			
Lonicera tatarica	Tartarian Honeysuckle	40-75	40-75
Lonicera maackii	Amur Honeysuckle	0-10	0-10
Herbaceous Stratum			
Fallopia japonica	Japanese Knotweed	0-10	0-10

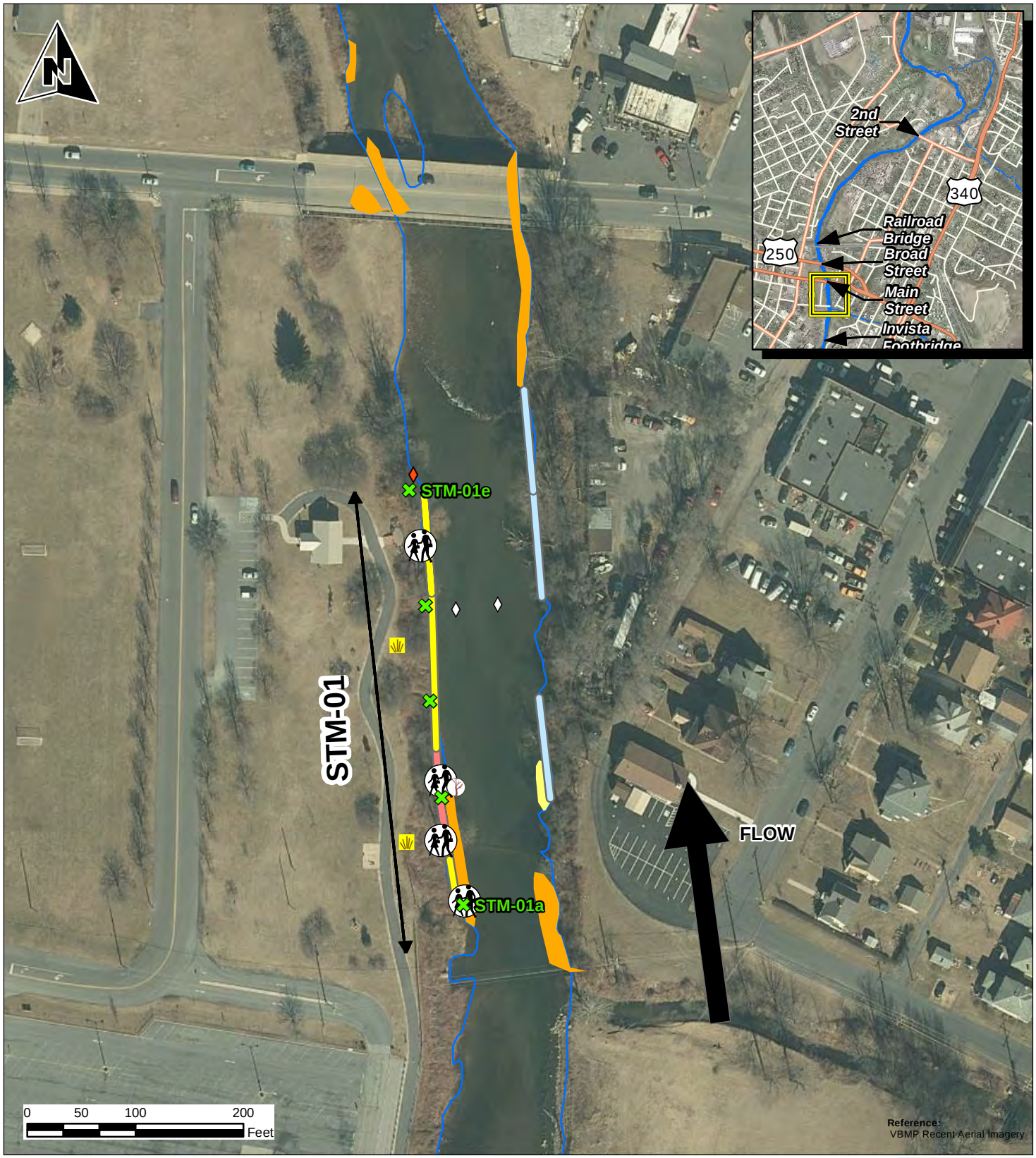
Notes:

1, Represents the range observed between two riparian vegetative survey plots per Short-term Monitoring station.
NA, Not applicable

Table 7
Canopy Cover Data Summary
2016 Short-Term Monitoring Annual Field Summary Memo
Former DuPont Waynesboro Site, Area of Concern 4

Transect ID	Mean Densiometer Reading	Mean Open Sky (%)	Overall Mean Open Sky (%)	Overall Mean Canopy Cover (%)
STM-01				
A	94	97.9	85.2	14.8
B	78	81.3		
C	92	95.8		
D	82	85.4		
E	63	65.6		
STM-05				
A	33.5	34.9	68	32
B	54	56.3		
C	61	63.5		
D	68	70.8		
E	69	71.9		
F	91	94.8		
G	75	78.1		
H	70	72.9		
I	60	62.5		
J	71	74.0		
STM-07				
A	74	77.1	65	35
B	47	49		
C	71	74		
D	39	40.6		
E	80	83.3		
F	68	70.8		
G	68	70.8		
H	57	59.4		
I	43	44.8		
J	70	72.9		
K	69	71.9		

Figures



Legend

- Spring Periphyton/Clam
- Fall Periphyton/Clam
- Benthic Community
- Vegetative Plots
- Sediment/PoreWater/ Canopy/Pebble Count
- Large Woody Debris
- River Access
- Extent of Short-term Monitoring Location
- Clay and Silt Deposits
- Fine Sand Deposits
- Shoreline

Bank Management Area

- Non-Use BMAs
- Phase 1A Primary BMAs
- Phase 1A Secondary BMAs
- Phase 1B Primary BMAs
- Phase 1B Secondary BMAs

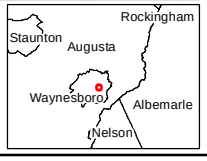


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Figure 1: Sheet 1 of 4
Short-term Monitoring Locations Overview Map
2016 Short-Term Monitoring Annual Field Summary Memo
Former Dupont Waynesboro Site, Area of Concern 4
Waynesboro, Virginia

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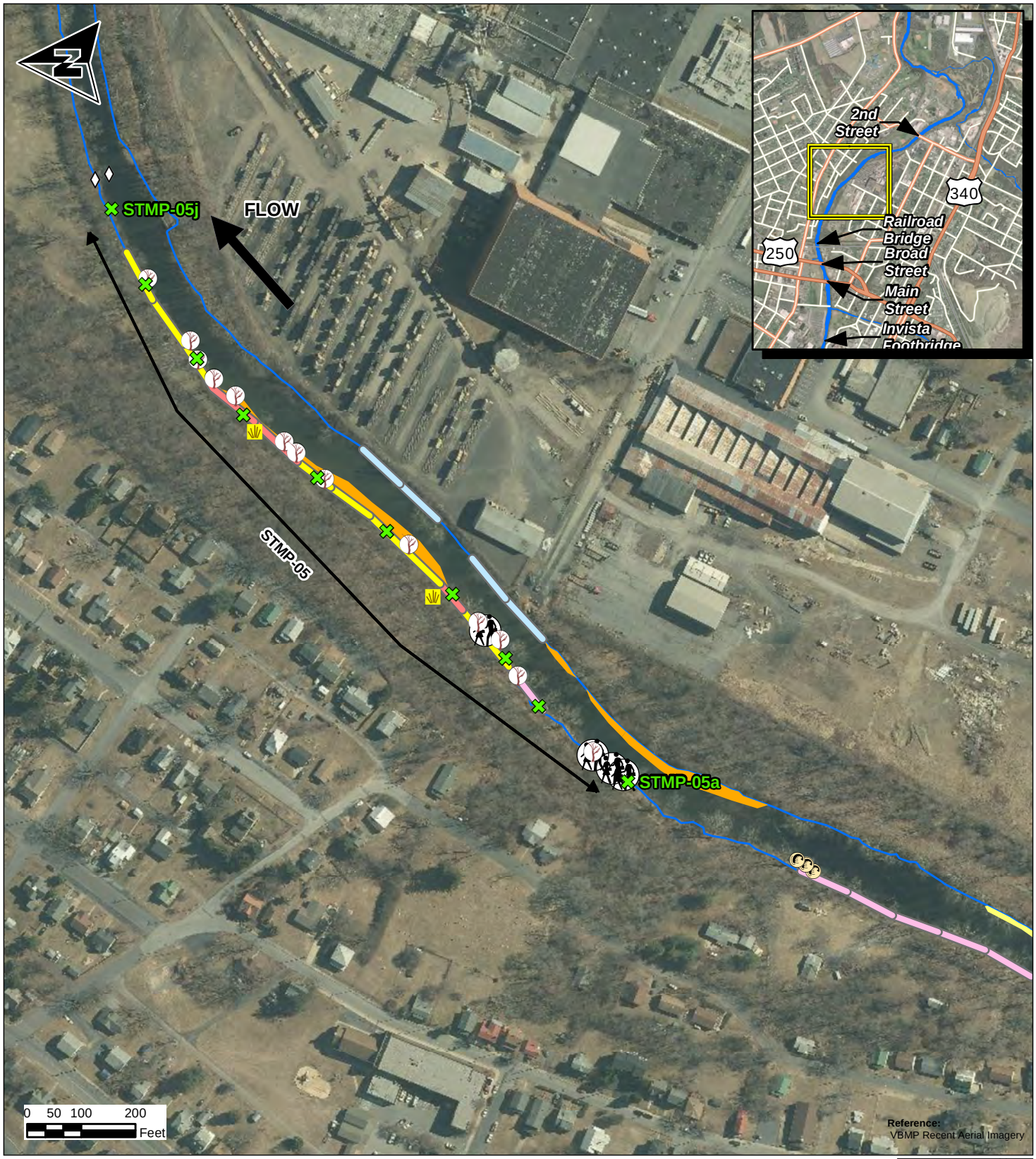

Legend

- Spring/Fall Periphyton/Clam
- Benthic Community
- Vegetative Plots
- Sediment/PoreWater/ Canopy/Pebble Count
- Large Woody Debris
- River Access
- Extent of Short-term Monitoring Location
- Clay and Silt Deposits
- Fine Sand Deposits
- Shoreline

Bank Management Area

- Non-Use BMAs
- Phase 1A Primary BMAs
- Phase 1A Secondary BMAs
- Phase 1B Primary BMAs
- Phase 1B Secondary BMAs

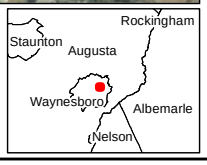

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Figure 1: Sheet 2 of 4
Short-term Monitoring Locations Overview Map
2016 Short-Term Monitoring Annual Field Summary Memo
Former Dupont Waynesboro Site, Area of Concern 4
Waynesboro, Virginia

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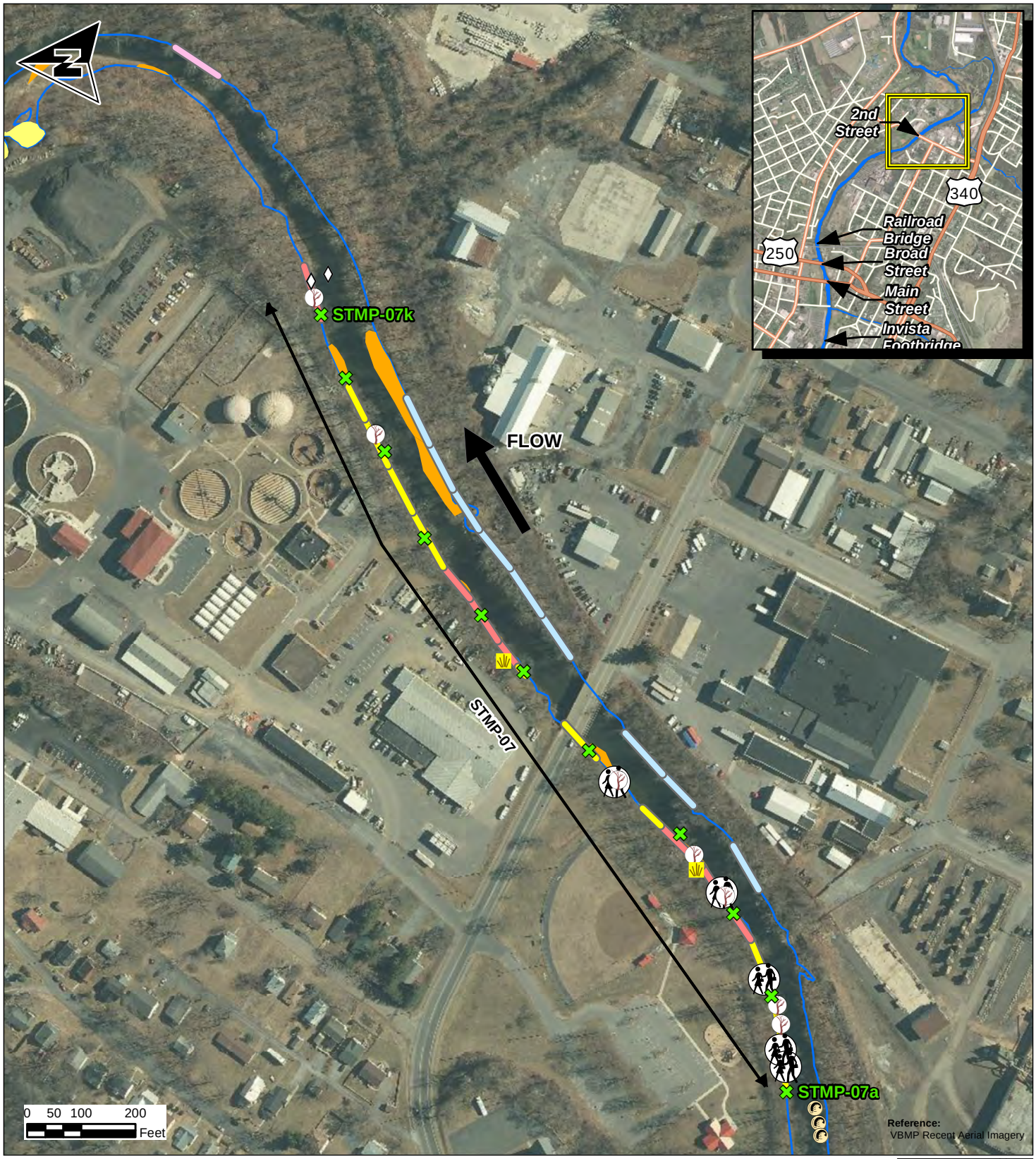
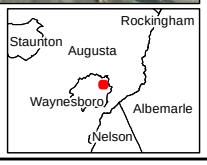


Legend

- Spring/Fall Periphyton/Clam
- Benthic Community
- Vegetative Plots
- Sediment/PoreWater/ Canopy/Pebble Count
- Large Woody Debris
- River Access
- Extent of Short-term Monitoring Location
- Clay and Silt Deposits
- Fine Sand Deposits
- Shoreline

Bank Management Area

- Non-Use BMAs
- Phase 1A Primary BMAs
- Phase 1A Secondary BMAs
- Phase 1B Primary BMAs
- Phase 1B Secondary BMAs



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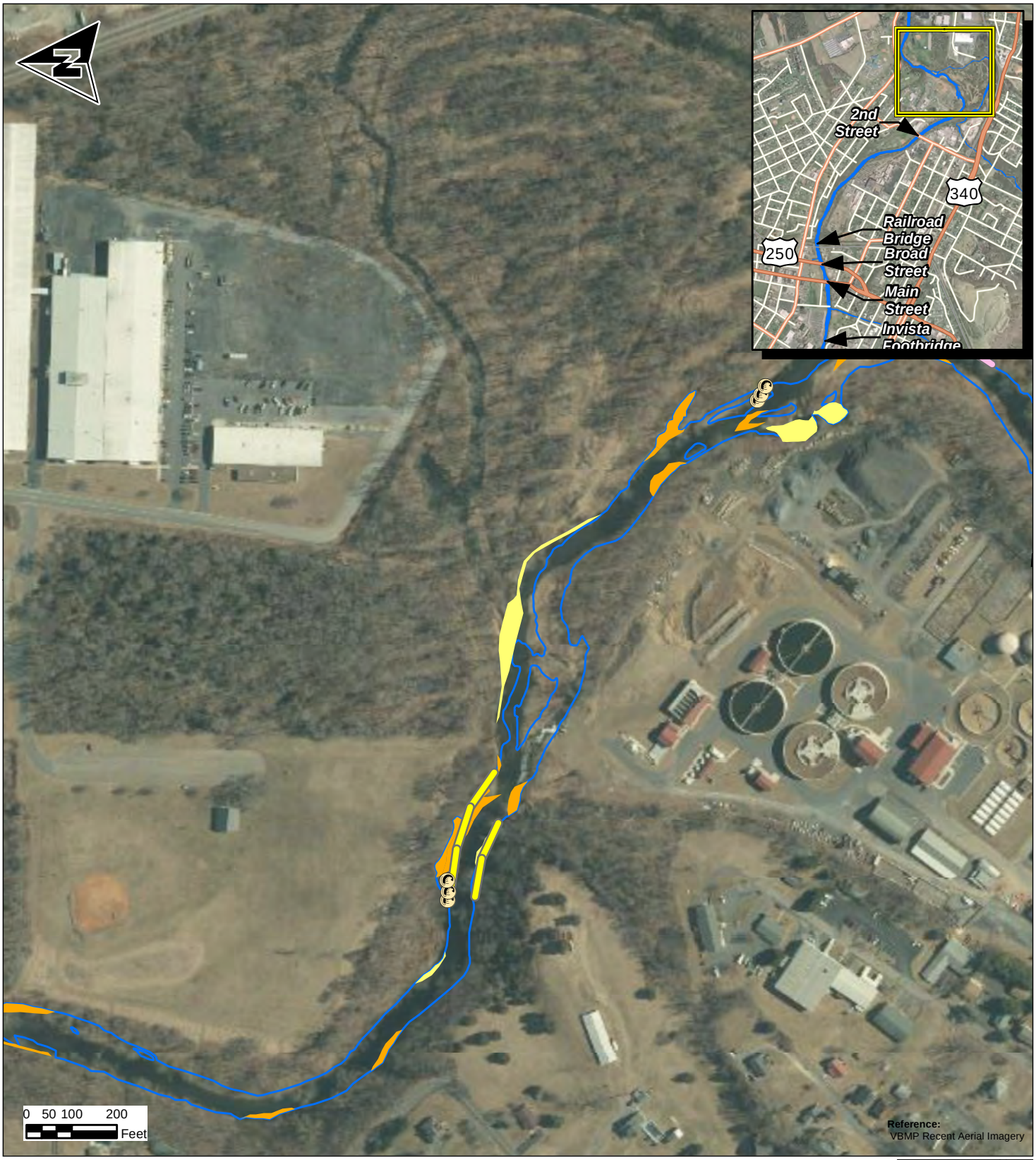
Prepared by:	PJL
Checked by:	SD
Date:	1/5/2017

Figure 1: Sheet 3 of 4
Short-term Monitoring Locations Overview Map
2016 Short-Term Monitoring Annual Field Summary Memo
Former Dupont Waynesboro Site, Area of Concern 4
Waynesboro, Virginia

S:\Projects\IMS\DUPONT\STHRIVER\Projects\ShortTermMonitoringPlan\Memo\2016\Figure 1 STMP Locations Sheet 2-4.mxd



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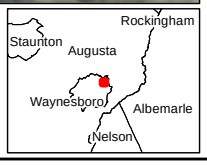

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Figure 1: Sheet 4 of 4
Short-term Monitoring Locations Overview Map
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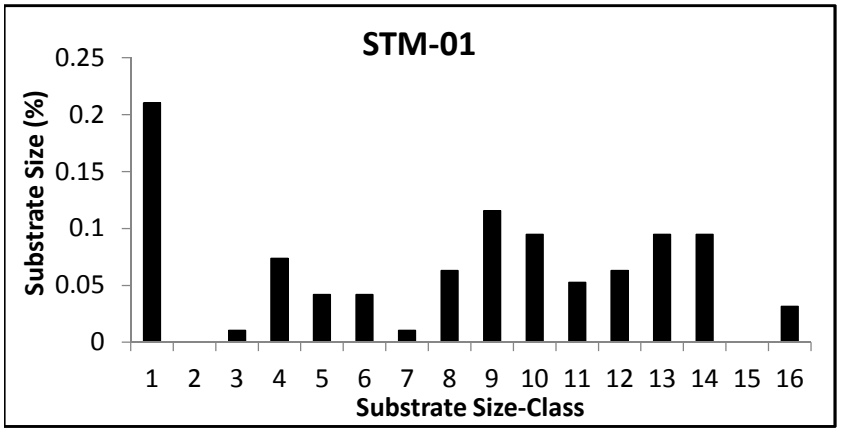
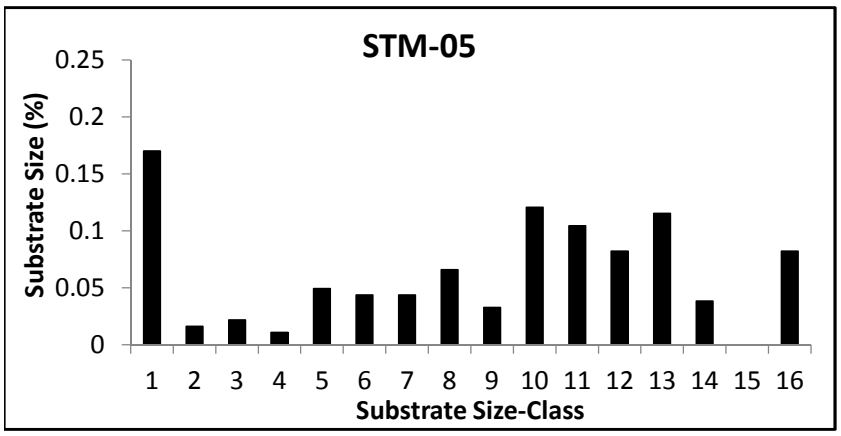
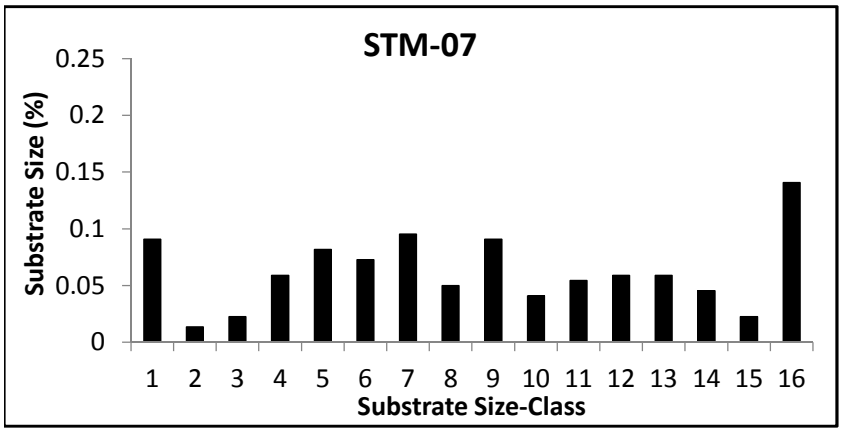
S:\Projects\IMS\DUPONT\STHRIVER\Projects\ShortTermMonitoringPlan\Memo\2016\Figure 1 STMP Locations Sheet 2-4.mxd

Figure 2
Sediment Grain Size Distribution
2016 Short-Term Monitoring Annual Field Summary Memo
Former DuPont Waynesboro Site, Area of Concern 4







Substrate Size Class Descriptions		
Substrate Size-Class	Size Range (mm)	Description
1	0 - 2.0	Sand/Fines
2	2.0 - 2.8	Very Fine Gravel
3	2.8 - 4.0	Very Fine Gravel
4	4 - 5.6	Fine Gravel
5	5.6 - 8.0	Fine Gravel
6	8 - 11.0	Medium Gravel
7	11 - 16	Medium Gravel
8	16 - 22.6	Coarse Gravel
9	22.6 - 32	Coarse Gravel
10	32 - 45	Very Coarse Gravel
11	45 - 64	Very Coarse Gravel
12	64 - 90	Small Cobble
13	90 - 128	Medium Cobble
14	128 - 180	Large Cobble
15	180 - 300	Very Large Cobble
16	>300	Boulder/Bedrock