Interstate 80, Section 17M

Water Resources Delineation Report 2018 Addendum - Expanded Study Area

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I. Introduction

The SR 0080 Section 17M Reconstruction project is a 3.5 mile roadway reconstruction traversing parts of three (3) municipalities (Stroud Township, Stroudsburg Borough and East Stroudsburg Borough) in Monroe County, Pennsylvania. The project area can be found on the Stroudsburg, PA USGS Quadrangle and is centered at approximately 40° 59' 0.6" N and 75° 12' 54.4" W (Figure 1). The project area is primarily suburban and urban landscape across a rolling topography, generally paralleling McMichael Creek and Pocono Creek, east to west. Higher density residential and commercial development is found east of the US 209 interchange (Exit 304) and continues east to Brodhead Creek. Suburban and commercial development extends from the same interchange to the west. Local topography consists of narrow, moderately deep stream valleys and rolling upland terrain.

This project is currently in the preliminary engineering and environmental clearance phase and environmental studies have been conducted to satisfy the requirements of the state and federal permitting. The U.S Army Corps of Engineers (USACE) has jurisdictional authority over Waters of the U.S., including wetlands, as mandated by Section 404 of the Clean Water Act. The Pennsylvania Department of Environmental Protection (PADEP) has jurisdictional authority under Title 25 of the Pa Code, Chapter 105, Dam Safety and Encroachments Act.

A Water Resources Delineation Report (Interstate 80, Section 17M Water Resources Delineation Report) that documented the presence and extent of regulated wetlands and waterways within the project area was submitted to USACE in November 2015. A USACE Jurisdictional Determination (JD) field view was conducted by Todd Schaible of USACE and Deborah Poppel of AECOM for the wetlands and watercourses identified in this report in October 2015. Due to proposed project expansions, additional study area was identified for the project and the approval of the JD was postponed until the expanded study area could be investigated. The expanded study area (**Figure 2**) was investigated for wetlands and watercourses on September 21-22, 2017 by AECOM biologists. This report is an addendum to the November 2015 Interstate 80, Section 17M Water Resources Delineation Report; it documents the results of the delineation effort performed for the 2017 expanded study area.

Within this report a description of each wetland area and waterway identified within the expanded study area is provided along with an evaluation of the wetland's functions and values. Wetland Delineation Forms for any newly identified resources are located in *Appendix A*. Photographs of additional or extended project area watercourses and wetlands are located in *Appendix B*. Function Value Evaluation Forms are located in *Appendix C*.

Figure 1: USGS Project Location Map

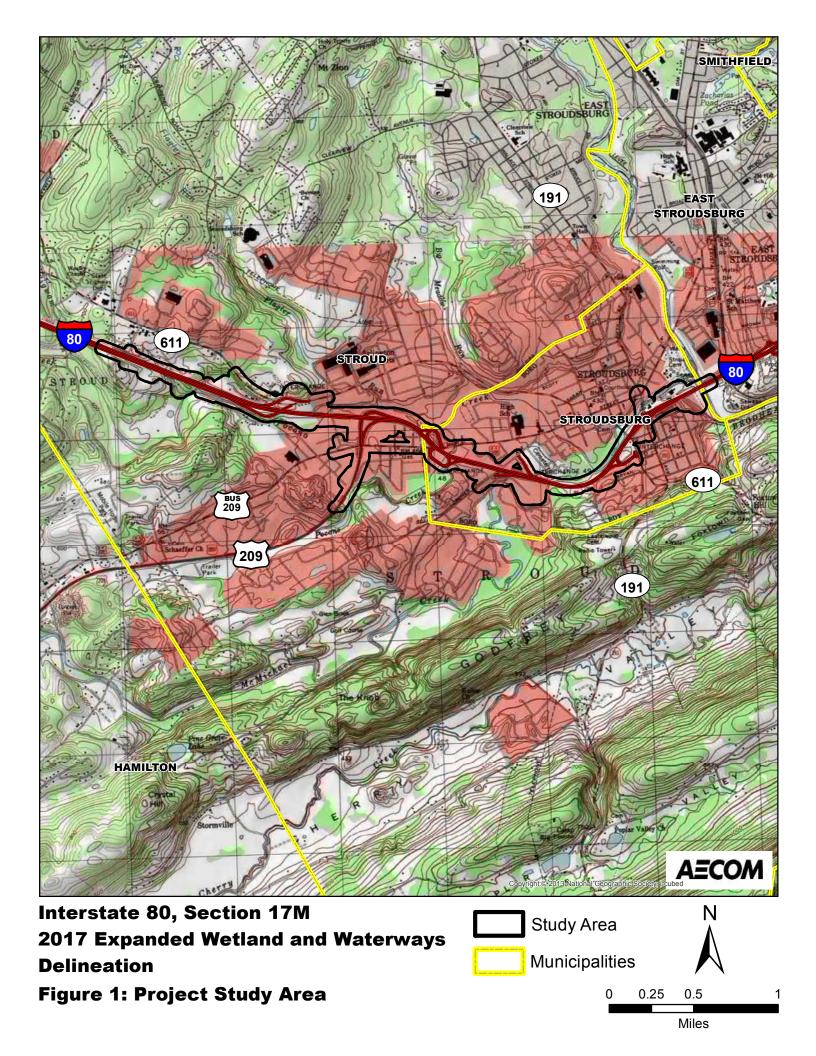
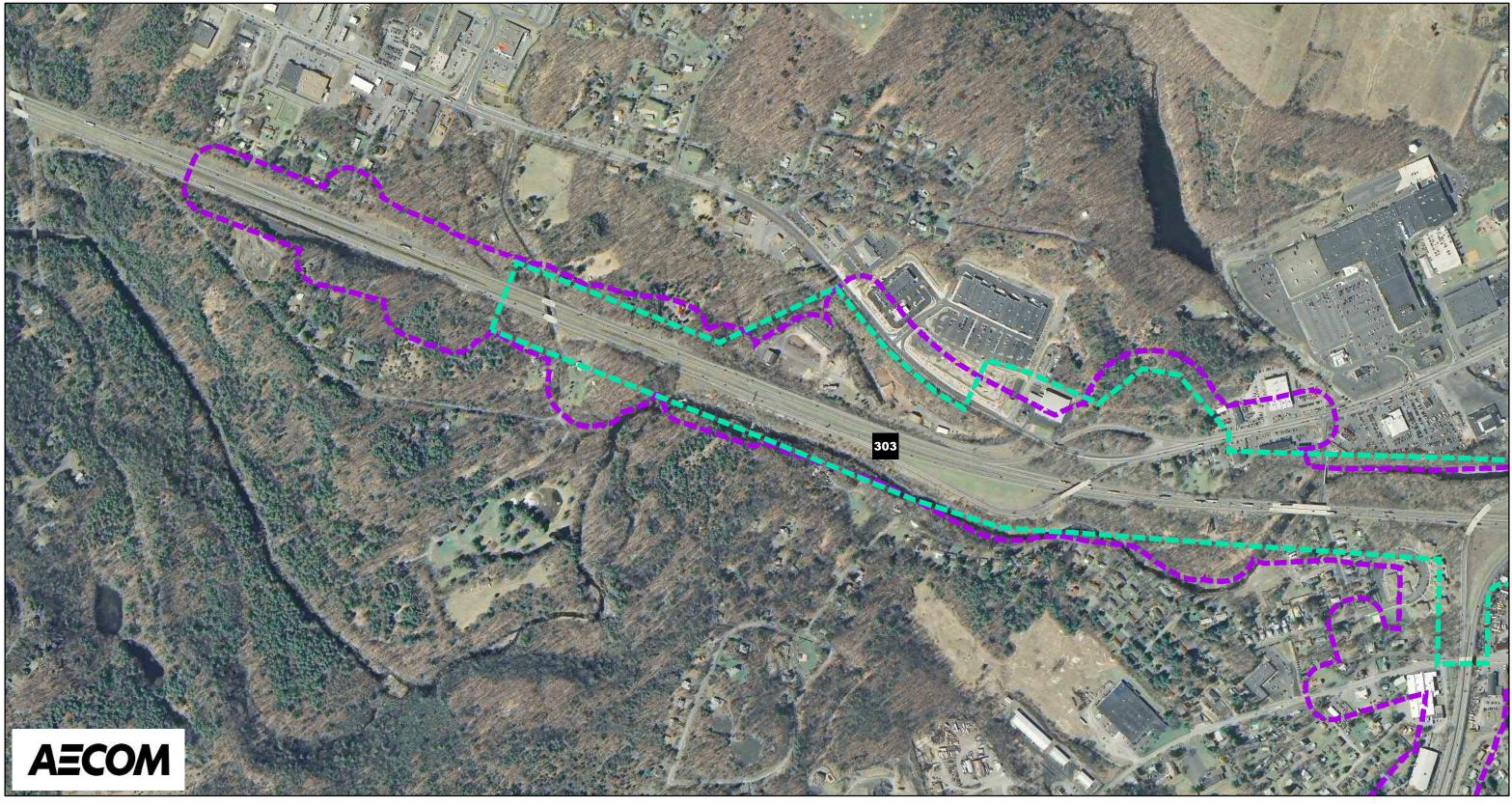
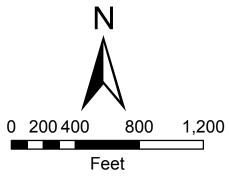


Figure 2: 2017 Expanded Study Area Map

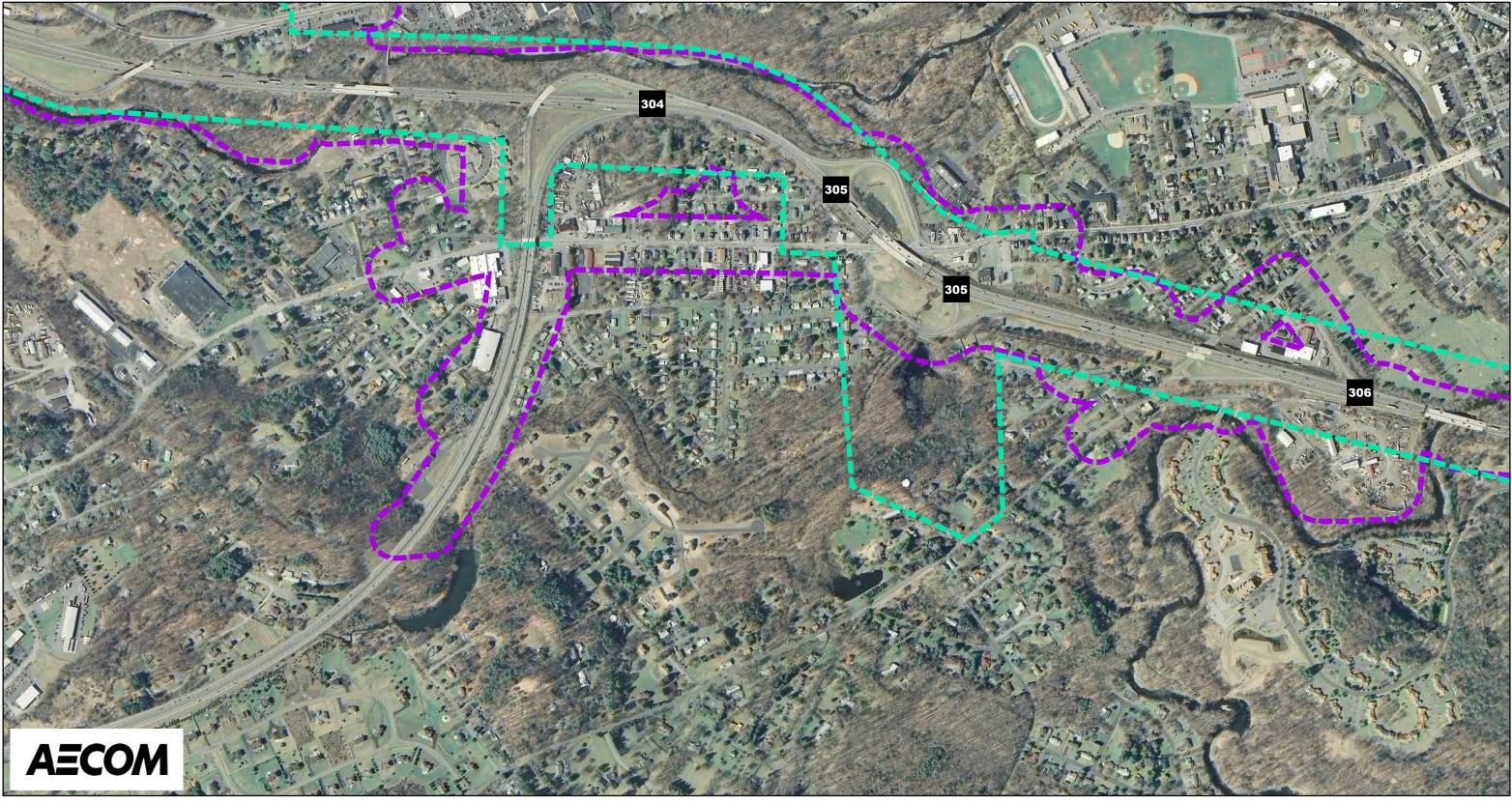


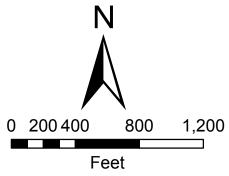


2014 Wetlands Study Area

2017 Expanded Wetland and Waterways Study Area

Interstate 80, Section 17M **FIGURE 2: EXPANDED WETLAND AND WATERWAYS STUDY AREA MAP** Sheet 1 of 3

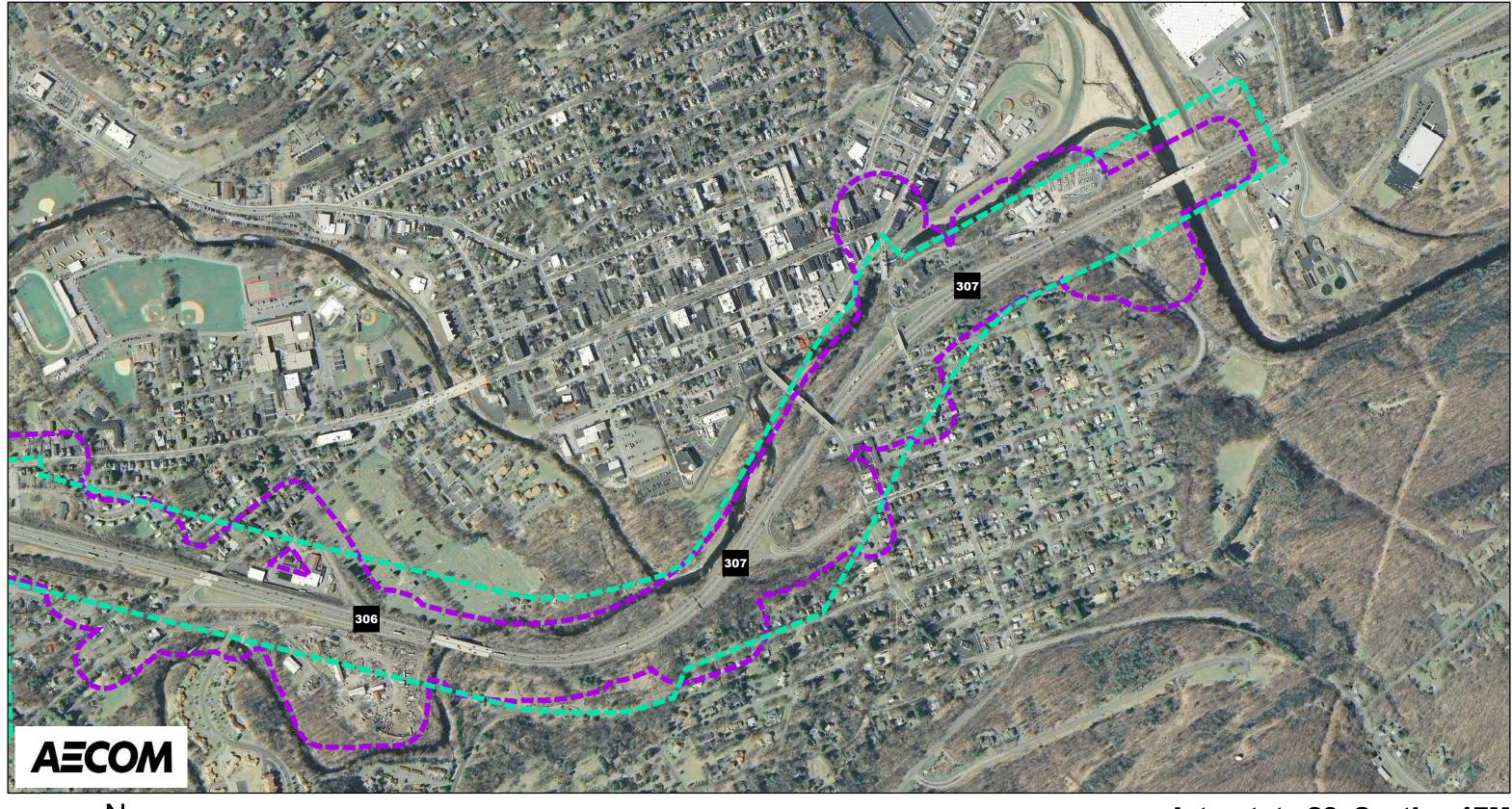


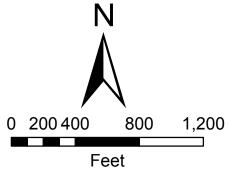


2014 Wetlands Study Area

2017 Expanded Wetland and Waterways Study Area

Interstate 80, Section 17M FIGURE 2: EXPANDED WETLAND AND WATERWAYS STUDY AREA MAP Sheet 2 of 3





2014 Wetlands Study Area

2017 Expanded Wetland and Waterways Study Area

Interstate 80, Section 17M FIGURE 2: EXPANDED WETLAND AND WATERWAYS STUDY AREA MAP Sheet 3 of 3

II. Methodology

A. Watercourses

Project area watercourses within the expanded study area were preliminarily identified using available mapping. Field investigations were conducted to confirm the presence/absence of watercourses. The jurisdictional limits of the field identified watercourses were delineated based on their observed Ordinary High Water Mark (OHWM). Stream order and classifications under Title 25, Chapter 93 and the Pennsylvania Fish and Boat Commission's (PAFBC's) regulation and the USACE Clean Water Act Jurisdiction Guidance (June 2007) were also identified. The OHWM on both banks was recorded for watercourses over ten feet in width, for resources less than ten feet in width the centerline of the watercourse was surveyed. Where applicable if the boundaries of watercourses that were previously identified extended into the expanded study area these resources were surveyed using the same methods. Watercourse locations were surveyed for mapping using civil survey and photographs were taken of each new resource.

B. Wetlands

Following a preliminary desktop review, field investigations were conducted for the 2017 expanded study area to determine if wetlands were present. Wetlands were delineated in accordance with the USACE *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2).* January, 2012. For each delineated wetland a USACE Regional Supplement Wetland Determination Data Form was completed at a selected wetland data point. Data on the composition of the vegetation community, soil profile characteristics, and hydrology were recorded on the data form. An upland data point and Wetland Determination Data Form was collected to verify the wetland boundary. Wetlands were classified following Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al., 1979). The delineated boundary of each wetland was recorded with a high-precision, mapping-grade Global Positioning System (GPS) unit and photographs were taken of each resource.

The wetlands were also assessed for their functional values based on the principles and techniques of the New England District, United States Army Corps of Engineers in *The Highway Methodology Workbook – Wetland Functions and Values, A Descriptive Approach*. NAEEP-360-1-30a, September 1999.

III. Results

A. Background Information

A review of secondary resources was completed in order to assess the potential for the existence of wetlands in the 2017 expanded study area. This inventory included review of topographic mapping, the Soil Survey of Monroe County, and NWI mapping.

Review of the NWI mapping did not identify any wetland systems located within the 2017 expanded project area (**Figure 3**). However, seven riverine and open water systems were identified. These systems included a Freshwater Pond (PUBHx) and upper and lower perennial and unknown perennial streams (R5USC, and R2USA).

A review of the Stroudsburg, PA, USGS 7.5-Minute Quadrangle (*Figure 1*) indicated the presence of Brodhead Creek, McMichael Creek, Pocono Creek, Little Pocono Creek and Flagler Run within or adjacent to the 2017 expanded study area.

The Soil Survey identifies the existence of five (5) soil types that are considered hydric or are known to contain hydric soil components within the project area (*Figure 4*). *Table 1* provides a brief overview of the hydric soils. A description of all the project area soils is contained in *Table 2*.

Soil Name	Slope	Composition	Depth to Restrictive Layer (in)	Depth to Water Table (in)	Drainage Class
Chippewa and Norwich extremely stony soils (CnB)	0-8%	Chippewa and similar soils: 47%; Norwich & similar soils: 47%	10 to 24 inches to fragipan	Seasonally at 0 inches	Poorly drained
Holly silt loam (Hy)	0-3%	Holly and similar soils: 100%	More than 80 inches	Seasonally at 3 inches	Poorly drained
Rexford gravelly silt loam (ReA)	0-3%	Rexford (somewhat poorly drained): 40%; Rexford (poorly drained): 35%	15 to 24 inches to fragipan	Seasonally at 4-6 inches	Somewhat poorly drained - poorly drained
Rexford gravelly silt loam (ReB)	3-8%	Rexford (somewhat poorly drained): 50%; Rexford (poorly drained): 35%	15 to 24 inches to fragipan	Seasonally at 4-6 inches	Somewhat poorly drained - poorly drained
Sheffield silt loam (Sh)	0-3%	Sheffield and similar soils: 100%	15 to 26 inches to fragipan	Seasonally at 0 inches	Poorly drained

Table 1: Hydric Soils Properties

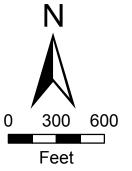
Source: Natural Resources Conservation Service, Web Soil Survey, 2014.

Soil Name	Soil Symbol	Slope	Parent Material Setting
Alluvial land	As	0 to 3%	Alluvium
Bath very stony silt loam	BbB, BbC	0 to 8%, 8 to 25%	Loamy till derived mainly from gray and brown siltstone, sandstone, and shale
Benson-Rock outcrop complex	BeC, BeF	8 to 25% 25-70%	Loamy till
Braceville gravelly loam	BrB	3 to 8%	Coarse-loamy outwash
Chenango gravelly loam	ChA, ChB	0 to 3%, 3 to 8%	Gravelly outwash
Chippewa and Norwich extremely stony soils*	CnB	0 to 8%	Fine-loamy till derived from sandstone and siltstone
Cut and fill land	Су	0 to 25%	Man made and altered materials from mixed rock types
Pit, Shale, and Gravel	Gp		
Holly silt loam*	Но	0 to 3%	Alluvium derived from sandstone and shale
Lordstown channery silt loam	LsD	15 to 25%	Coarse-loamy till derived from sandstone and siltstone
Philo silt loam	Ph	0 to 3%	Coarse-loamy alluvium derived from sandstone and siltstone
Pope silt loam	Po, Pp	0 to 3%	Coarse-loamy alluvium derived from sandstone and siltstone
Rexford gravelly silt loam*	ReA, ReB	0 to 3%, 3 to 8%	Coarse-loamy outwash derived from sandstone and shale
Sheffield silt loam*	Sh	0 to 3%	Till
Volusia gravelly silt loam	VoB	3 to 8%	Fine-loamy basal till derived from sandstone and siltstone
Water	W	0%	Rivers streams ponds
Wyoming gravelly sandy loam	WyA, WyB, WyC WyD WyE	0 to 3%, 3 to 8%, 8 to 15% 15-25% 25-70%	Sandy and gravelly glaciofluvial deposits derived from sandstone and siltstone

Table 2: Project Area Soil Descriptions

Source: Natural Resources Conservation Service, Web Soil Survey, 2014. *Hydric soil. Figure 3: Project Area NWI Wetlands Map





Freshwater Emergent Wetland

Freshwater Forested/Shrub Wetland

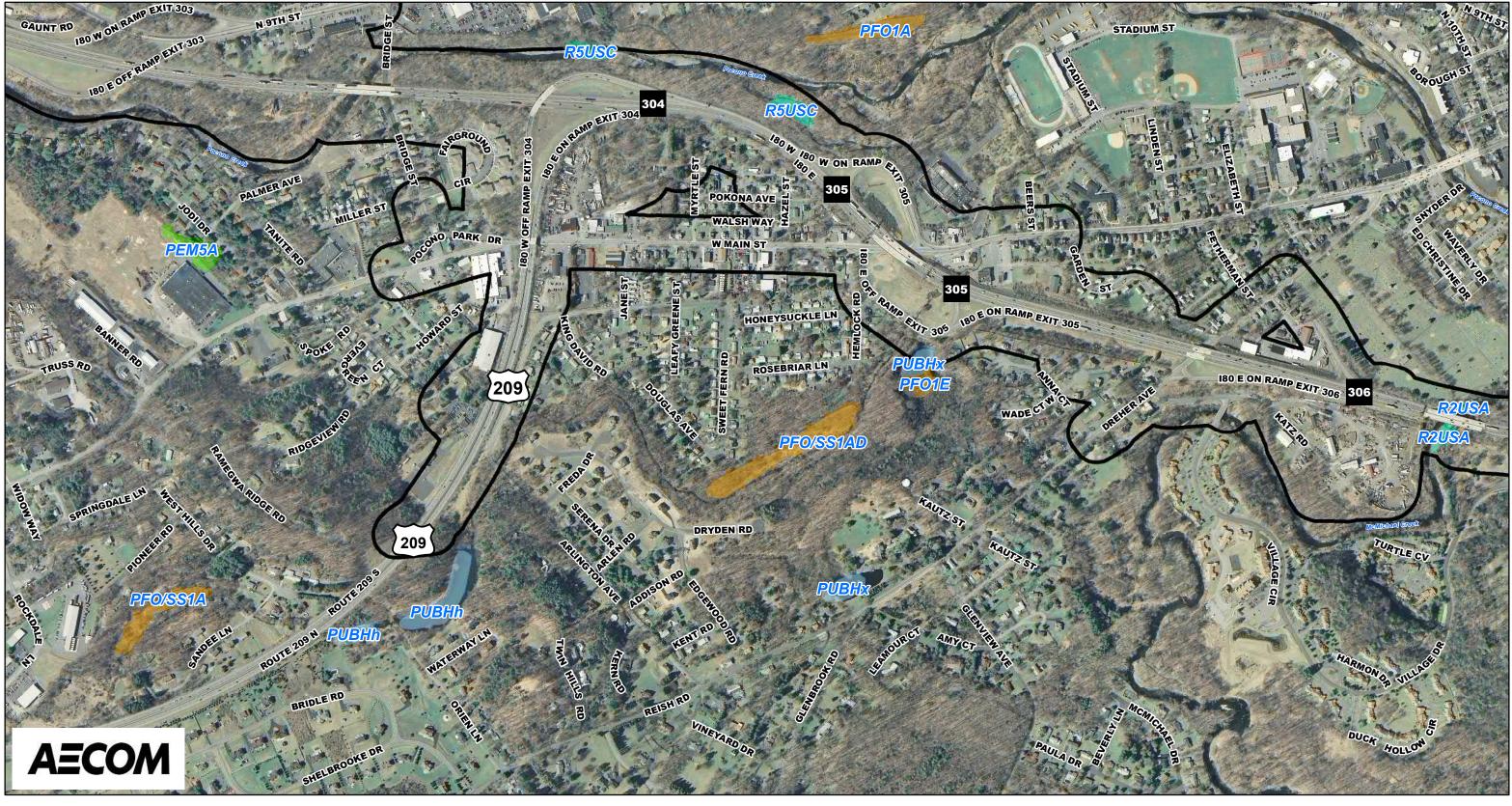
Freshwater Pond

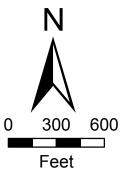
Riverine

2017 Expanded Wetland and Waterways Study Area

Interstate 80, Section 17M **FIGURE 3: PROJECT AREA NWI** WETLANDS MAP

Sheet 1 of 2 Source: PAMAP, 2008, NWI.





Freshwater Emergent Wetland

Freshwater Forested/Shrub Wetland

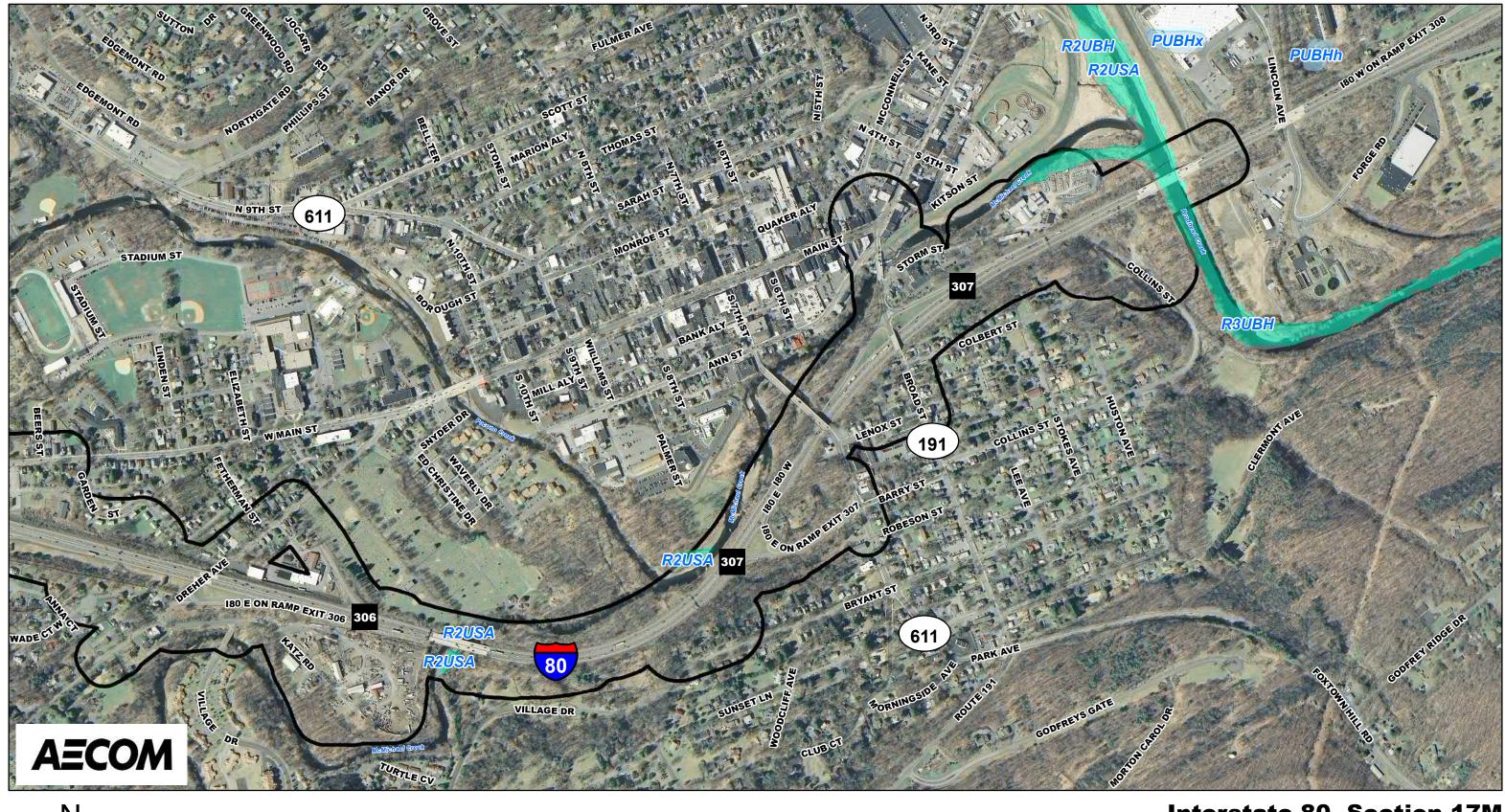
Freshwater Pond

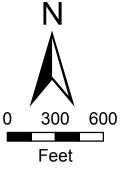
Riverine

2017 Expanded Wetland and Waterways Study Area

Interstate 80, Section 17M **FIGURE 3: PROJECT AREA NWI** WETLANDS MAP

Sheet 2 of 2 Source: PAMAP, 2008, NWI.





Freshwater Emergent Wetland

Freshwater Forested/Shrub Wetland

Freshwater Pond

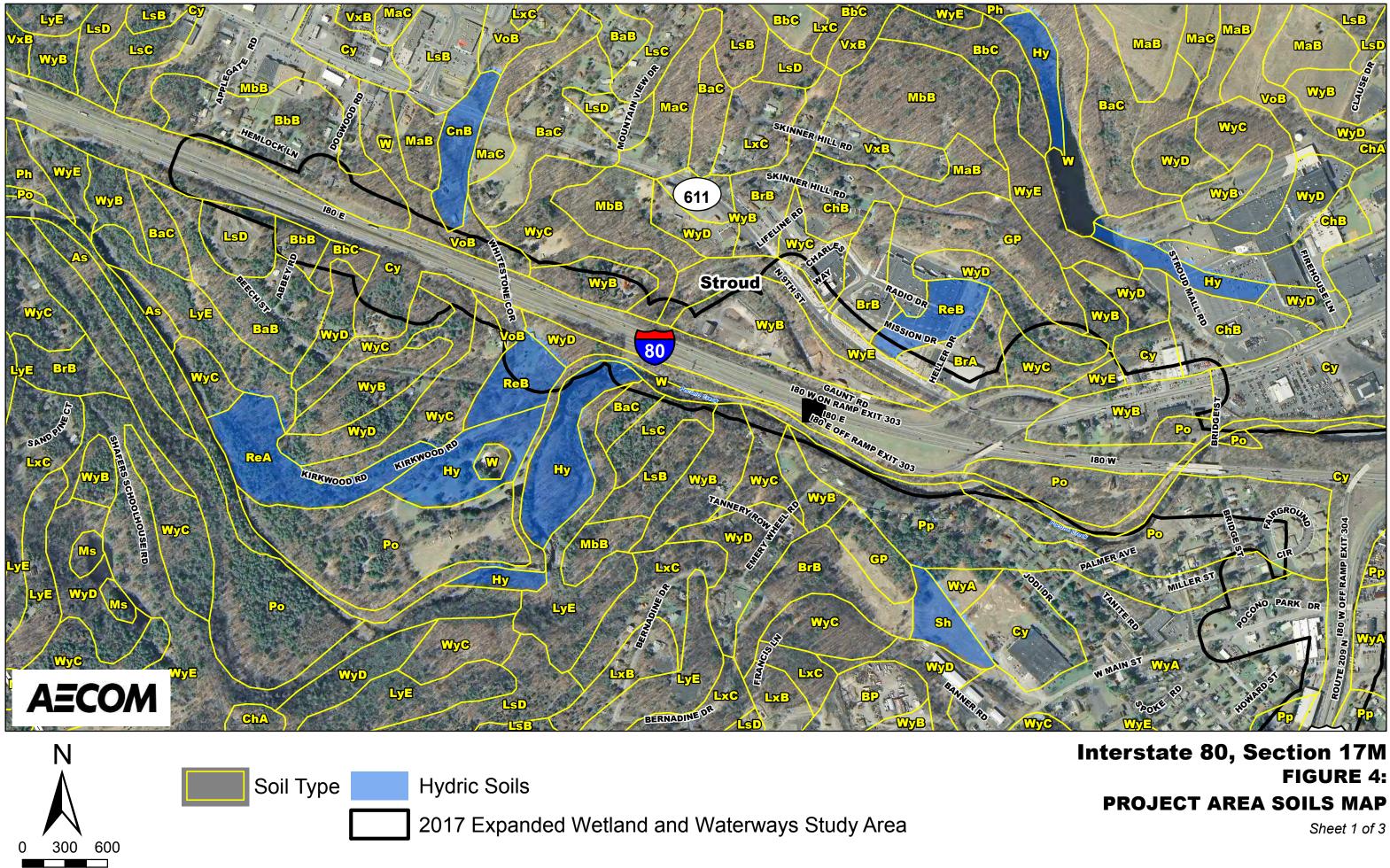
Riverine

2017 Expanded Wetland and Waterways Study Area

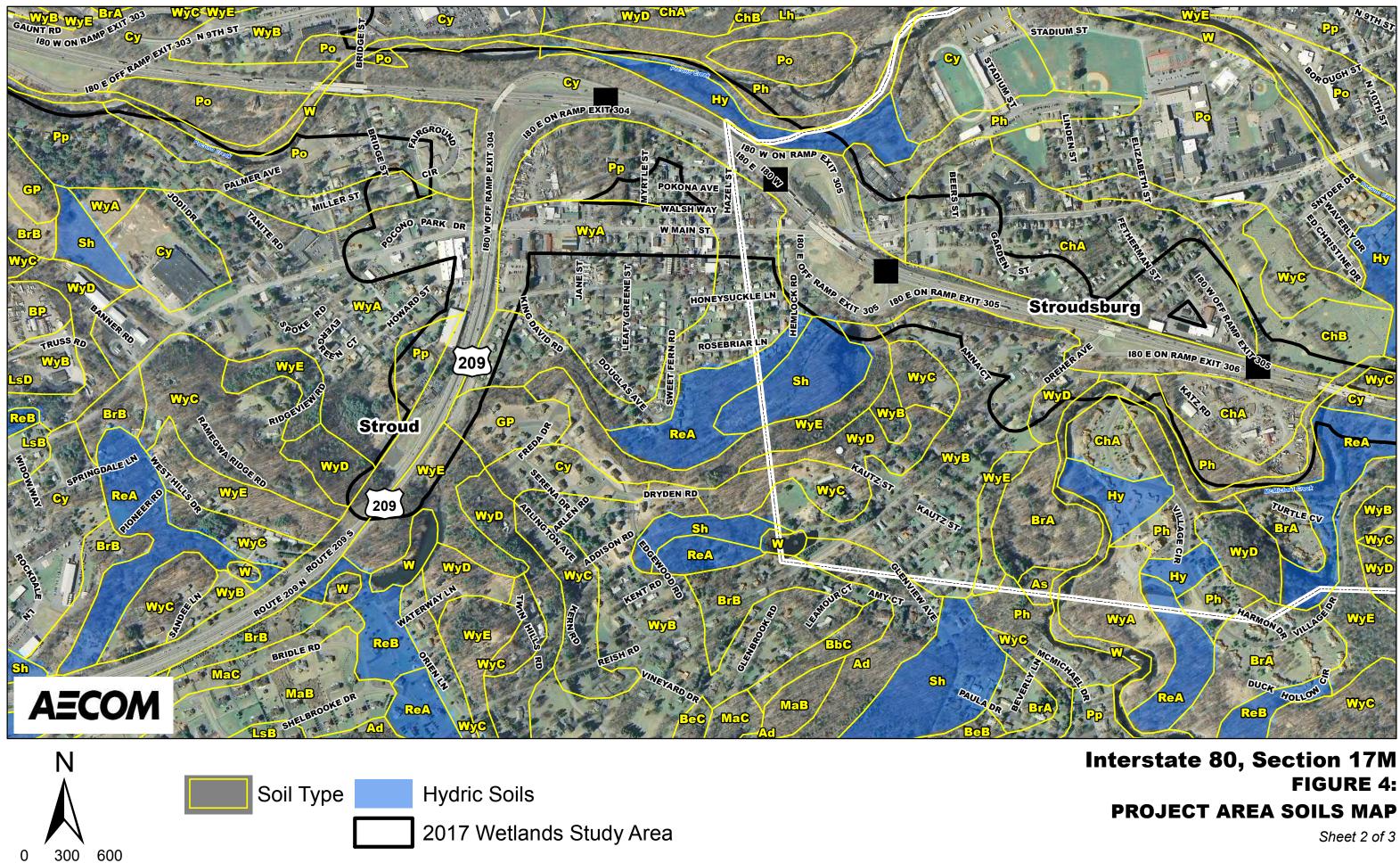
Interstate 80, Section 17M **FIGURE 3: PROJECT AREA NWI** WETLANDS MAP

Sheet 3 of 2 Source: PAMAP, 2008, NWI.

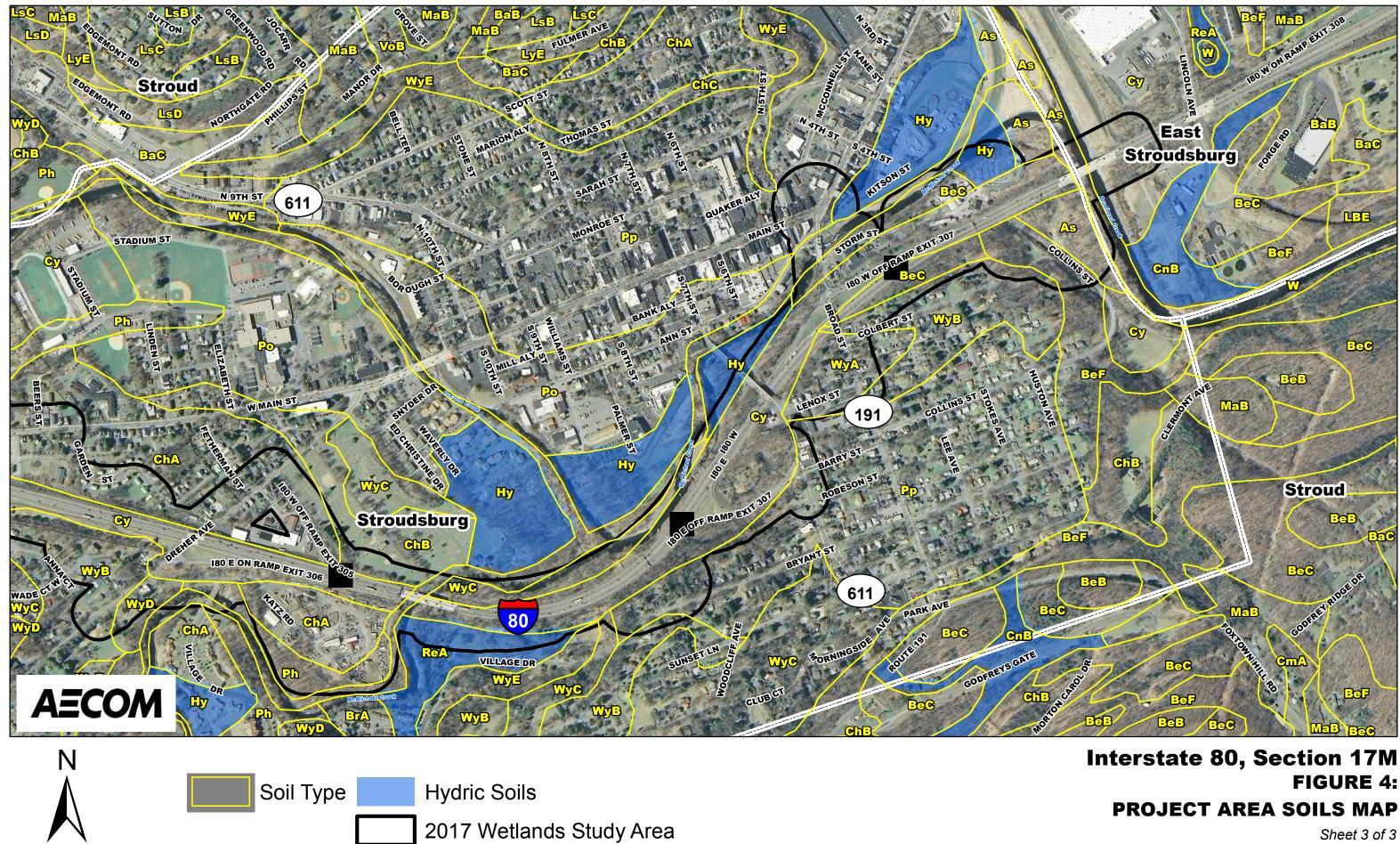
Figure 4: Project Area Soils Map



Feet



Feet



Feet

300

600

Sheet 3 of 3

B. Watercourses

Field investigations of the 2017 expanded project area conducted on September 21 and 22, 2017 identified the presence of no new watercourse (*Figure 5 Plan Sheets*). However, the delineated extent of four previously surveyed watercourses were extended. *Appendix B* contains color photographs of the watercourses. Below is a brief description of the extended watercourses.

Watercourse WW-2-00 (McMichael Creek) (*Sheets 19-26***)** – This watercourse is a previously delineated resource that extends into the 2017 expanded study area. Approximately 900 feet of delineated channel was added to the northeast extent of this resource, and approximately 480 feet was added to the south central portion of the channel. McMichael Creek is a perennial tributary and RPW to Brodhead Creek (WW-1-00) a Traditional Navigable Water (TNW). Within the eastern third of the project area, WW-2-00 flows parallel to the northern side of I-80 eventually flowing into Brodhead Creek near the eastern end of the project area. Along much of this length, the existing fill slopes of the highway are the floodplain limits of McMichael Creek. The stream beneath the I-80 bridge has an average width of approximately 55 feet, with downstream widths increasing to 80 feet. The streambed is relatively consistent in substrate composed of gravel and cobble.

Watercourse WW-3-00 (Pocono Creek) (Sheets 3-5, 8-10, 13, 15) – This watercourse is a previously delineated resource that extends into the 2017 expanded study area. Approximately 650 feet of delineated channel was added to the north central portion of this resource, and approximately 2700 feet of channel was added to the southwest extent of the resource. Pocono Creek is a perennial tributary (RPW) flowing to McMichael Creek (WW-2-00) a RPW and tributary to a TNW. Within the western quarter of the project area, WW-3-00 flows parallel to the southern side of I-80. Near the I-80 Bridge Street crossing it passes under the interstate and continues along the fillslope of the highway. As Pocono Creek approaches Exit 305 it diverges to the north and then back to the south, near Exit 307, before finally flowing into McMichael Creek. Along much of the length within the project area, the existing fill slopes of the highway are the floodplain limits of Pocono Creek. The stream beneath the I-80 bridge has an average width of approximately 70 feet, with downstream widths increasing to 90 feet. The streambed is relatively consistent in substrate composed of cobble sized rock, boulders and bedrock.

Watercourse WW-3-01 (Little Pocono Creek) (*Sheets 12, 16-17*) – This watercourse is a previously delineated resource that extends into the 2017 expanded study area. Approximately 140 feet of delineated channel was added to the northern extent of this resource, and approximately 700 feet was added to the southern portion of the channel. Little Pocono Creek is a perennial tributary (RPW) to Pocono Creek (Watercourse WW-3-00). It flows from south to the north passing under I-80 and through the Exit 305 eastbound ramps and gore area. The stream has an average width of approximately 18 feet as it passes under I-80 and a silt, gravel and cobble substrate.

Watercourse WW-3-13 (*Sheet 2-3*) – This watercourse is a previously delineated resource that extends into the 2017 expanded study area. Approximately 880 feet of delineated channel was added to the southern extent of this resource. WW-3-13 is an intermittent tributary (RPW) to Pocono Creek (Watercourse WW-3-00). This stream flows northwest to southeast into Pocono Creek south of the project area. The channel was dry at the time of field investigations. The stream has an average width of approximately 12 feet as it passes under I-80 with a gravel, cobble and boulder substrate.

Watercourse ID	Length (linear feet)	Watercourse Type	Cowardin Class.	Avg. Width	Plan Sheet (s)
WW-2-00 (McMichael Creek)	5733	RPW	perennial	55'	Sheets 19-26
WW-3-00 (Pocono Creek)	7068	RPW	perennial	70'	Sheets 3-5, 8-10, 13, 15
WW-3-01 (Little Pocono Creek)	1903	RPW	perennial	18'	Sheets 12, 16-17
WW-3-13 (UNT to Pocono Creek)	1753	RPW	intermittent	12'	Sheets 2-3

 Table 3: 2017 Expanded Study Area Watercourse Summary

D. Wetlands

Field investigations of the 2017 expanded project area conducted on September 21 and, 2017, identified the presence of (4) wetland systems (*Figure 5 Plan Sheets*). Brief wetland descriptions are included below. *Appendices A & B* contain field data sheets from the investigations and color photographs of the wetlands. *Appendix C* contains the function value evaluation data sheets for the wetlands identified.

Wetland W-1-02 (*Sheets 27-28*) – is a floodplain associated wetland located south of I-80. The delineated and overall area of the wetland is 0.17 acre. The Cowardin Classification is palustrine emergent (PEM).

At the time of the investigation the dominant vegetation within the wetland consisted of barnyard grass (*Echinochloa crus-galli*, FAC), arrow leaf tearthumb (*Persicaria sagittata*, OBL), Japanese stiltgrass (*Microstegium vimineum*, FAC), and Japanese knotweed (*Fallopia japonica*, FACU). The soil within the wetland was sampled to a depth of 8 inches. The soil type present was Rexford gravelly silt loam (ReA) which is listed as hydric in Monroe County.

Soil Profile	<u>Matrix</u>	Redox	Texture
0-8 inch	10YR 2/1	7.5YR 5/6	sandy loam

Indicators of wetland hydrology included presence of surface water. This wetland has principal functions/values of sediment/toxicant retention.

Wetland W-3-14a (*Sheet 2*) – is a groundwater supported wetland located north of I-80. The wetland is also associated with headwater hydrology of a perennial UNT to Pocono Creek (WW3-13). The delineated and overall area of the wetland is 0.08 acre. The Cowardin Classification is palustrine forested (PFO).

At the time of the investigation the dominant vegetation within the wetland consisted of red maple (*Acer rubrum*, FAC), and multiflora rose (Rosa multiflora, FACU. The soil within the

wetland was sampled to a depth of 15 inches. The soil types present, Chippewa and Norwich soils are both listed as hydric in Monroe County.

Soil Profile	<u>Matrix</u>	Redox	Texture
0-15 inch	10YR 4/2	7.5YR 6/6	silt loam

Indicators of wetland hydrology included presence of surface water, saturation, high groundwater table and geomorphic position. This wetland has principal functions/values of groundwater recharge/discharge, and wildlife habitat.

Wetland W-3-15 (*Sheets 2-3*) – is a groundwater supported wetland located south of I-80. The wetland is also associated with the floodplain of a perennial UNT to Pocono Creek (WW3-13). The delineated and overall area of the wetland is 0.07 acre. The Cowardin Classification is palustrine emergent (PEM).

At the time of the investigation the dominant vegetation within the wetland consisted of jewelweed (*Impatiens capensis*, FACW), soft rush (*Juncus effusus*, OBL), common duckweed (*Lemna minor*, OBL), and cattail (*Typha latifolia*, OBL). The soil within the wetland was sampled to a depth of 10 inches. The soil types present, Rexford gravelly silt loam (ReA) and Sheffield silt loam (Sh) are both listed as hydric in Monroe County.

Soil Profile	<u>Matrix</u>	Redox	Texture
0-10 inch	5Y 2.5/1	7.5YR 5/6	silt loam

Indicators of wetland hydrology included presence of surface water, saturation. This wetland has principal functions/values of groundwater recharge/discharge, floodflow alteration, wildlife habitat, sediment/shoreline stabilization, and sediment/toxicant retention.

Wetland W-3-17 (*Sheet 1*) – is a groundwater supported wetland located along the maintained north shoulder of I-80. The delineated and overall area of the wetland is 0.02 acre. The Cowardin Classification is palustrine emergent (PEM).

At the time of the investigation the dominant vegetation within the wetland consisted of soft rush (*Juncus effusus*, OBL), fox sedge (*Carex vulpinoidea*, OBL), lurid sedge (*Carex lurida*, OBL), purple loosestrife (*Lythrum salicaria*, OBL), and cattail (*Typha latifolia*, OBL). The soil within the wetland was sampled to a depth of 8 inches. The soil type present was Bath channery silt loam, (BbB) which is not listed as hydric in Monroe County.

Soil Profile	<u>Matrix</u>	Redox	Texture
0-8 inch	10YR 3/1	7.5YR 5/6	silt loam

Indicators of wetland hydrology included presence of surface water, saturation, high ground water table, geomorphic position, and FAC-neutral test. This wetland has principal functions/values of groundwater recharge/discharge, and sediment/toxicant retention.

Wetland W-3-18 (*Sheets 2-1*) – is a groundwater supported wetland located south of I-80. The delineated and overall area of the wetland is 0.16 acre. The Cowardin Classification is palustrine emergent (PEM).

At the time of the investigation the dominant vegetation within the wetland consisted of jewelweed (*Impatiens capensis*, FACW), fox sedge (*Carex vulpinoidea*, OBL), lurid sedge (*Carex lurida*, OBL), purple loosestrife (*Lythrum salicaria*, OBL), and bittersweet nightshade (*Solanum dulcamara*, FACW). The soil within the wetland was sampled to a depth of 20 inches. The soil type present was Rexford gravelly silt loam (ReA) which is listed as hydric in Monroe County.

Soil Profile	<u>Matrix</u>	Redox	Texture
0-20 inch	10YR 3/1	7.5YR 5/6	silt loam

Indicators of wetland hydrology included presence of surface water, saturation, high ground water table, hydrogen sulfide odor, aquatic fauna, geomorphic position, and FAC-neutral test. This wetland has principal functions/values of groundwater recharge/discharge, wildlife habitat, and sediment/toxicant retention.

Wetland ID	Wetland Size (acres)*	Wetland Type	Longitude	Latitude	Primary Function/ Value**
W-1-02	0.17	PEM	75° 11' 02.050" W	40° 59' 10.880" N	1, 6
W-3-14a	0.01	PFO	75° 14' 42.210" W	40° 59' 27.050" N	1, 6
W-3-15	0.21	PEM	75° 14' 34.500" W	40° 59' 14.810" N	1, 6,
W-3-17	0.02	PEM	75° 14' 49.730" W	40° 59' 26.920" N	1, 6
W-3-18	0.01	PEM	75° 14' 36.880" W	40° 59' 15.210" N	1, 4, 6

Table 4: 2017 Expanded Study Area Wetland Summary

**Functional Class Key:

4 - Wildlife Habitat

2 - Floodflow Alteration

1 - Groundwater Recharge/Discharge

3 - Fish/Shellfish Habitat

5 - Sediment/Shoreline Stabilization

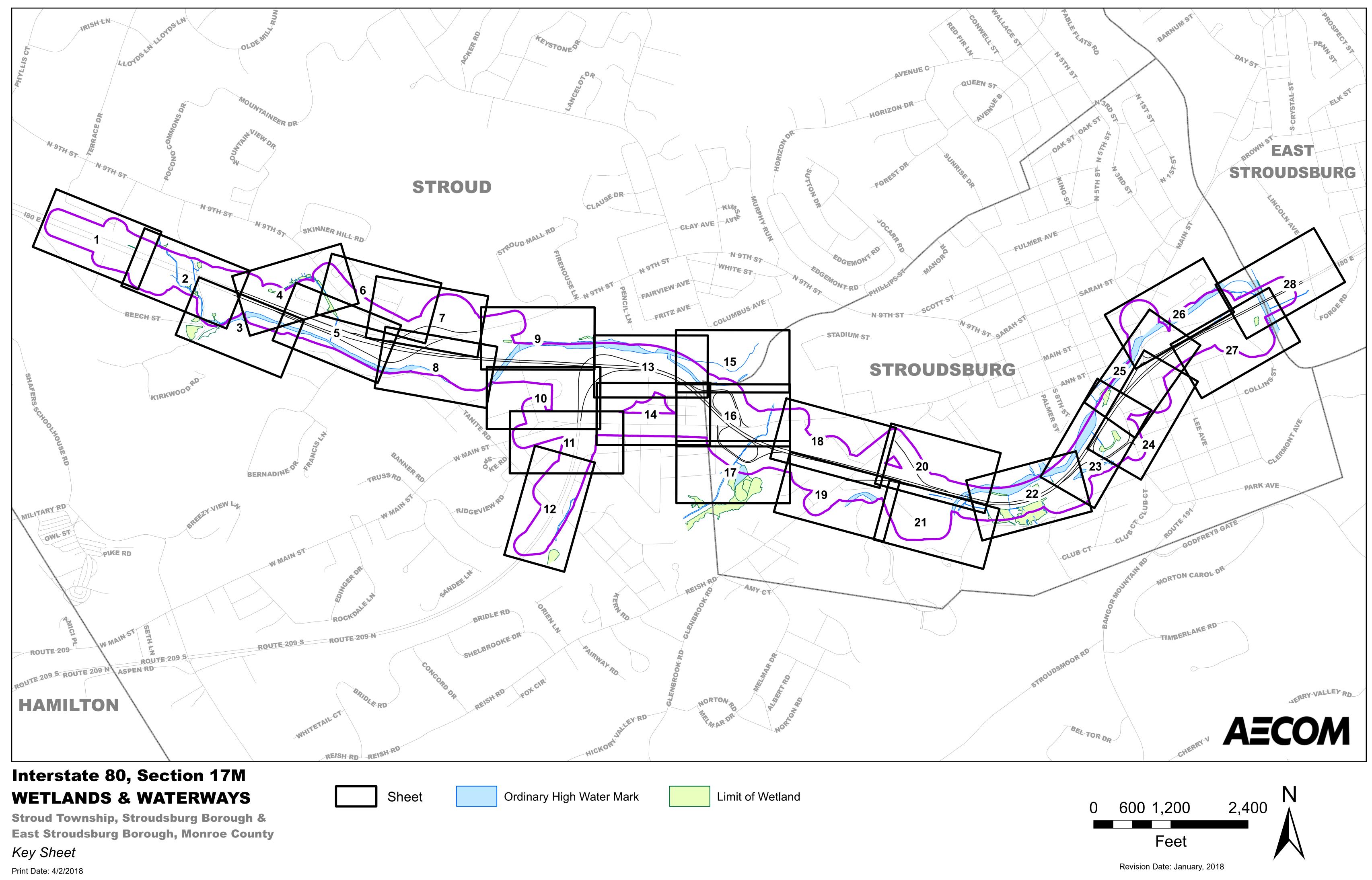
6 - Sediment/Toxicant Retention

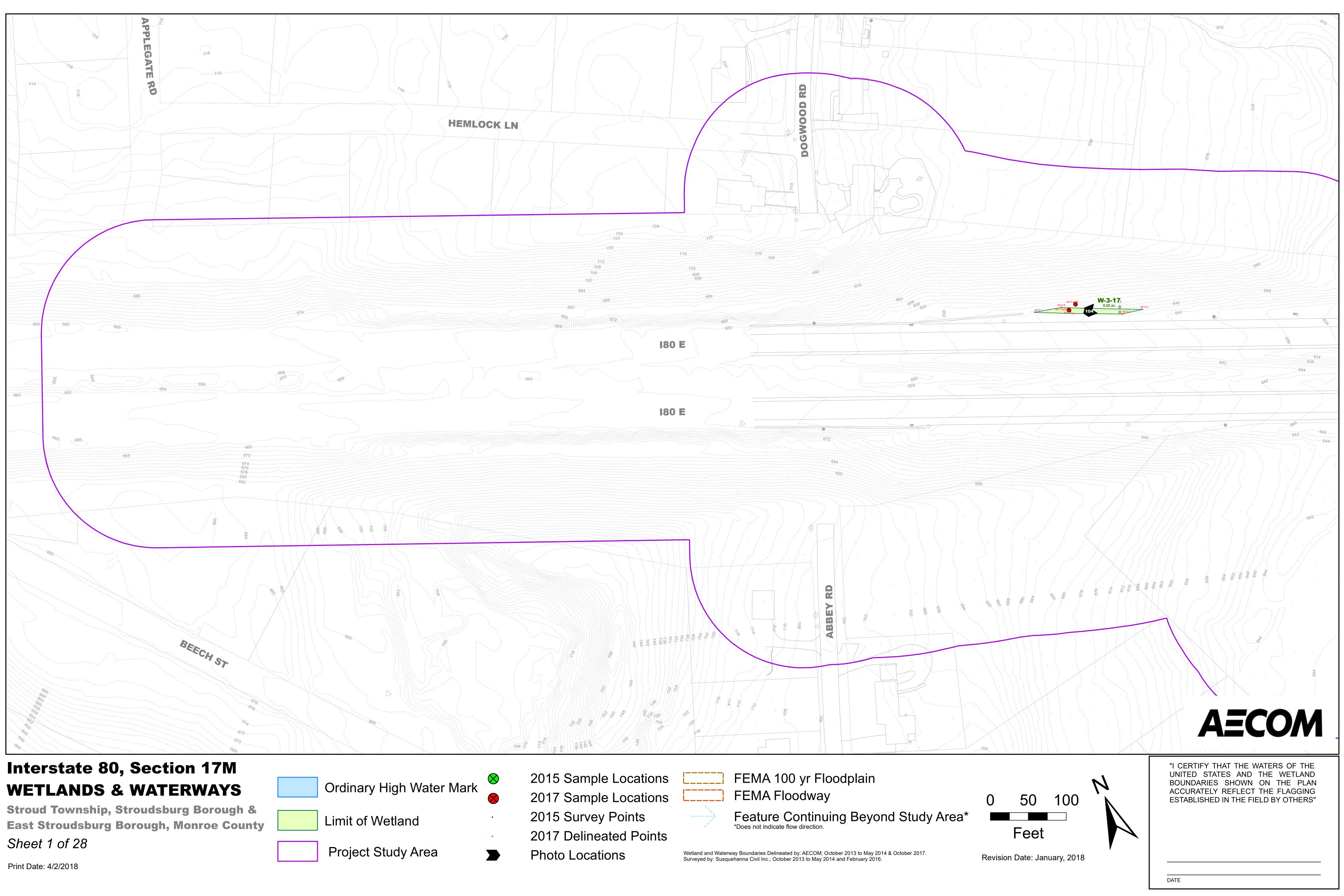
For wetlands comprised of multiple components, one Functions and Values assessment was made for the overall system.

IV. Summary

During field investigations conducted on September 21 and 22 of 2017 of the I-80 Section 17M Reconstruction Project 2017 expanded study area, AECOM biologist extended the delineated limits of 4 previously surveyed watercourses. Four new PEM and one PFO wetlands were identified and delineated.

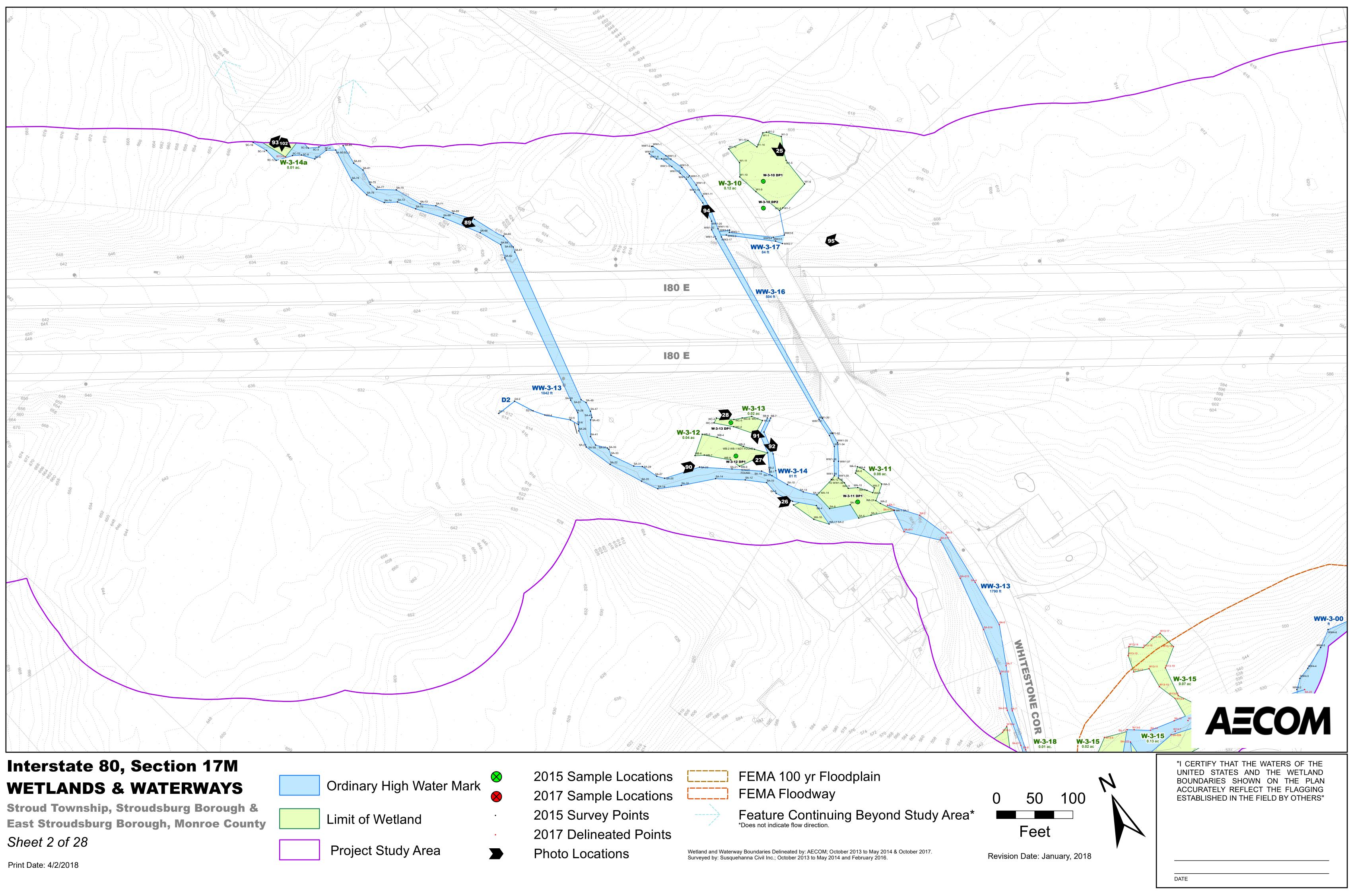
Figure 5: Plan Sheets

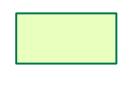


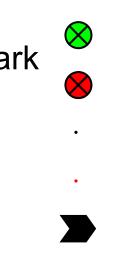




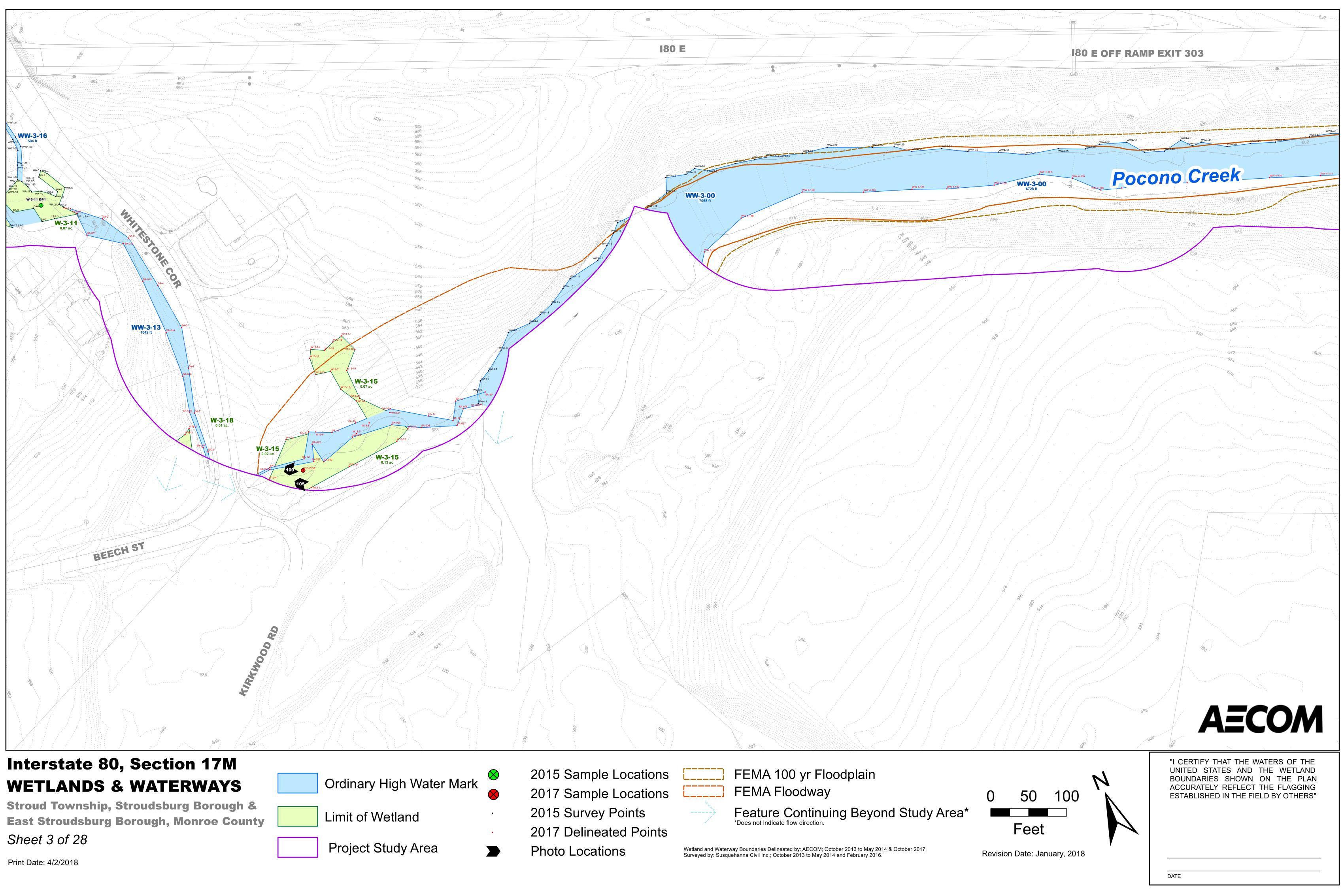






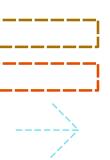


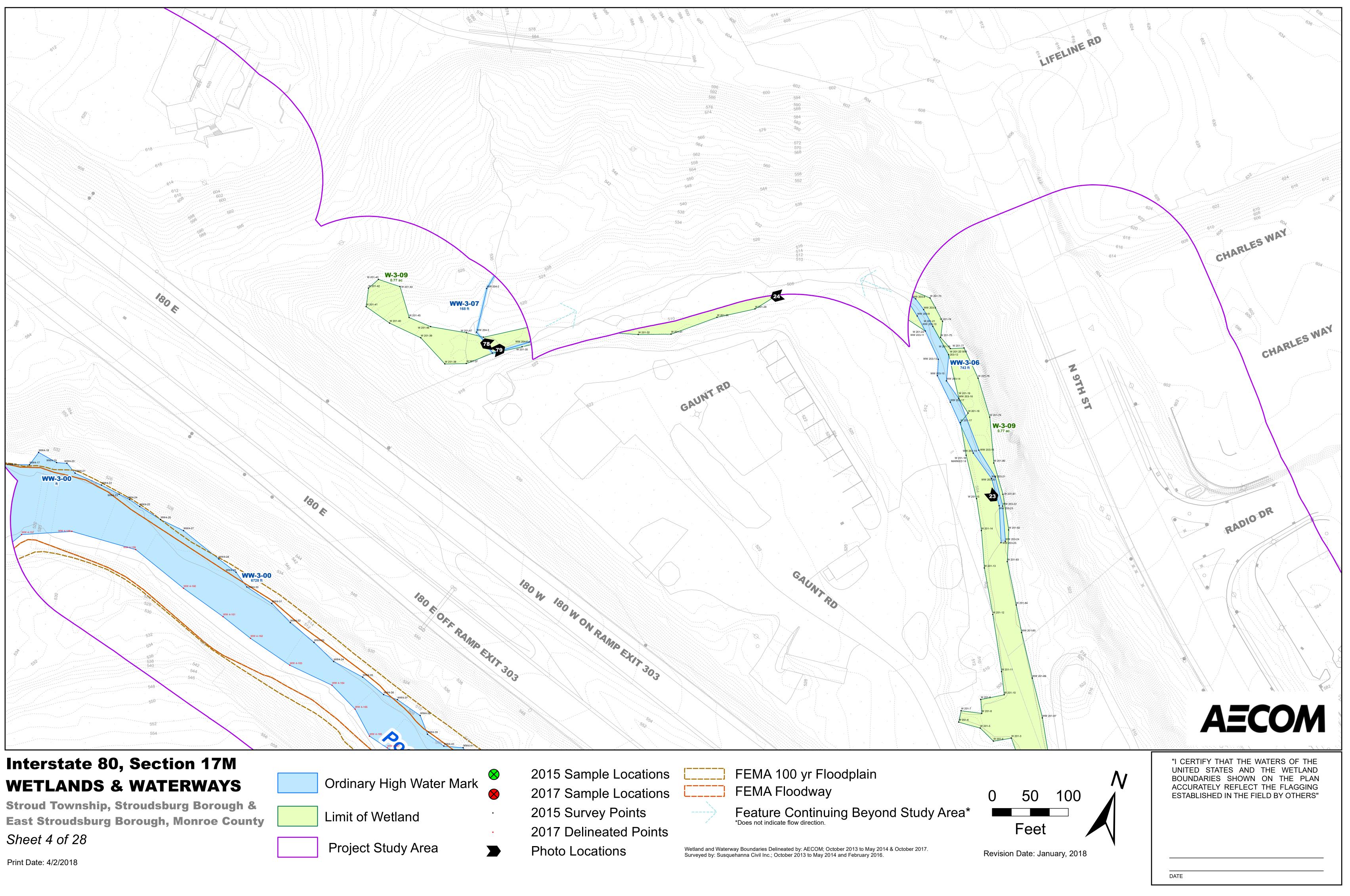
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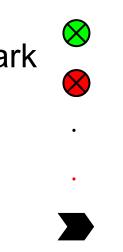




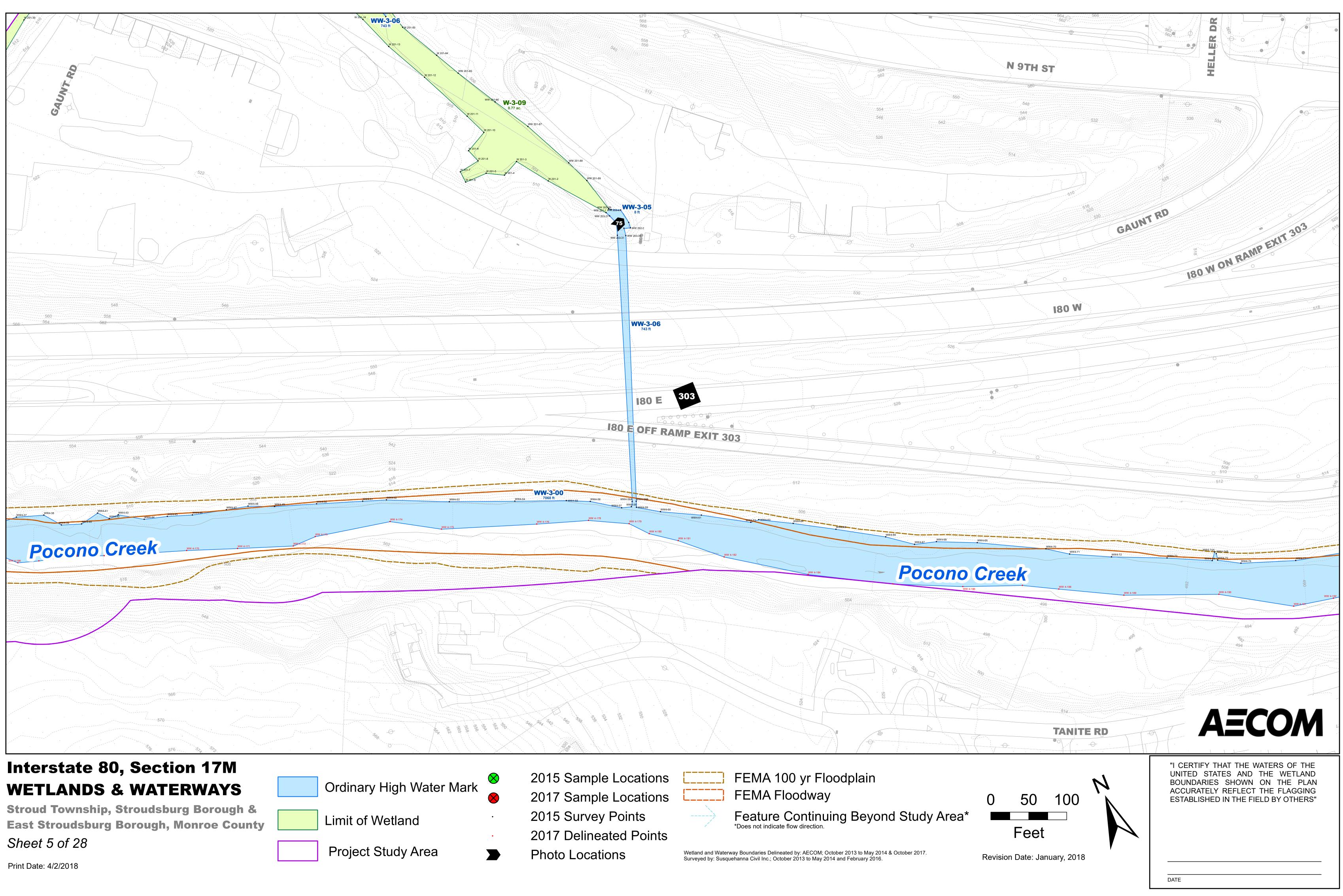




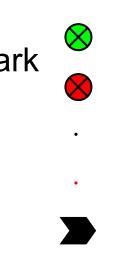


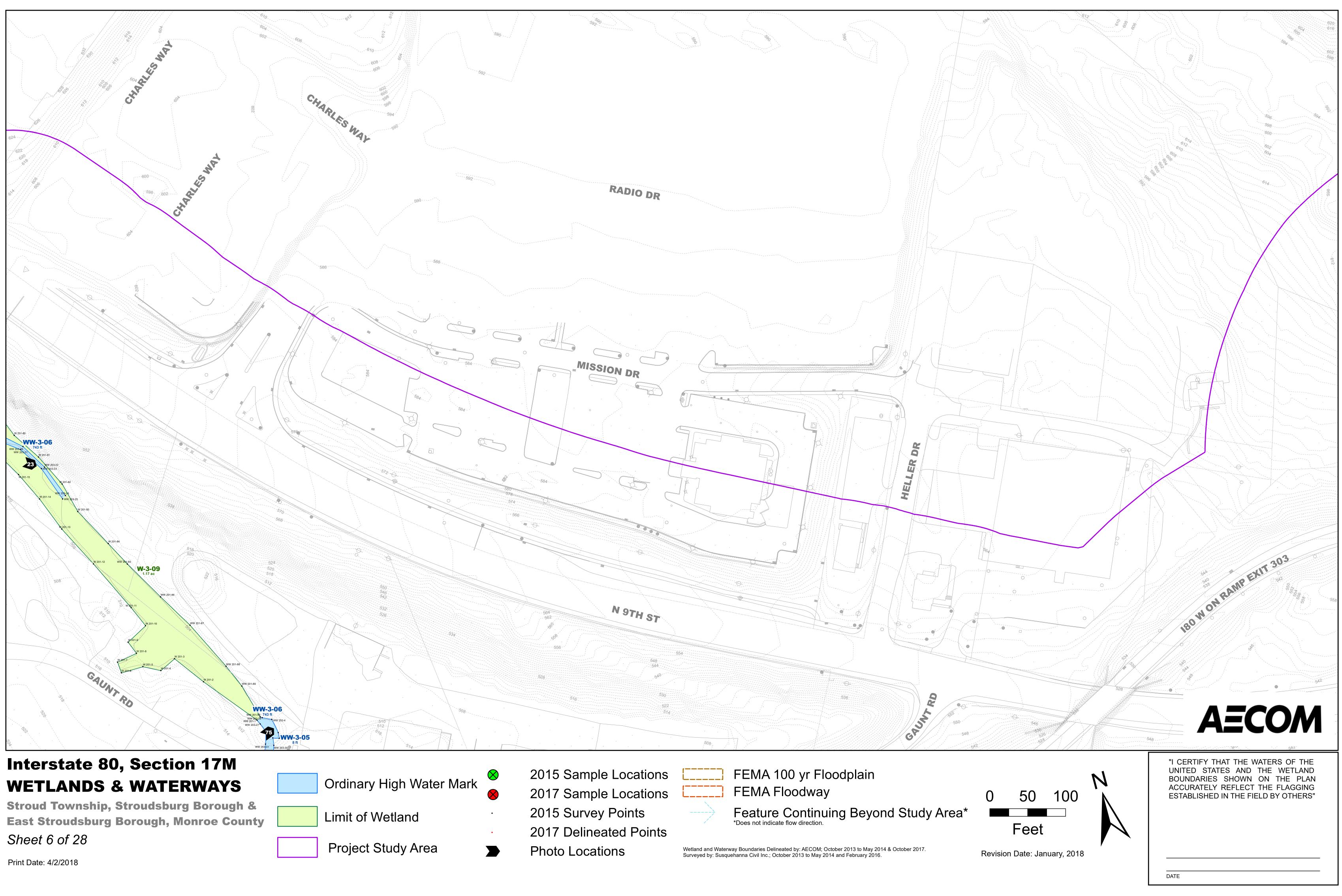


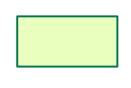
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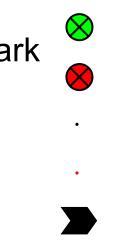




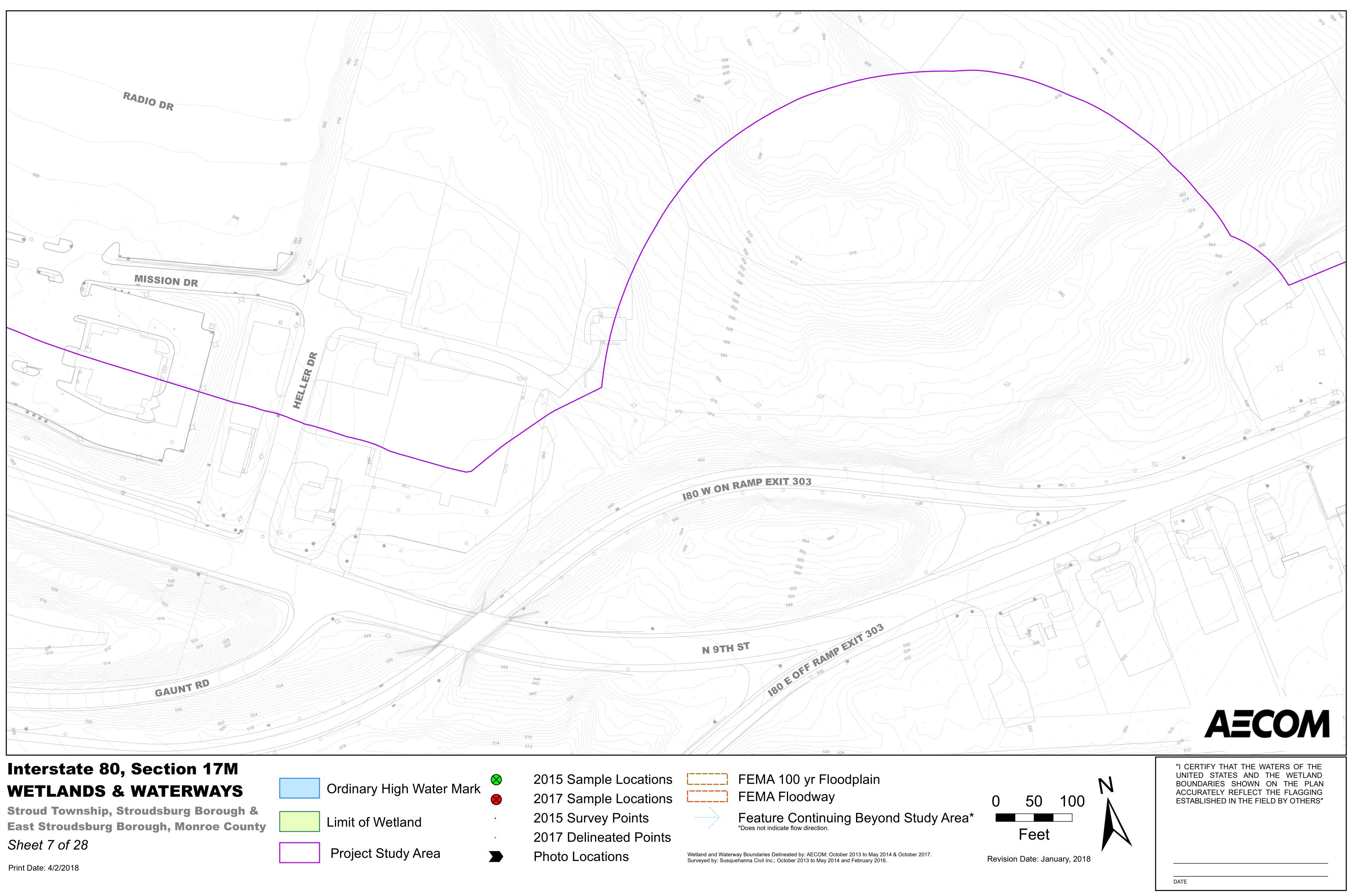








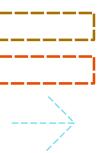
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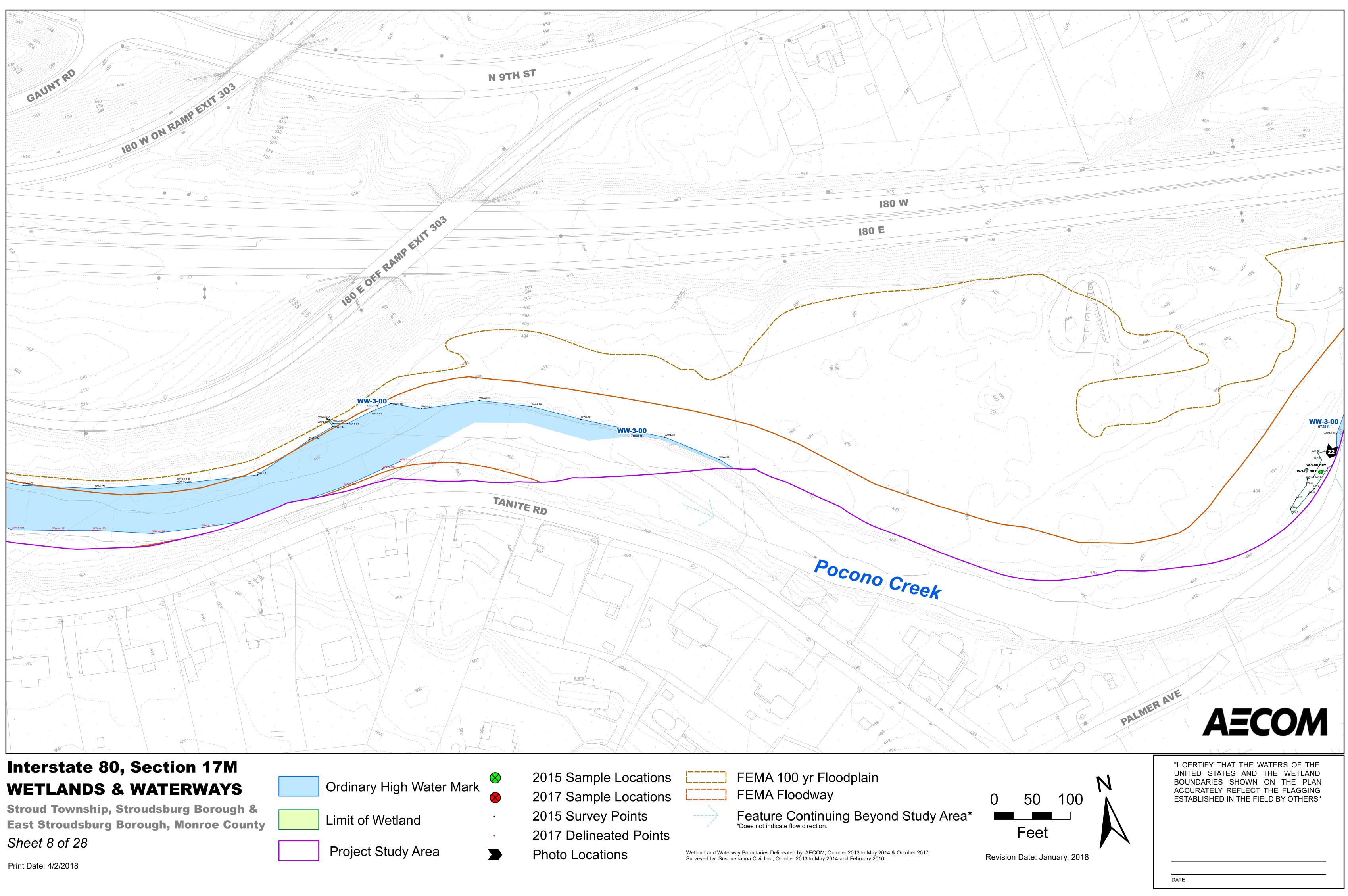




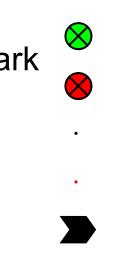


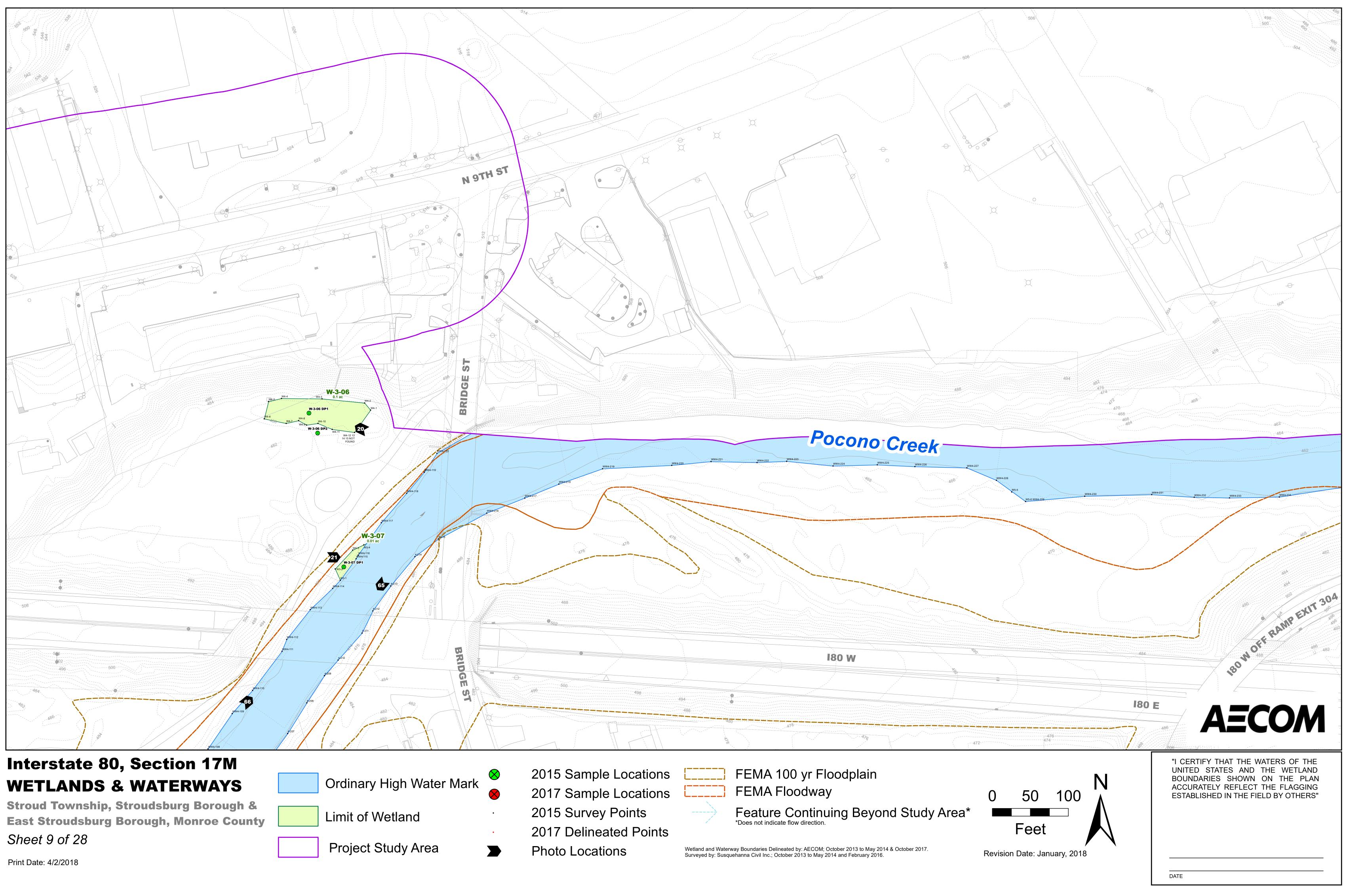






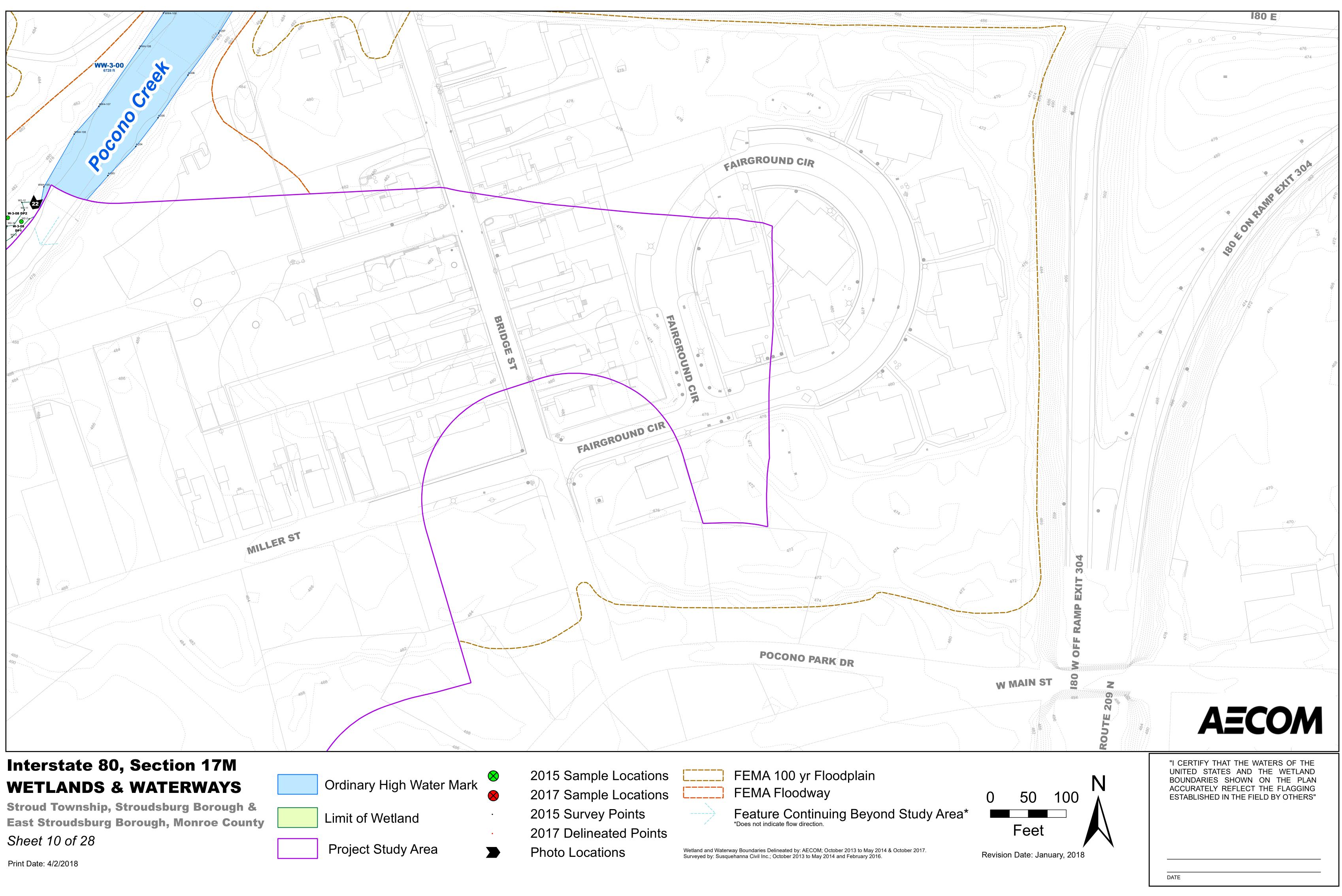


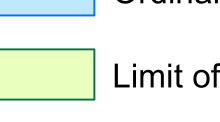


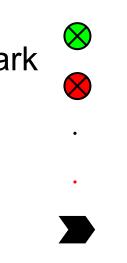


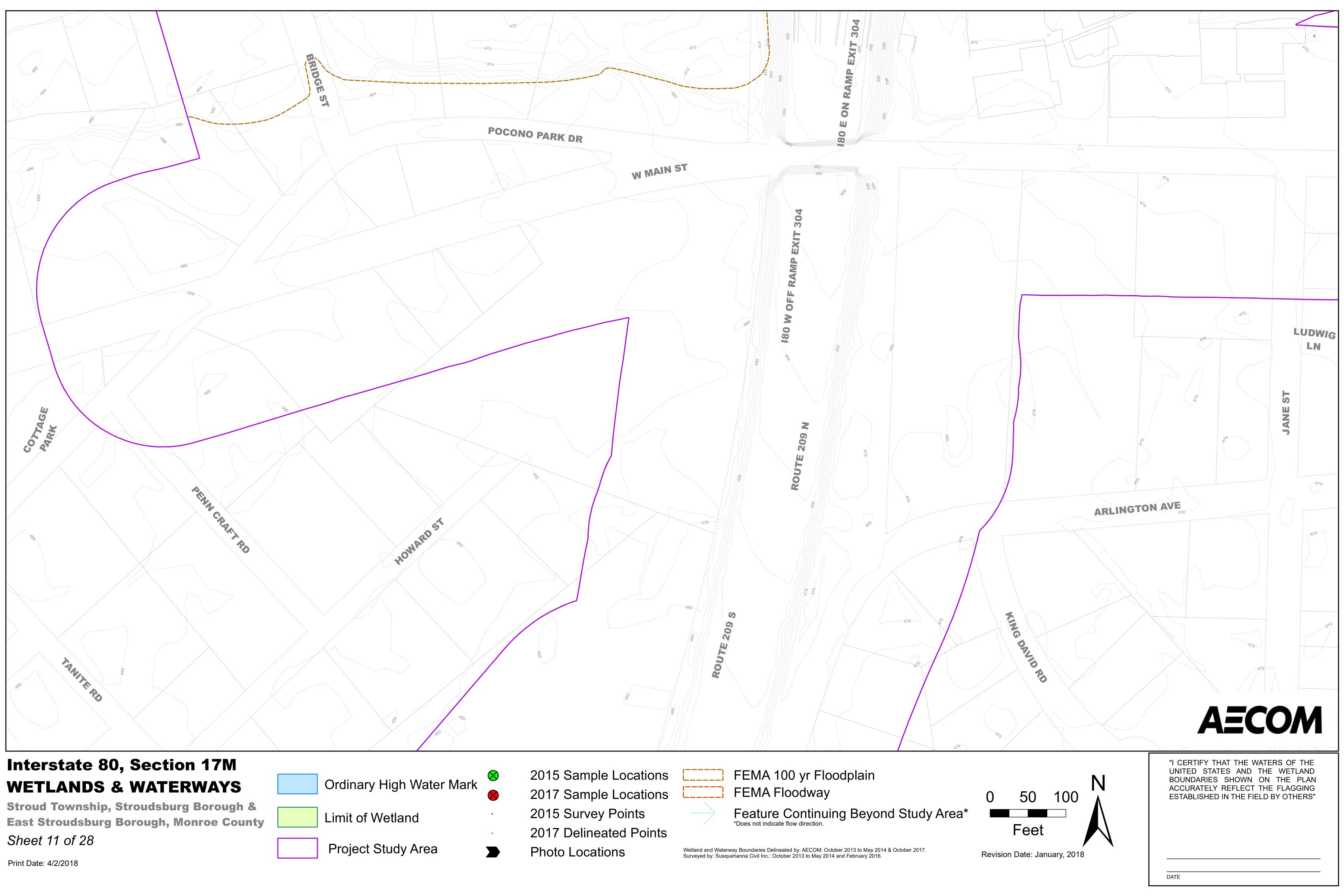






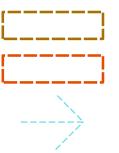


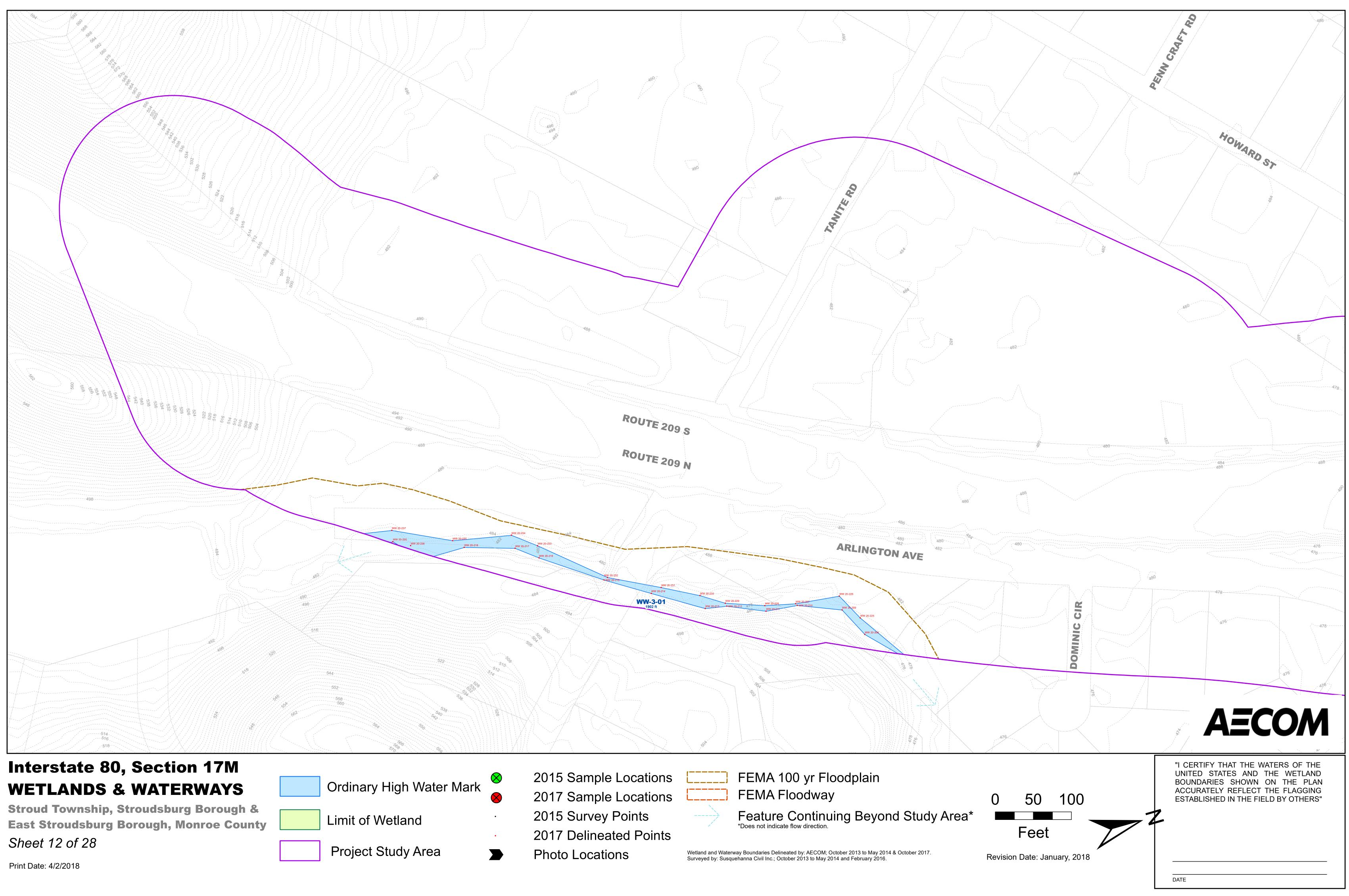




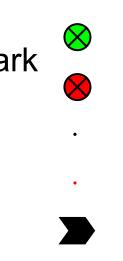




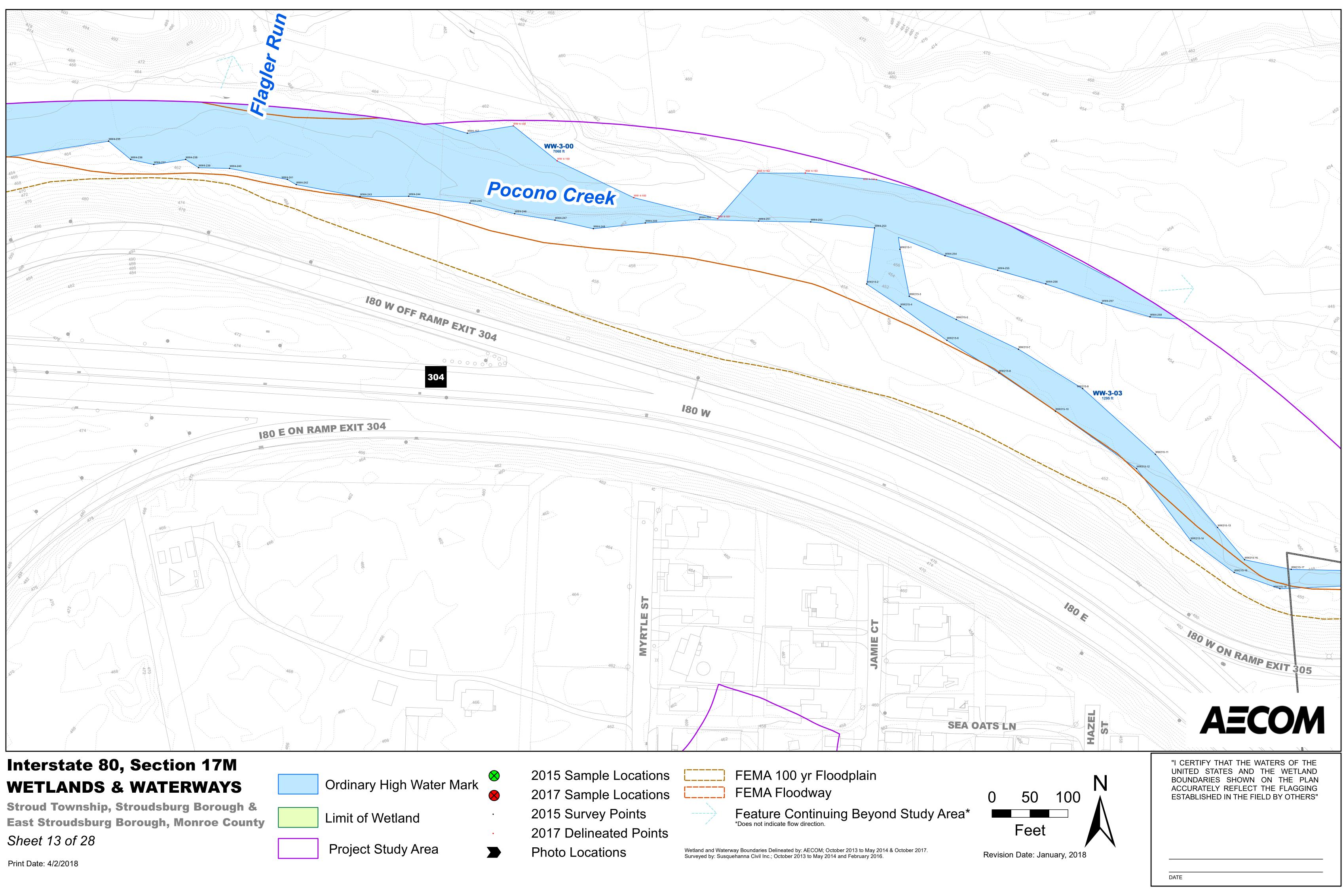


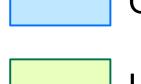




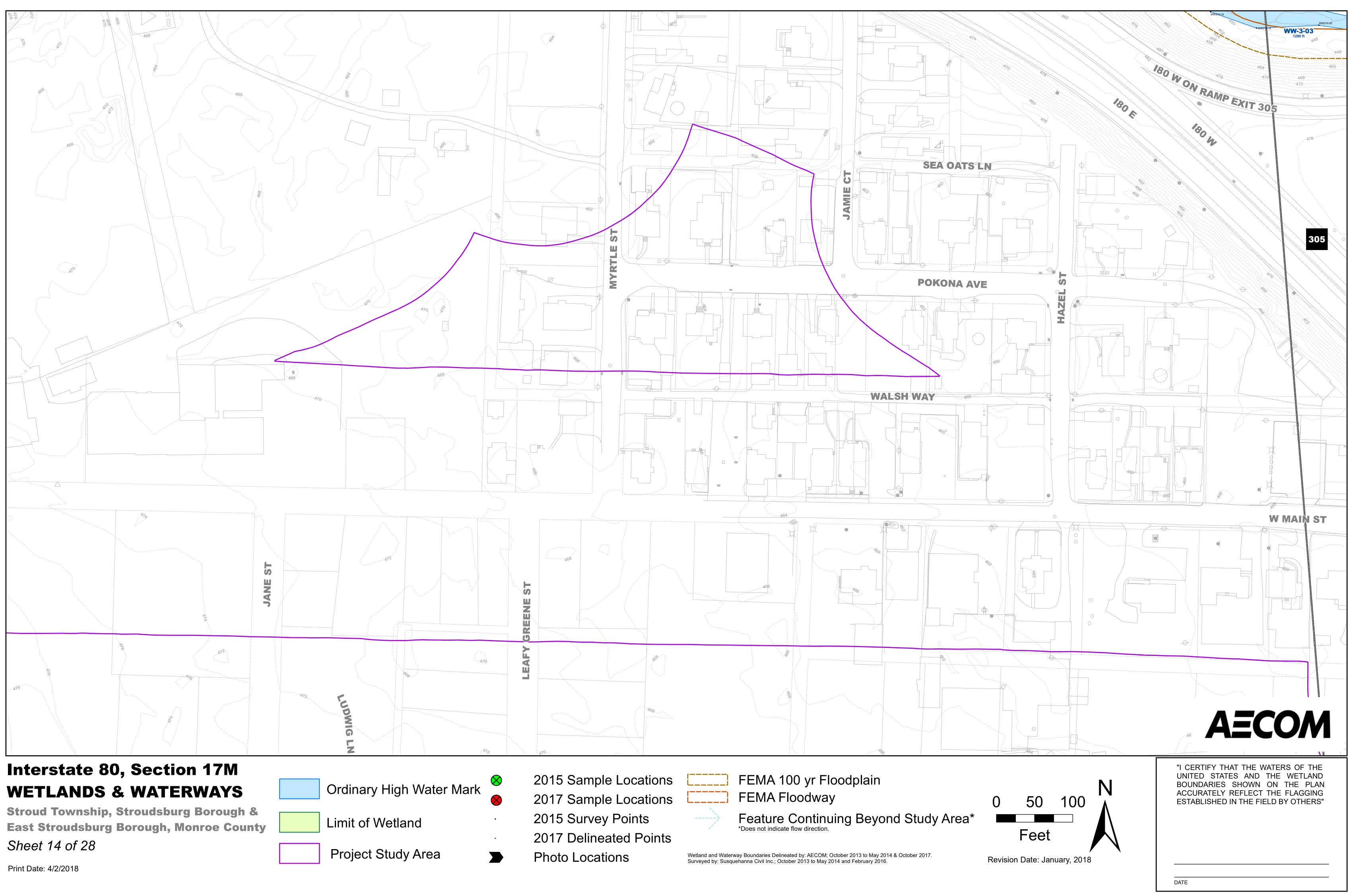


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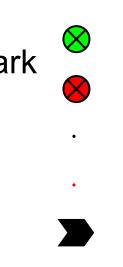


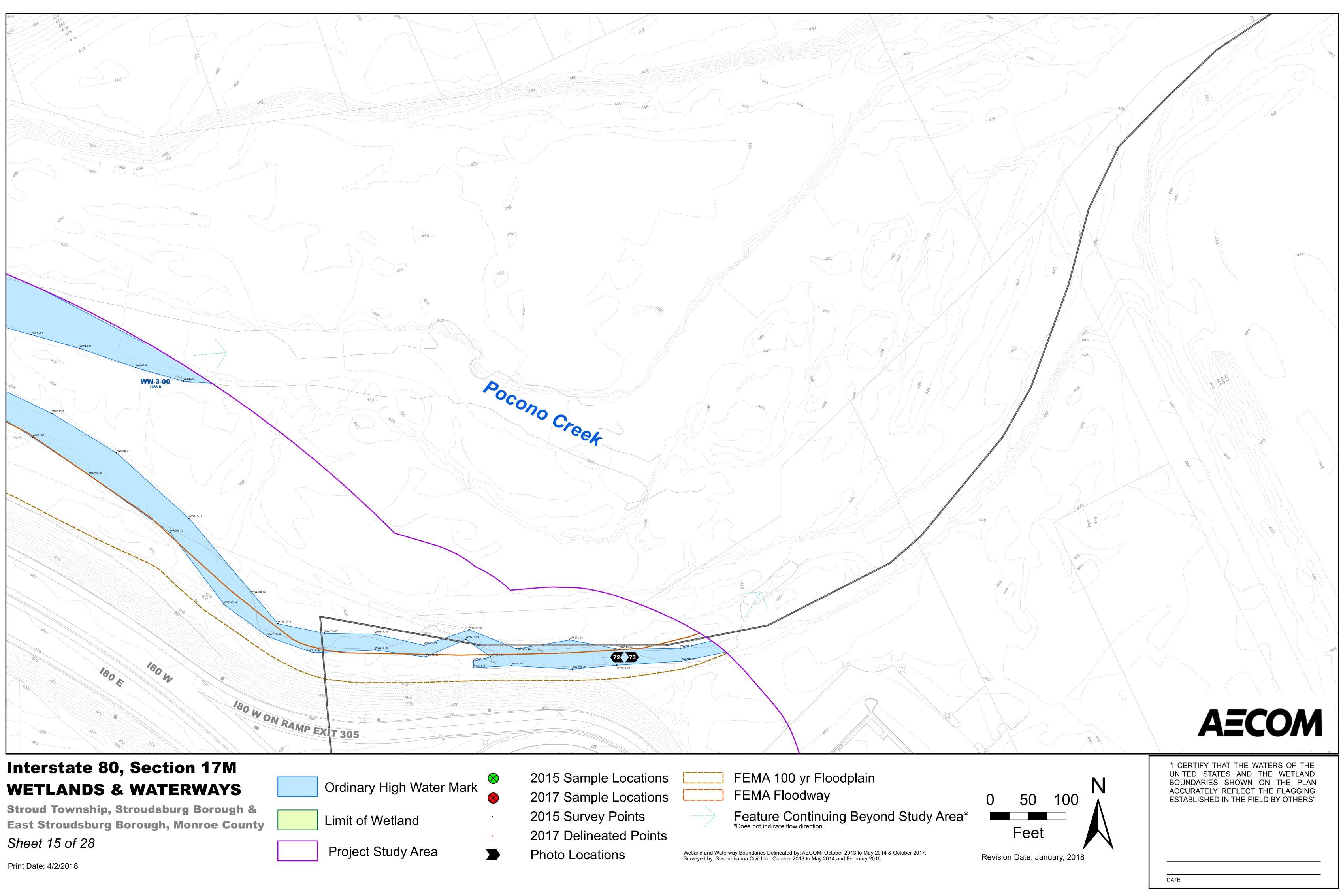


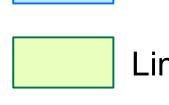






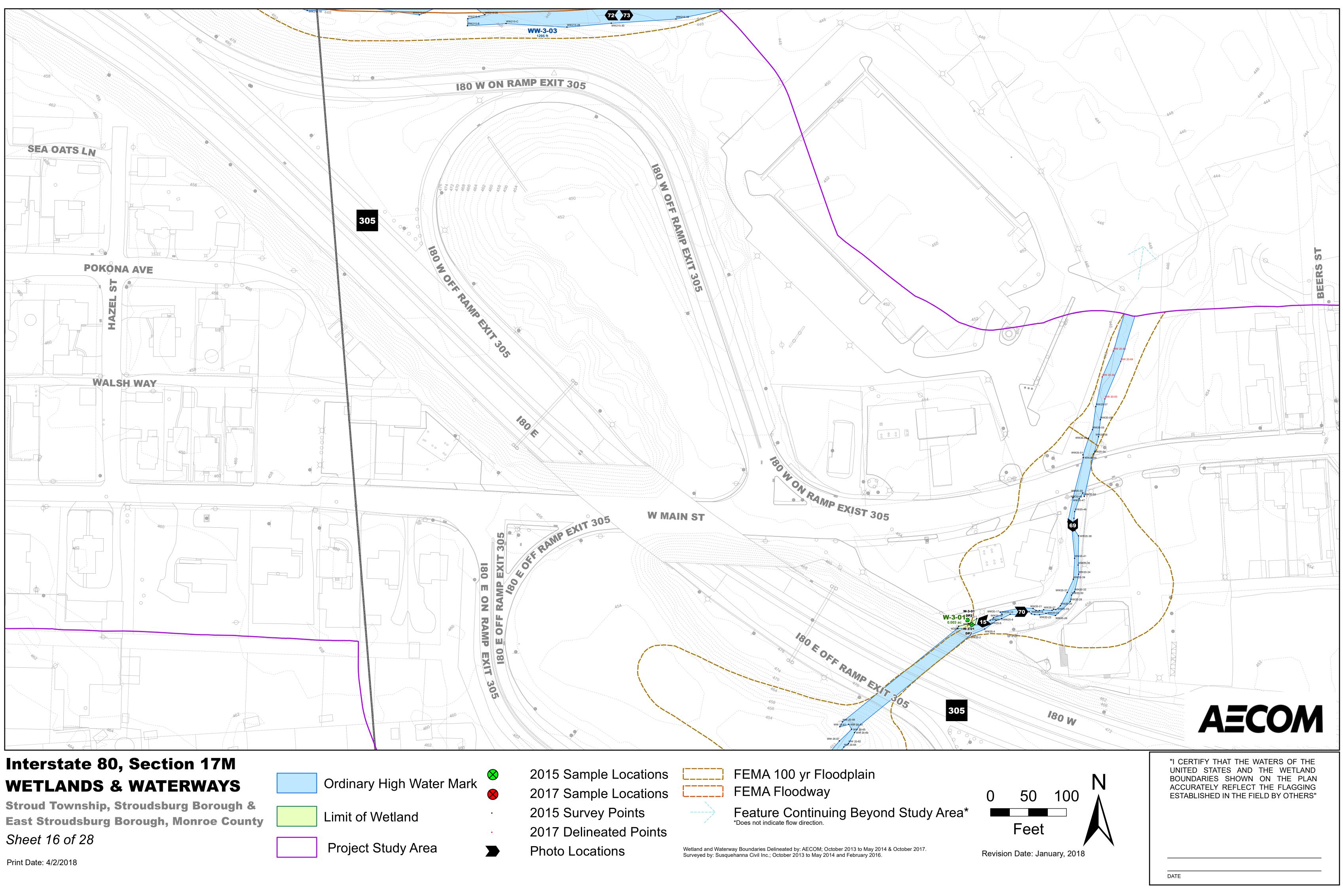




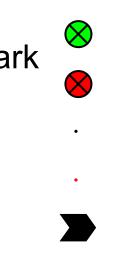


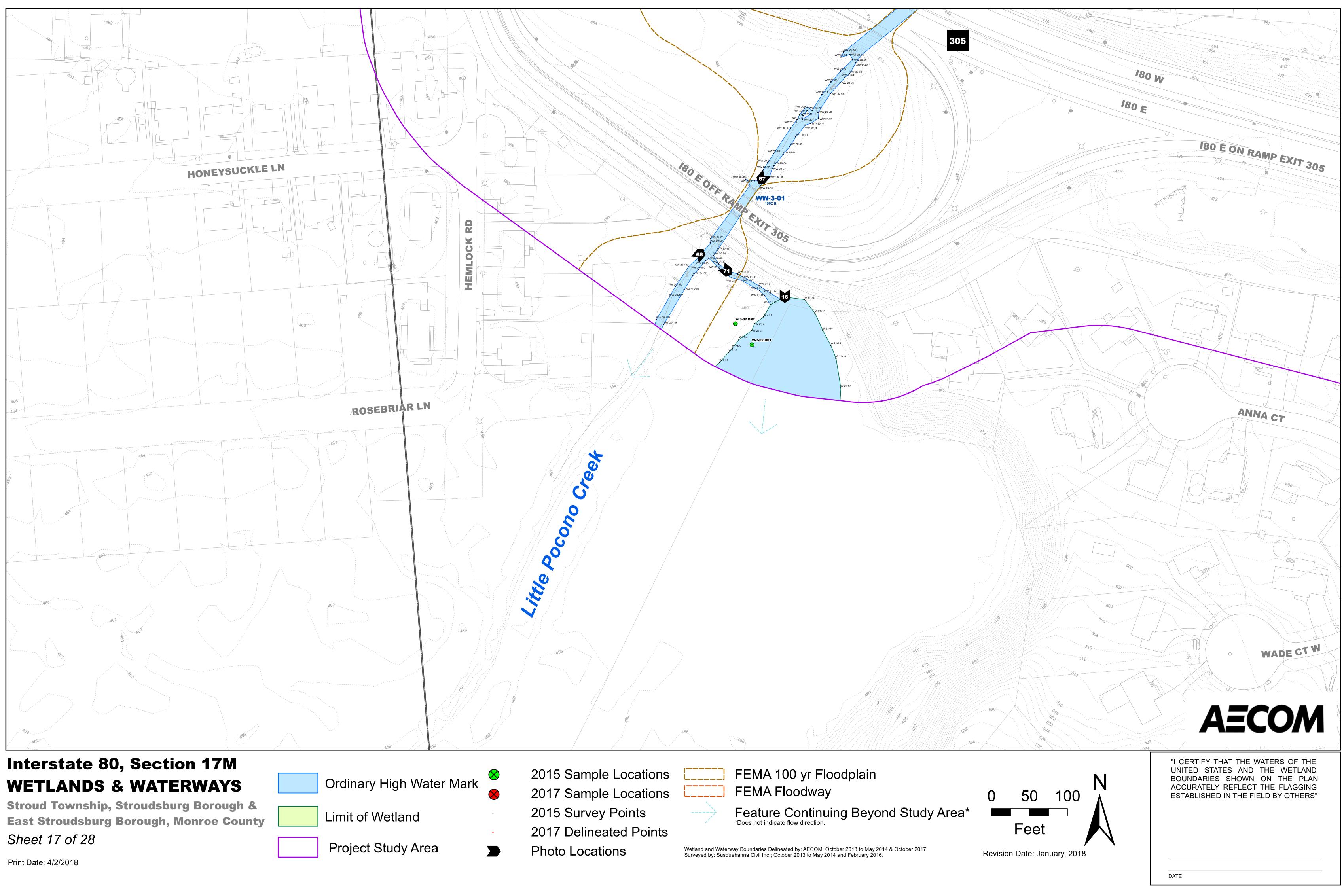


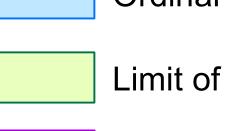
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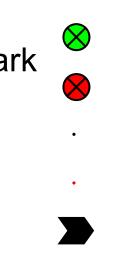


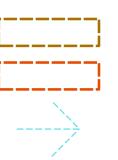


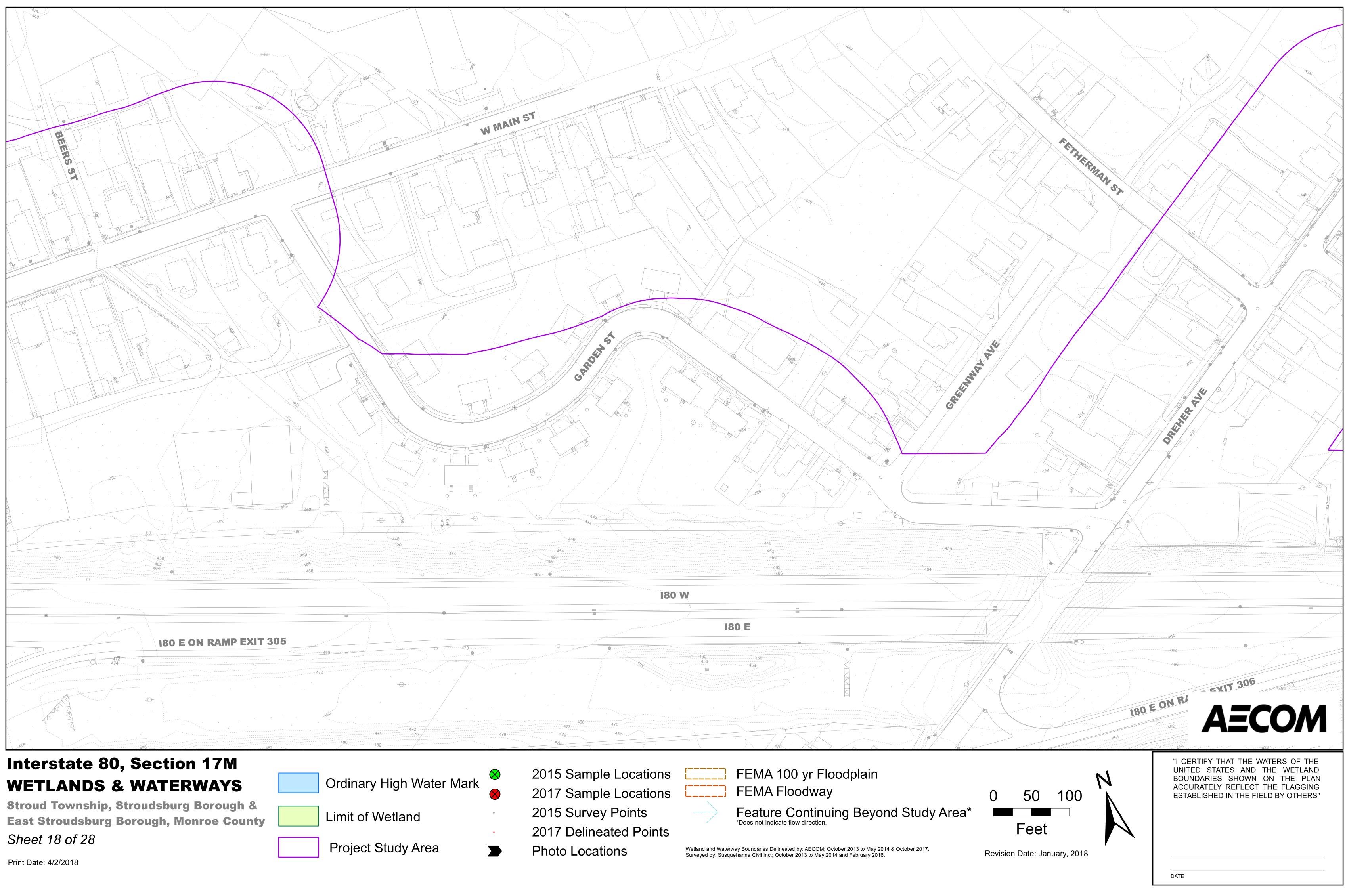




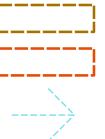


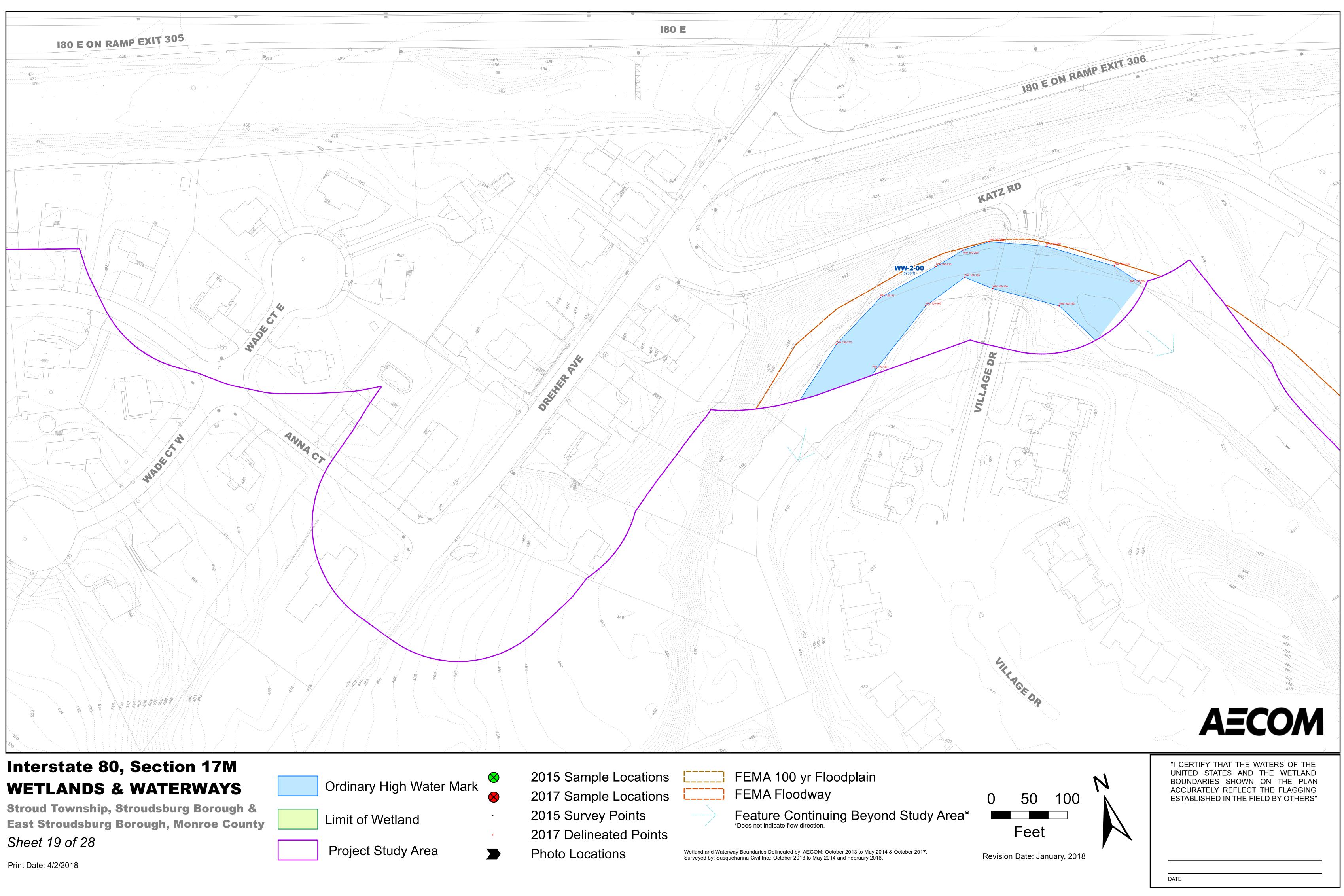




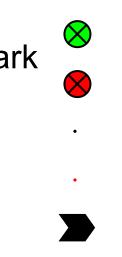


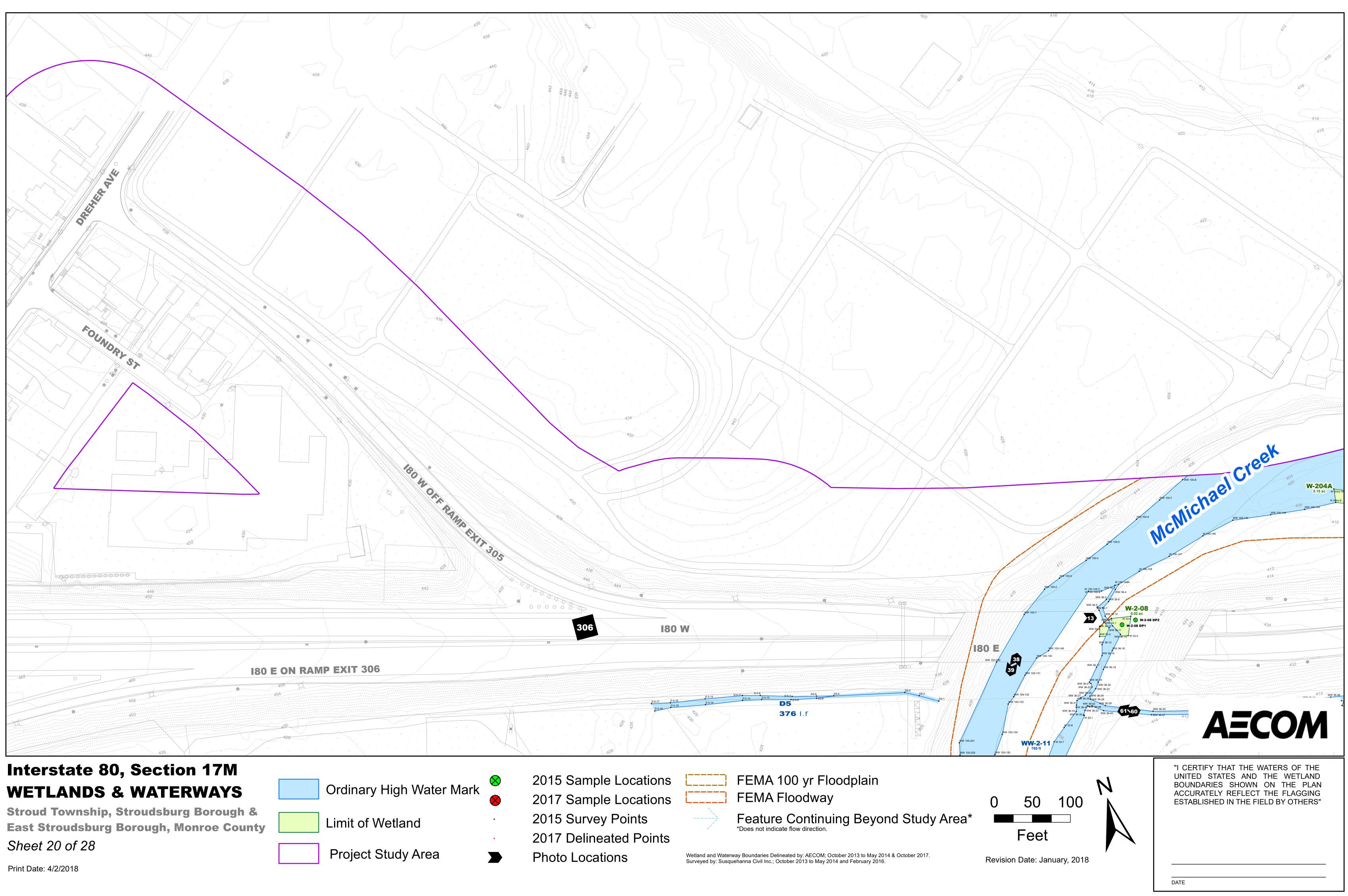




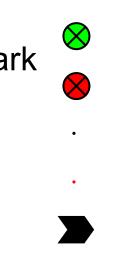


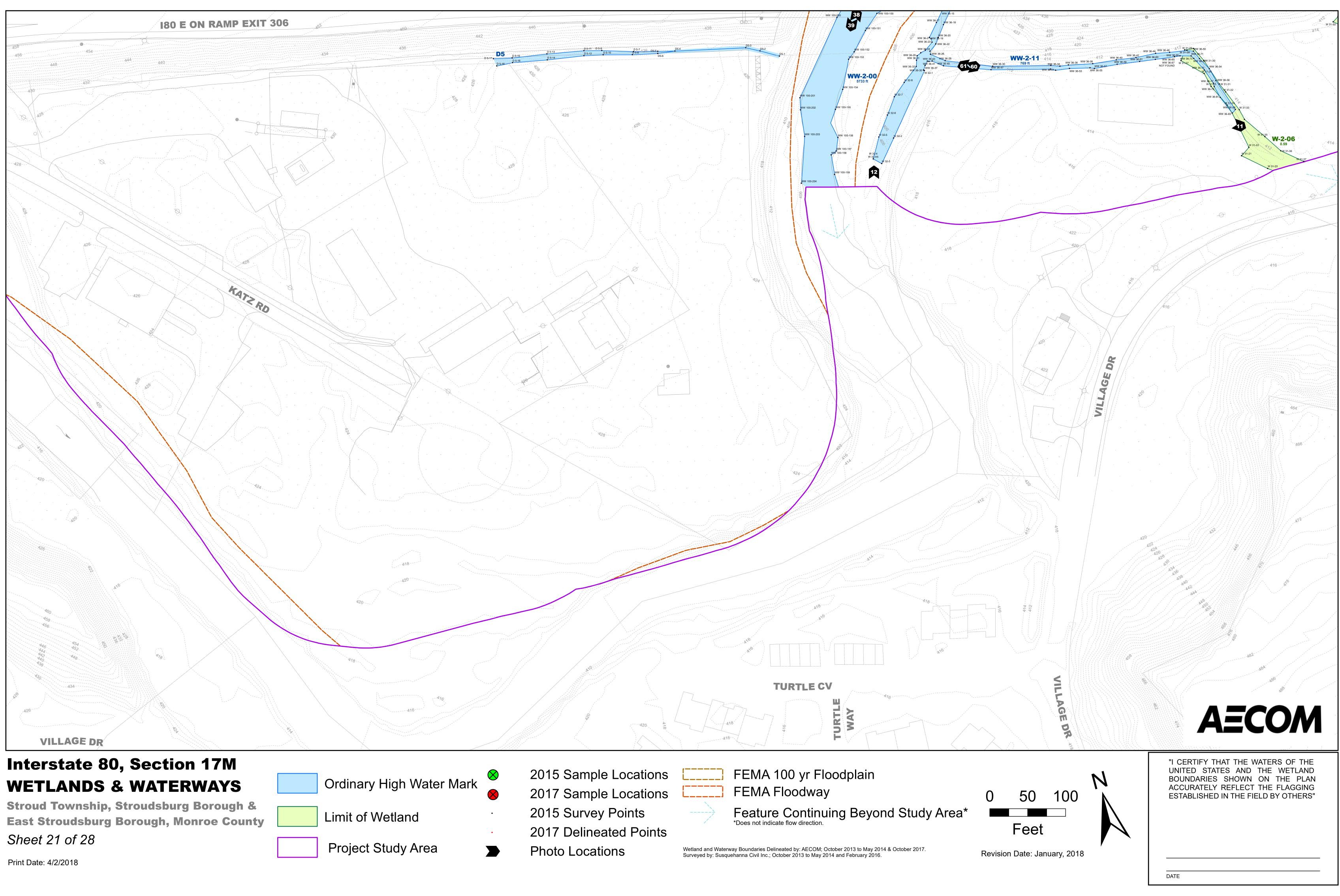


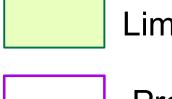




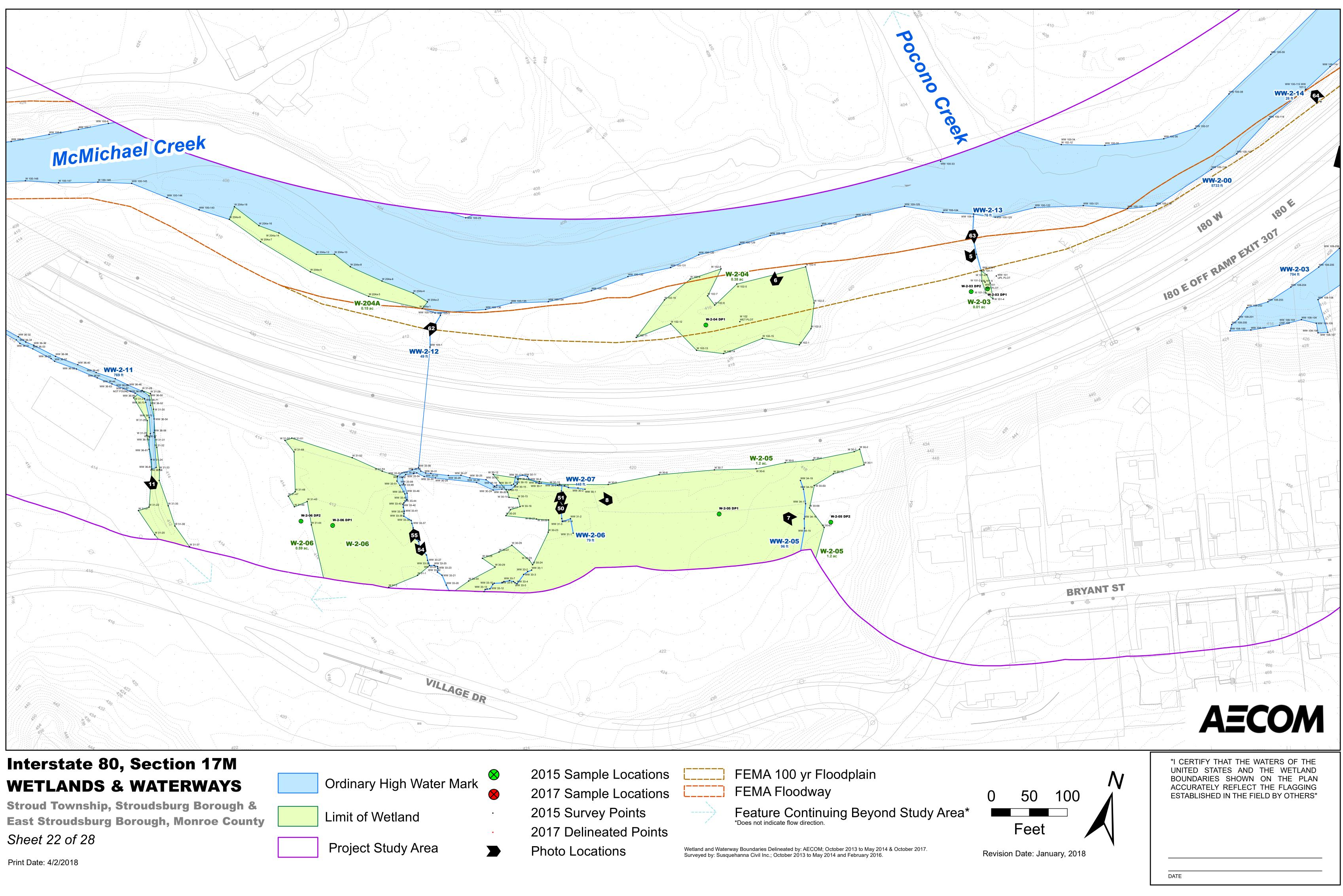






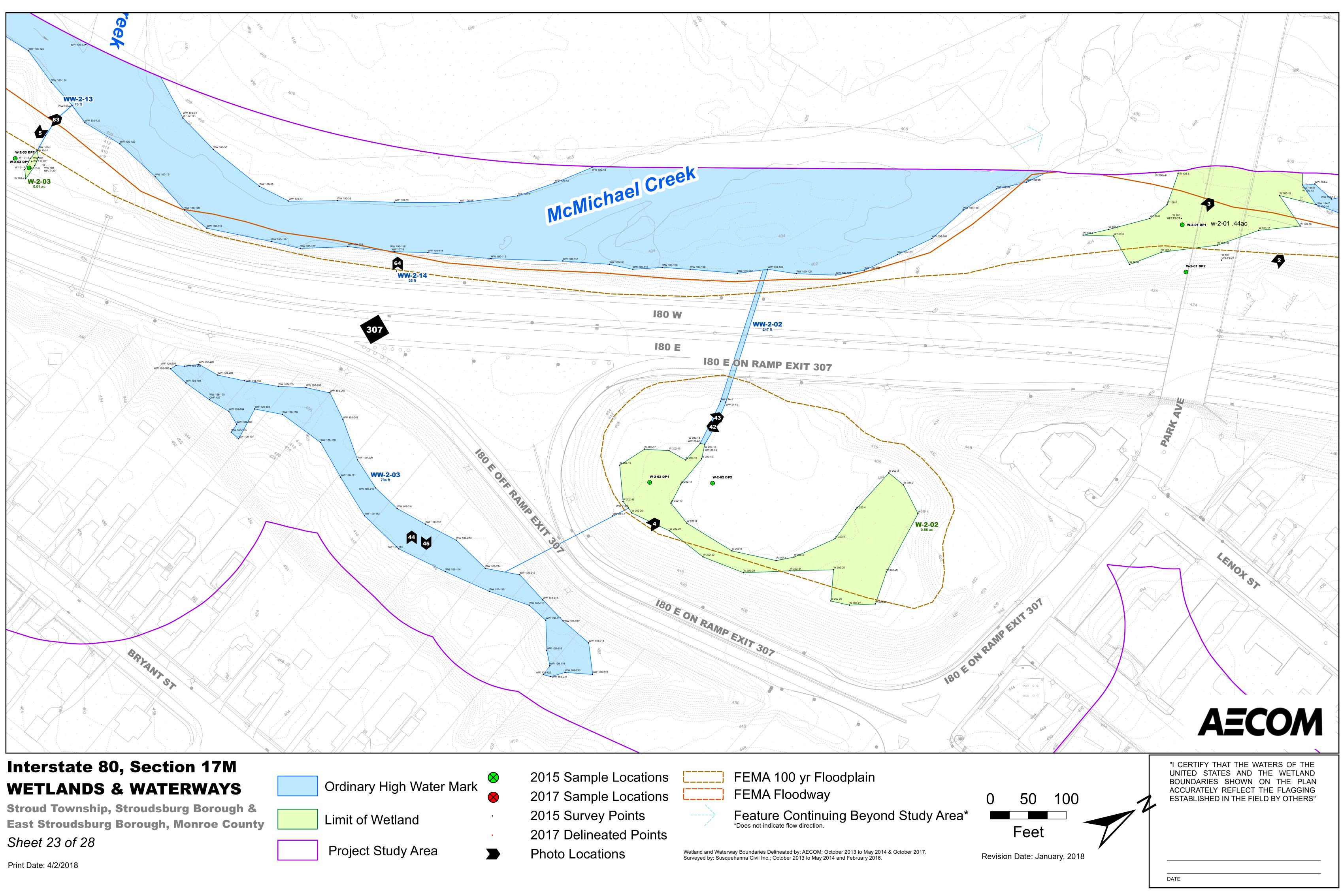










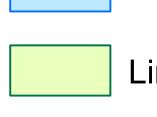


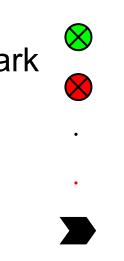




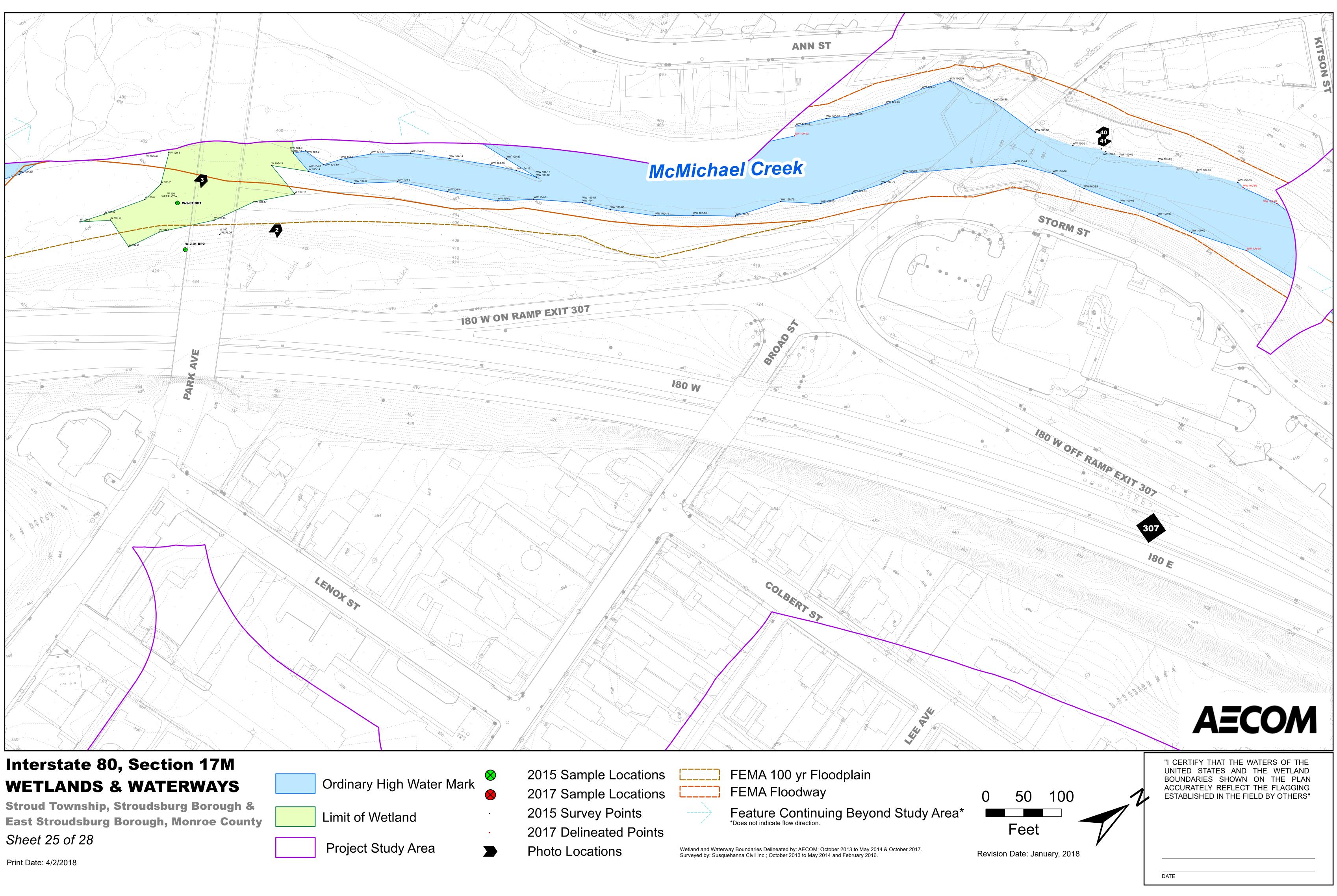
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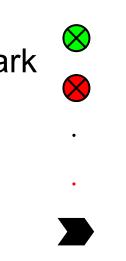


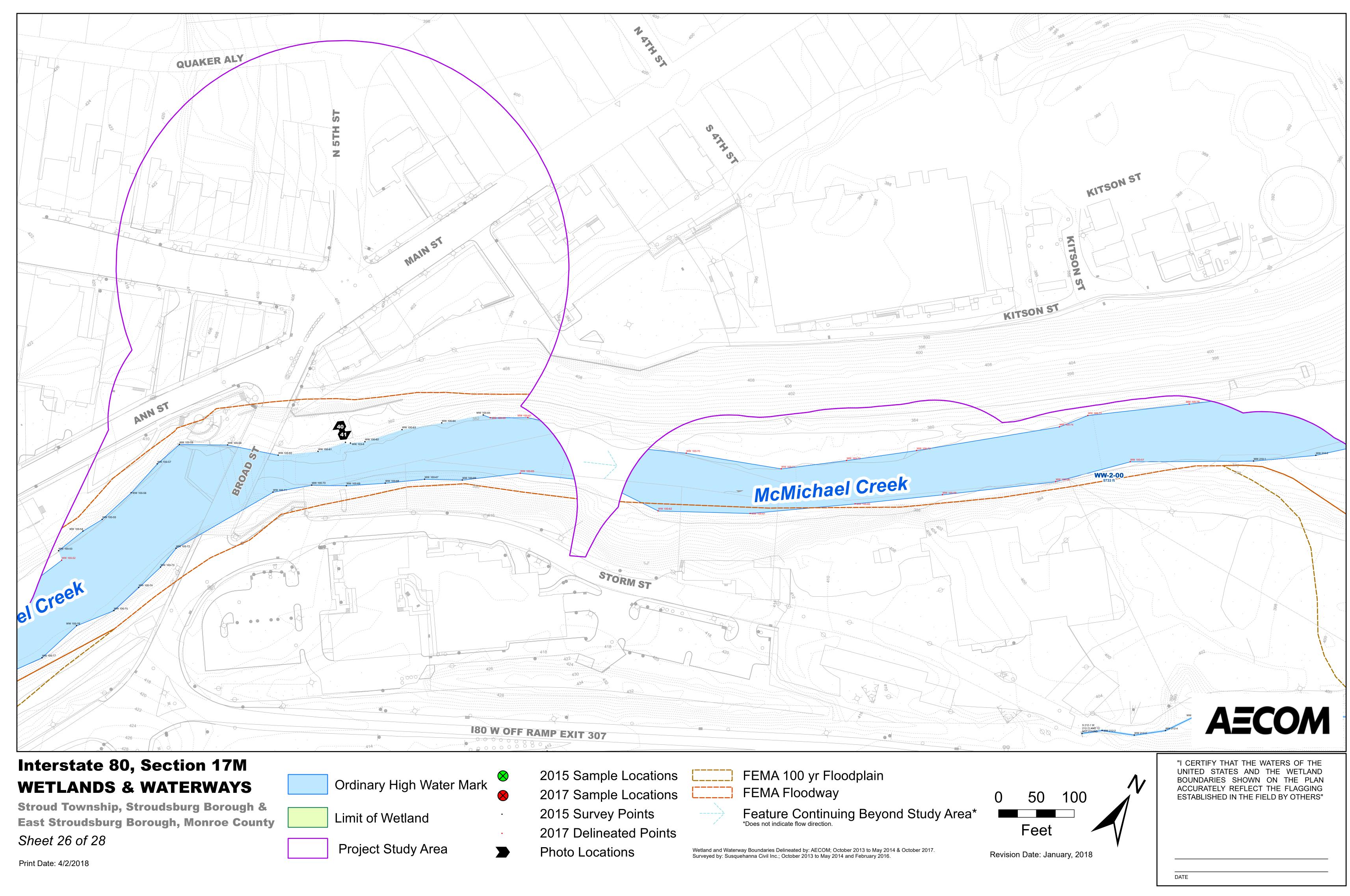


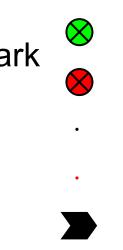
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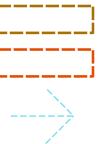


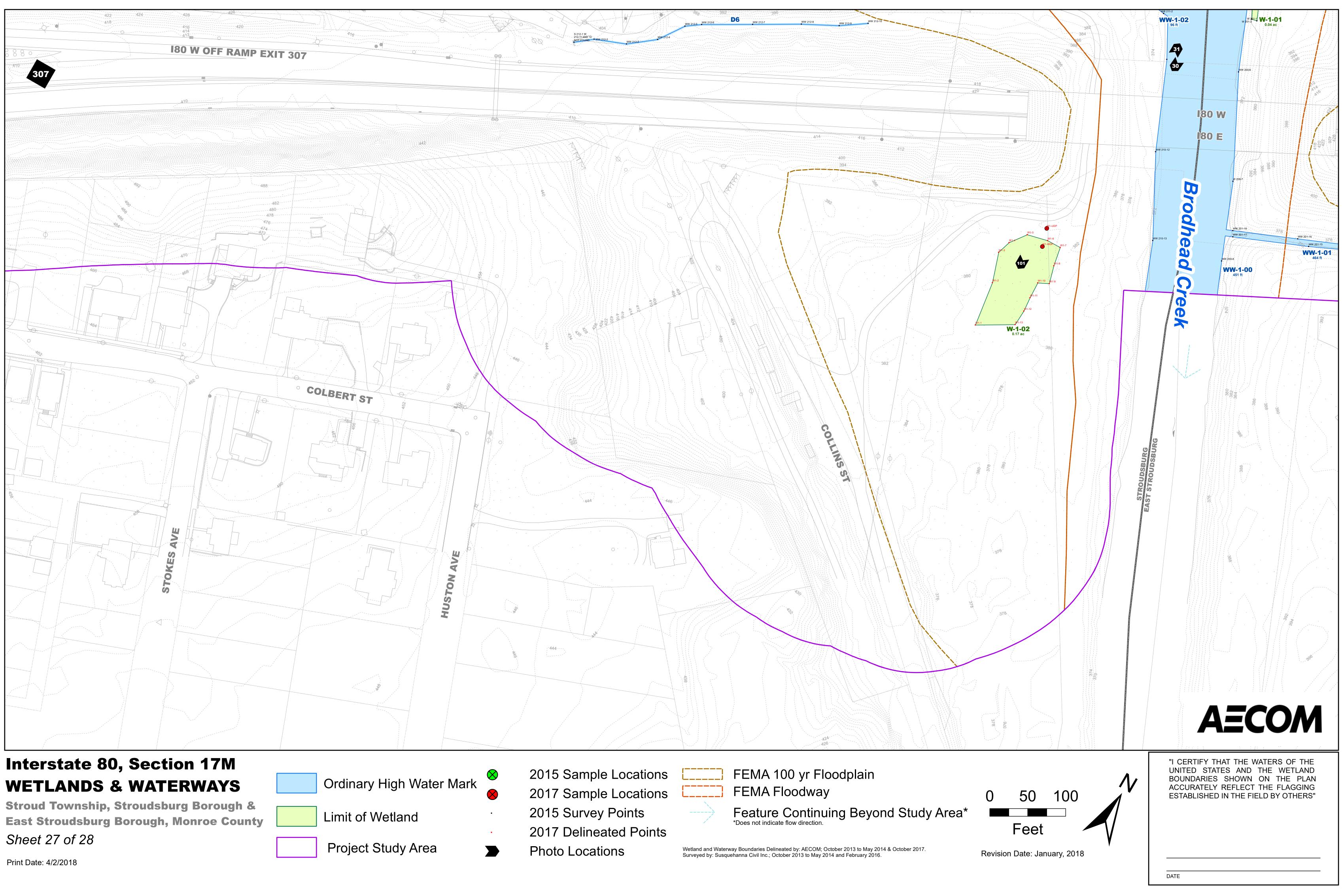




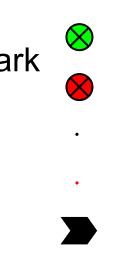


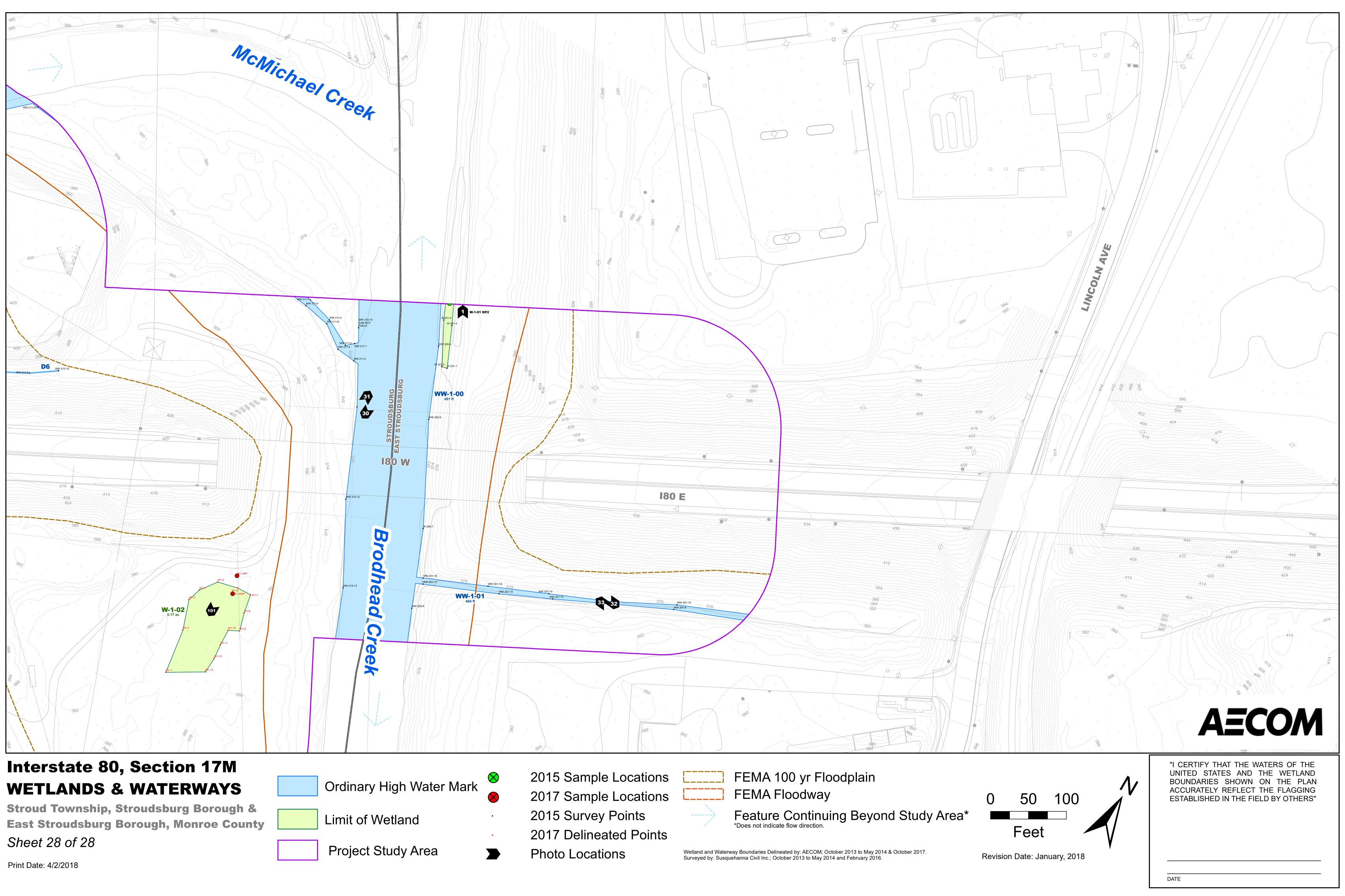


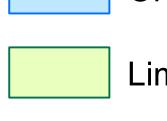


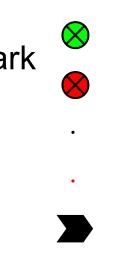












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Appendix A Wetland Delineation Forms

Project/Site: 1-80 Reconstruction	City/County:	Monroe	Sampling	Date: 22-Sep-17
Applicant/Owner: Pennsylvania Department of Transpotation	State: PA	Sampling Point:	W-1	L-02
Investigator(s): N Jones, B. Thompson	Section, T	ownship, Range: S.	T. Stroudsber	g R.
Landform (hillslope, terrace, etc.): Floodplain	Local relief (c	oncave, convex, non	e): concave	Slope: <u>0.0</u> % / <u>0.0</u> °
Subregion (LRR or MLRA): LRR R Lat.:	40.986356°	Long.:	-75.183901°	Datum: NAD 83
Soil Map Unit Name: As; Alluvial land			NWI classification: N	I/A
Are Vegetation , Soil , or Hydrology naturally Summary of Findings - Attach site map showing	tly disturbed? problematic?	Are "Normal Cir (If needed, exp	no, explain in Remarks.) cumstances" present? lain any answers in Rema transects, import	Yes 💿 No 🔾 arks.)
Hydrophytic Vegetation Present?YesNoHydric Soil Present?YesNoWetland Hydrology Present?YesNo		e Sampled Area	Yes $ullet$ No $igcap$	
Remarks: (Explain alternative procedures here or in a separate repo W-1-02 is a PEM wetland located within the floodplain Broadhead C transmission line and Right of Way and a gravel work yard/storage <i>galli</i> and <i>Fallopia japonica</i> .	Creek. The wet		5	•

	Secondary Indicators (minimum of 2 required)			
Primary Indicators (minimum of one required; check all that apply)				
Water-Stained Leaves (B9)	Drainage Patterns (B10)			
Aquatic Fauna (B13)	Moss Trim Lines (B16)			
Marl Deposits (B15)	Dry Season Water Table (C2)			
Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)			
Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)			
Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)			
Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)			
Thin Muck Surface (C7)	Shallow Aquitard (D3)			
Other (Explain in Remarks)	Microtopographic Relief (D4)			
	FAC-neutral Test (D5)			
Depth (inches): 2				
Depth (inches):	rdrology Present? Yes 🖲 No 🔿			
Depth (inches):	drology Present? Yes S No C			
oring well, aerial photos, previous inspections), if av	ailable:			
er runoff from surrounding uplands.				
	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): 2 Depth (inches): Wetland Hy			

VEGETATION - Use scientific names of pi	ants		Sa	mpling Point: W-1-02
Tree Stratum (Plot size:)	Absolute	O	Indicator	Dominance Test worksheet:
	% Cover		Status	Number of Dominant Species
1				That are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3	0			Species Across All Strata: (B)
4	0			
5	0			Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
6	0			
7	0			Prevalence Index worksheet:
	0 =	= Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:)				OBL species <u>15</u> x 1 = <u>15</u>
1				FACW species $0 \times 2 = 0$
2				FAC species x 3 =285
3	0			FACU species $5 \times 4 = 20$
4				UPL species $0 \times 5 = 0$
5	0			, ,
6	0			Column Totals: <u>115</u> (A) <u>320</u> (B)
7	0			Prevalence Index = B/A = 2.783
Herb Stratum (Plot size: 5 ft. Radius)	0 =	= Total Cover		Hydrophytic Vegetation Indicators:
	05		FAC	Rapid Test for Hydrophytic Vegetation
1. Echinochloa crus-galli			FAC	✓ Dominance Test is > 50%
2. Persicaria sagittata			OBL	✓ Prevalence Index is \leq 3.0 ¹
3. Microstegium vimineum			FAC	Morphological Adaptations ¹ (Provide supporting
4. Fallopia japonica			FACU	data in Remarks or on a separate sheet)
5				Problematic Hydrophytic Vegetation ¹ (Explain)
6				
7	0			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8	0			
9	0			Definitions of Vegetation Strata:
0	0			Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
1				at breast height (DBH), regardless of height.
2				Conting/objub Woody plants loss than 2 in DBU and
	115 =	= Total Cover		Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.
Woody Vine Stratum (Plot size:)		_		
1	0			Herb - All herbaceous (non-woody) plants, regardless of
2	0			size, and woody plants less than 3.28 ft tall.
3	0			Woody vine - All woody vines greater than 3.28 ft in
4	0			height.
	0 =	= Total Cover		
				Hydrophytic
				Vegetation Present? Yes • No ·
Remarks: (Include photo numbers here or on a separate s	heet)			
Remarks. (Include photo numbers here or on a separate s	neel.)			

* Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

	ription: (Describe to						·····,	
Depth (inches)	<u>Matrix</u> Color (moist)	%	Color (moist)	Redox Featu %	res Type ¹	Loc ²	Texture	Remarks
0-8	10YR 2/1	90	7.5YR 5/6		C	M	Sandy Loam	
							· · · · · · · · · · · · · · · · · · ·	
	. <u> </u>							
	·							
pe: C=Con	ncentration. D=Depletic	on. RM=Redu	ced Matrix, CS=Cov	ered or Coate	d Sand Gra	ains ² Locat	tion: PL=Pore Lining. M=Ma	atrix
	Indicators:						Indicators for Proble	matic Hydric Soils: ³
Histosol (Histic Epi	(A1) ipedon (A2)		MLRA 149B)				2 cm Muck (A10) (
Black Hist			_	urface (S9) (L xy Mineral (F1)			_	r Peat (S3) (LRR K, L, R)
	n Sulfide (A4) Layers (A5)			ed Matrix (F2)			Dark Surface (S7)	
7	Below Dark Surface (A	(11)	Depleted Ma					urface (S8) (LRR K, L)
-	rk Surface (A12)	(11)	Redox Dark				Thin Dark Surface	
_				rk Surface (F7)			asses (F12) (LRR K, L, R)
_	uck Mineral (S1)		Redox Depre		,			in Soils (F19) (MLRA 149B)
-	eyed Matrix (S4)						Mesic Spodic (TA6)) (MLRA 144A, 145, 149B)
Sandy Re							Red Parent Materia	il (F21)
	Matrix (S6)						Very Shallow Dark	Surface (TF12)
	face (S7) (LRR R, MLRA						Other (Explain in R	emarks)
	of hydrophytic vegetatic	on and wetlar	ia nyarology must b	e present, uni	ess disturc	ed or proble		
Type:								
Depth (inc	ches):						Hydric Soil Present?	Yes 🖲 No 🔾
emarks:								
ovel refusa	ala at 8 inches.							

Project/Site: I-80 Reconstruction	City/County: Monroe	Sampling Date: 22-Sep-17
Applicant/Owner: Pennsylvania Department of Transpotation	State: PA Sampling Point:	W-1-02 USP
Investigator(s): N Jones, B. Thompson	Section, Township, Range: S.	T. Stroudsberg R.
Landform (hillslope, terrace, etc.): Floodplain	Local relief (concave, convex, none	e): flat Slope: <u>2.0</u> % / <u>1.1</u> °
Subregion (LRR or MLRA): LRR R Lat.:	40.986422° Long.:	-75.183923° Datum: NAD 83
Soil Map Unit Name: As; Alluvial land	p p_	NWI classification: N/A
	problematic? (If needed, expl sampling point locations,	cumstances" present? Yes No No And Security S
Remarks: (Explain alternative procedures here or in a separate repo Upland sample point associated with W-1-02. The upland sample p	2	disturbed area surrounded by <i>Fallopia japonica</i> .

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required;	Surface Soil Cracks (B6)	
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-neutral Test (D5)
Field Observations:		
Surface Water Present? Yes O No 🖲	Depth (inches):	
Water Table Present? Yes O No O	Depth (inches):	vdrology Present? Yes \bigcirc No \odot
Saturation Present? Yes No •	Wetland H	ydrology Present? Yes 🔾 No 🖲
Describe Recorded Data (stream gauge, monito	pring well, aerial photos, previous inspections), if a	vailable:
Remarks:		
No evidence of hydrology was observed at this	location.	

Sampling Point:	W-1-02 USP	•
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	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover	~ · ~	Status	Dominance Test worksheet.
				Number of Dominant Species
1				That are OBL, FACW, or FAC: (A)
2	0			
3	0			Total Number of Dominant Species Across All Strata: 1 (B)
4				Percent of dominant Species
5				That Are OBL, FACW, or FAC:(A/B)
6	0			
7				Prevalence Index worksheet:
		= Total Cove		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:)				
1	0			OBL species $0 \times 1 = 0$
1				FACW species $0 \times 2 = 0$
2				FAC species x 3 =
3	0			
4	0			
5	0			UPL species $0 \times 5 = 0$
				Column Totals:(A)(B)
6				
7	0			Prevalence Index = $B/A = 4.000$
	0	= Total Cove		Hydrophytic Vegetation Indicators:
Herb Stratum (Plot size: 5 ft. Radius)				
1. Fallopia japonica	100	\checkmark	FACU	Rapid Test for Hydrophytic Vegetation
••				Dominance Test is > 50%
2				Prevalence Index is \leq 3.0 ¹
3	0			Morphological Adaptations ¹ (Provide supporting
4				data in Remarks or on a separate sheet)
5				Problematic Hydrophytic Vegetation ¹ (Explain)
6				
7	0			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8	0			be present, unless distance of problematic.
9				Definitions of Vegetation Strata:
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11	0			at breast height (DBH), regardless of height.
12	0			Continue (above) Manufactoria lange them 2 in DDU and
		= Total Cove		Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall
Woody Vine Stratum (Plot size:)				
1.	0			Herb - All herbaceous (non-woody) plants, regardless of
				size, and woody plants less than 3.28 ft tall.
2	0			
3	0			Woody vine - All woody vines greater than 3.28 ft in
4	0			height.
	0	= Total Cove		
				Hydrophytic
				Vegetation Present? Yes O No •
				Present? Yes V No 🔍
Remarks: (Include photo numbers here or on a separate sh	eet)			
Remarks. (Include photo numbers here of on a separate sh	eet.)			

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

			the depth				nfirm the a	absence of indicators.)			
Depth (inches)	Color (I	Matrix moist)	%	Color (moist)	dox Featı %	ures Type ¹	Loc ²	Texture	Remarks		
0-16	10YR	5/3	100		-70	Туре	LUC	Sandy Loam	Reina RS		
0-10		5/3									
					- <u></u>						
	-										
					- <u></u>						
¹ Type: C=Cor	ncentration. D	=Depletio	n. RM=Red	uced Matrix, CS=Covere	ed or Coate	ed Sand Gra	ains ² Loca	tion: PL=Pore Lining. M=M	atrix		
Hydric Soil		•									
Histosol				Polyvalue Belov	w Surface	(S8) (I RR R			ematic Hydric Soils : ³		
_	ipedon (A2)			MLRA 149B)	our doo	(00) (211111	,		(LRR K, L, MLRA 149B)		
Black His				Thin Dark Surfa	ace (S9) (LRR R, MLR	A 149B)		x (A16) (LRR K, L, R)		
_	n Sulfide (A4)			🗌 Loamy Mucky M	Mineral (F1	I) LRR K, L)		5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
_ • •	Layers (A5)			Loamy Gleyed	Matrix (F2))		Dark Surface (S7) (LRR K, L, M)			
_	Below Dark S	Surface (A	11)	Depleted Matrix	к (F3)			Polyvalue Below Surface (S8) (LRR K, L)			
	rk Surface (A1		,	Redox Dark Su	rface (F6)			Thin Dark Surface (S9) (LRR K, L)			
_	uck Mineral (S			Depleted Dark	Surface (F	7)		Iron-Manganese Masses (F12) (LRR K, L, R)			
	eyed Matrix (S			Redox Depress	ions (F8)			Piedmont Floodplain Soils (F19) (MLRA 149B)			
	edox (S5)	54)						Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
	Matrix (S6)							Red Parent Material (F21)			
	face (S7) (LRF		1/0B)					Very Shallow Dark			
								Other (Explain in R	Remarks)		
³ Indicators c	of hydrophytic	vegetatio	n and wetla	ind hydrology must be p	present, un	nless disturb	ed or proble	ematic.			
Restrictive I	Layer (if obso	erved):									
Туре:											
Depth (ind	ches):							Hydric Soil Present?	Yes 🔾 No 🖲		
Remarks:											
Romants.											

Project/Site: I-80 Reconstruction	City/County:	Monroe	Sampling	g Date: 21-Sep-17					
Applicant/Owner: Pennsylvania Department of Transpotation	State: PA	Sampling Point	: w-	-3-14 ^a					
Investigator(s): N Jones, B. Thompson	Section, T	ownship, Range: S.	T. Stroud	R					
Landform (hillslope, terrace, etc.): Hillside	Local relief (c	oncave, convex, non	e): concave	Slope: <u>3.0</u> % / <u>1.7</u> °					
Subregion (LRR or MLRA): LRR R Lat.:	40.990847°	Long.:	-75.245057°	Datum: NAD 83					
Soil Map Unit Name: CnB; Chippewa and Norwich soils, 0 to 8 percei	nt slopes, extre	emely stony	NWI classification:	N/A					
Are climatic/hydrologic conditions on the site typical for this time of year? Yes NO (If no, explain in Remarks.) Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes NO Are Vegetation , soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.) Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc									
Hydrophytic Vegetation Present?Yes 		e Sampled Area in a Wetland?	Yes $ullet$ No $ightarrow$						
Remarks: (Explain alternative procedures here or in a separate repo	ort.)								
PFO wetland located at the toe of slope of a slight hill and surround from the base of the hill. There is some shrub vegetation within the with in the wetland. The wetland boundary follows low chroma and	e wetland but t	the vegetation is pre	dominately PFO with wo	1 0 0					

Wetland Hydrology Indicators	s:					Secondary Indicators (minimum of 2 required)		
Primary Indicators (minimum	n of one	Surface Soil Cracks (B6)						
Surface Water (A1) Water-Stained Leaves (B9)						Drainage Patterns (B10)		
High Water Table (A2)			Aquatic Fauna (B13	()		Moss Trim Lines (B16)		
Saturation (A3)			Marl Deposits (B15)			Dry Season Water Table (C2)		
Water Marks (B1)			Hydrogen Sulfide O	dor (C1)		Crayfish Burrows (C8)		
Sediment Deposits (B2)			Oxidized Rhizosphe		Roots (C3)	Saturation Visible on Aerial Imagery (C9)		
Drift deposits (B3)			Presence of Reduce	d Iron (C4)		Stunted or Stressed Plants (D1)		
Algal Mat or Crust (B4)			Recent Iron Reduct	ion in Tilled Soils	(C6)	Geomorphic Position (D2)		
Iron Deposits (B5)			Thin Muck Surface	(C7)		Shallow Aquitard (D3)		
Inundation Visible on Aerial I	Imagery ((B7)	Other (Explain in Re	emarks)		Microtopographic Relief (D4)		
Sparsely Vegetated Concave	Surface ((B8)				FAC-neutral Test (D5)		
Field Observations:	0	0						
Surface Water Present? Y	(es 🖲	No 🔿	Depth (inches):	2				
Water Table Present? Y	res 🖲	No 🔿	Depth (inches):	0		rology Present? Yes 💿 No 🔾		
Saturation Present? (includes capillary fringe) Y	′es 🖲	No O	Depth (inches):	0	Wetland Hyd	rology Present? Yes • No 🔾		
Describe Recorded Data (strea	am gau	ge, monito	ring well, aerial photos	s, previous insp	ections), if avai	lable:		
Remarks:								
The primary sources of hydro	logy are	multiple g	round water seeps.					

Sampling Poi	nt: W-3-14 ^a
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	Al 1 - 4 -	Dominant	To diam to a	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30 ft. Radius</u>)	Absolute % Cover	C	Indicator Status	Dominance rest worksheet.
	-70 COVEL			Number of Dominant Species
1. Acer rubrum	100	\checkmark	FAC	That are OBL, FACW, or FAC: (A)
2	0			
				Total Number of Dominant
3				Species Across All Strata: (B)
4	0			
5				Percent of dominant Species
				That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)
6				
7	0			Prevalence Index worksheet:
(Distained 15 ft Dodius)	100 :	= Total Cove	r	Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15 ft. Radius)				OBL species 0 x 1 = 0
1. Rosa multiflora	10	\checkmark	FACU	
	-		FAC	FACW species x 2 =
				FAC species 105 x 3 =315
3	0			FACU species10 x 4 =40
4	0			
5	0			UPL species x 5 =
				Column Totals:(A)(B)
6				
7	0			Prevalence Index = $B/A = 3.087$
	15 :	= Total Cove	r	Hydronhytic Vagatation Indicators:
Herb Stratum (Plot size:)				Hydrophytic Vegetation Indicators:
1	0			Rapid Test for Hydrophytic Vegetation
1				✓ Dominance Test is > 50%
2	0			Prevalence Index is \leq 3.0 ¹
3	0			
4				Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5				Problematic Hydrophytic Vegetation ¹ (Explain)
6				1
7	0			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8	0			
9				Definitions of Vegetation Strata:
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11				at breast height (DBH), regardless of height.
12	0			Sapling/shrub - Woody plants less than 3 in. DBH and
	0 :	= Total Cove	r	greater than 3.28 ft (1m) tall.
Woody Vine Stratum (Plot size:)				
1	0			Herb - All herbaceous (non-woody) plants, regardless of
2	0			size, and woody plants less than 3.28 ft tall.
3	0			Woody vine - All woody vines greater than 3.28 ft in
4	0			height.
	0 :	= Total Cove	r	
				Hydrophytic
				Vegetation Present? Yes No
				Present? Yes Vo V
Remarks: (Include photo numbers here or on a separate sh	eet.)			

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Depth			e uepui					uie i	absence of indicators.)	
(inches)	Color (I	Matrix moist)	%	Color (dox Featu %	Type ¹	Loc ²	Texture	Remarks
0-15	10YR	4/2	80	7.5YR	6/6	20	C	 M	Silt Loam	Renarko
0.10										
				u					p	
		-		-	-					
							_			
				5			-			
				-						
		D								
		=Depletio	on. RM=Red	uced Matrix,	CS=Cover	ed or Coate	ed Sand Gr	ains ² Loca	ation: PL=Pore Lining. M=N	
Hydric Soil				□				_	Indicators for Prob	ematic Hydric Soils : ³
					value Belov A 149B)	w Surface	(S8) (LRR I	र,	2 cm Muck (A10)	(LRR K, L, MLRA 149B)
	ipedon (A2)			_		ace (S9) (I	LRR R, MLI	RA 149B)	Coast Prairie Red	ox (A16) (LRR K, L, R)
Black His	n Sulfide (A4)					Mineral (F1			5 cm Mucky Peat	or Peat (S3) (LRR K, L, R)
	I Layers (A5)					Matrix (F2)			Dark Surface (S7)	
_	Below Dark S	urfaco (A	11)		eted Matri					Surface (S8) (LRR K, L)
	rk Surface (A1		(11)		ox Dark Su				Thin Dark Surface	
_	uck Mineral (S			🗌 Depl	eted Dark	Surface (F	7)			Masses (F12) (LRR K, L, R)
	leyed Matrix (S			Redo	ox Depress	ions (F8)				ain Soils (F19) (MLRA 149B)
	edox (S5)	,,,								5) (MLRA 144A, 145, 149B)
	Matrix (S6)								Red Parent Mater	
	face (S7) (LRF	R, MLRA	A 149B)						Very Shallow Darl	
									U Other (Explain in	Remarks)
	of hydrophytic		on and wetla	na nyarology	must be p	present, un	iess distur	bed or proble	ematic.	
Restrictive I	Layer (if obse	erved):								
Туре:									Hydric Soil Present?	Yes $ullet$ No $igodot$
Depth (in	ches):								Tryunc Son Present!	Tes S No C
Remarks:										
Rock refusal	at 15 inches	5.								

Project/Site: I-80 Reconstruction	City/County:	Monroe	Samplir	g Date: 21-Sep-17
Applicant/Owner: Pennsylvania Department of Transpotation	State: PA	Sampling Point:	W-3	-14 ÜSP
Investigator(s): N Jones, B. Thompson	Section,	Township, Range: S.	T. Stroud	R
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave, convex, none): concave	Slope: 8.0 % / 4.6 °
Subregion (LRR or MLRA): LRR R Lat.:	40.990865°	Long.:	-75.245027°	Datum: NAD 83
Soil Map Unit Name: CnB; Chippewa and Norwich soils, 0 to 8 perce	nt slopes, extr	emely stony	NWI classification:	N/A
	tly disturbed? problematic? sampling Is th	Are "Normal Circ (If needed, expl point locations,	no, explain in Remarks cumstances" present? ain any answers in Re transects, impo es O No O	Yes Ves No
Remarks: (Explain alternative procedures here or in a separate report Upland sample point associated with W-3-14. The upland sample point with little to no understory.	-	to the north and upsl	ope from the wetland	and is in a wooded area

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required;	check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	(,	FAC-neutral Test (D5)
Field Observations:		
Surface Water Present? Yes O No 🖲	Depth (inches):	
Water Table Present? Yes O No 🖲	Depth (inches):	rdrology Present? Yes 🔿 No 🖲
Saturation Present? Yes No •	Depth (inches):	rdrology Present? Yes 🔾 No 🖲
Describe Recorded Data (stream gauge, monito	pring well, aerial photos, previous inspections), if av	vailable:
Remarks:		
No evidence of hydrology was observed at this	location.	
<u> </u>		

Sampling Point: W-3-14 USP

		Dominant		Deminence Test werdebest
Tree Stratum (Plot size: 30 ft. Radius)	Absolute	C	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30 ft. Radius)	% Cover	opecies:	Status	Number of Dominant Species
1. Carya ovata	30	\checkmark	FACU	That are OBL, FACW, or FAC: 1 (A)
	20		FACW	
—			-	Total Number of Dominant
3. Acer rubrum	10		FAC	Species Across All Strata: 5 (B)
4. Tsuga canadensis	5		FACU	
				Percent of dominant Species
5				That Are OBL, FACW, or FAC: 20.0% (A/B)
6	0			
7	0			Prevalence Index worksheet:
1				
Sapling/Shrub Stratum (Plot size: 15 ft. Radius)	65 =	= Total Cove	•	Total % Cover of: Multiply by:
Saping/Shrub Stratum (Fot Size. 19 H. Hudids)				OBL species x 1 =
1. Rosa multiflora	5	\checkmark	FACU	
2. Berberis thunbergii	5		FACU	FACW species 20 x 2 = 40
				FAC species 10 x 3 =30
3	0			FACU species45 x 4 =180
4				
	-			UPL species $-\frac{5}{x \ 5} = -\frac{25}{25}$
5				Column Totals: 80 (A) 275 (B)
6	0			Column Totals: <u>80</u> (A) <u>275</u> (B)
7	0			Prevalence Index = $B/A = 3.438$
1				$\frac{1}{2} = \frac{1}{2} = \frac{1}$
Herb Stratum (Plot size:)	10 =	= Total Cove	•	Hydrophytic Vegetation Indicators:
Herb Stratum (1100 3120.				Rapid Test for Hydrophytic Vegetation
1	0			
				Dominance Test is > 50%
2	0			Prevalence Index is \leq 3.0 ¹
3	0			
				Morphological Adaptations ¹ (Provide supporting
4				data in Remarks or on a separate sheet)
5	0			Problematic Hydrophytic Vegetation ¹ (Explain)
6	0			
				¹ Indicators of hydric soil and wetland hydrology must
7				be present, unless disturbed or problematic.
8	0			
9				Definitions of Vegetation Strata:
10	0			Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11	0			at breast height (DBH), regardless of height.
12				Sapling/shrub - Woody plants less than 3 in. DBH and
	0 =	= Total Cove	•	greater than 3.28 ft (1m) tall
Woody Vine Stratum (Plot size: 15 ft. Radius)				
1. Vitis acerifolia	5	\checkmark	UPL	Herb - All herbaceous (non-woody) plants, regardless of
	0			size, and woody plants less than 3.28 ft tall.
2				
3	0			Woody vine - All woody vines greater than 3.28 ft in
Λ	0			height.
4				noight.
	5 =	= Total Cove	•	
				Hydrophytic
				Vegetation
				Present? Yes No 💿
Remarks: (Include photo numbers here or on a separate she	et.)			

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

	ription: (Descril	be to the depth	needed to document	the indic	cator or co	nfirm the a	absence of indicators.)				
Depth (inches)		trix		dox Featu		1 2	-	Barrada			
	Color (moi		Color (moist)	%	Type	Loc ²	Texture	Remarks			
0-8	10YR 4	4/4 100					Silt Loam				
				-							
								9			
	centration D-De	nletion RM-Red	uced Matrix CS-Cover	ed or Coat	ed Sand Gra	ins 21 oca	tion: PL=Pore Lining. M=	Matrix			
Hydric Soil		pietion. Rivi–Red					-				
Histosol			Polyvalue Belov	N Surface	(S8) (I PD D		_	lematic Hydric Soils : 3			
_	ipedon (A2)		MLRA 149B)	N Surface				(LRR K, L, MLRA 149B)			
Black His			Thin Dark Surfa	ace (S9) (LRR R, MLR	A 149B)		lox (A16) (LRR K, L, R)			
	n Sulfide (A4)		Loamy Mucky N	Mineral (F1	I) LRR K, L)		5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Dark Surface (S7) (LRR K, L, M)				
	Layers (A5)		Loamy Gleyed	Matrix (F2)) (LRR K, L, M) Surface (S8) (LRR K, L)			
Depleted	Below Dark Surfa	ice (A11)	Depleted Matrix					e (S9) (LRR K, L)			
Thick Da	rk Surface (A12)		Redox Dark Su					Masses (F12) (LRR K, L, R)			
Sandy M	uck Mineral (S1)		Depleted Dark		7)		 Piedmont Floodplain Soils (F12) (EKK K, E, K) 				
Sandy GI	eyed Matrix (S4)		Redox Depress	ions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)				
Sandy Re	edox (S5)						Red Parent Material (F21)				
	Matrix (S6)						Very Shallow Dar	k Surface (TF12)			
Dark Sur	face (S7) (LRR R,	MLRA 149B)					Other (Explain in	Remarks)			
³ Indicators c	of hydrophytic veg	etation and wetla	ind hydrology must be p	present, ur	nless disturb	ed or proble	ematic.				
Restrictive I	ayer (if observe	ed):									
Туре:											
Depth (ind	ches):						Hydric Soil Present?	Yes 🔾 No 🖲			
Remarks:							I				
	at 8 inches.										
	at o mones.										

Project/Site: 1-80 Reconstruction	City/County:	Monroe	Sampling	Date: 21-Sep-17				
Applicant/Owner: Pennsylvania Department of Transpotation	State: PA	Sampling Point:	w-:	3-15				
Investigator(s): N Jones, B. Thompson	Section, To	wnship, Range: S.	T. Stroud	R				
Landform (hillslope, terrace, etc.): Floodplain	Local relief (co	ncave, convex, non	e): concave	Slope: <u>0.0</u> % / <u>0.0</u> °				
Subregion (LRR or MLRA): LRR R Lat.:	40.987440°	Long.:	-75.242914°	Datum: NAD 83				
Soil Map Unit Name: ReB; Rexford gravelly silt loam, 3 to 8 percent	slopes	slopes NWI classification: N/A						
Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.) Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.) Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No Wetland Hydrology Present? Yes No No No No No No No No								
Remarks: (Explain alternative procedures here or in a separate reported of the separate reported of the sequence of the section of the secti	s located at the and the hill but a ttled soils and a	a small portion extended a small portion extended a second contract of the second contract	nds upslope to the north	to a spring house at the				

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)		
Primary Indicators (minimum of one required;	check all that apply)	Surface Soil Cracks (B6)		
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)		
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)		
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)		
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)		
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)		
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)		
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)		
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)		
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)		
Sparsely Vegetated Concave Surface (B8)		FAC-neutral Test (D5)		
		_ 、 ,		
Field Observations:				
Surface Water Present? Yes O No 🖲	Depth (inches):			
Water Table Present? Yes O No 🖲	Depth (inches):	Hydrology Present? Yes \bigcirc No \bigcirc		
Saturation Present? Yes O No •	Wetland H	lydrology Present? Yes 🔾 No 🖲		
	ring well, aerial photos, previous inspections), if a	available:		
Remarks:				
	er runoff from upslope uplands, multiple ground w	vater seeps along the hill, and occasional flooding from		
S-NWJ-002.				

VEGETATION - Use scientific names of plants Sampling Point: W-3-15						
	Absolute		Indicator	Dominance Test worksheet:		
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species		
1				That are OBL, FACW, or FAC: (A)		
2				Total Number of Dominant		
3				Species Across All Strata: <u>1</u> (B)		
4						
5				Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)		
6	0					
7	0			Prevalence Index worksheet:		
Sapling/Shrub Stratum (Plot size:)	0 =	Total Cover		Total % Cover of: Multiply by:		
	0			OBL species 30 x 1 = 30		
1 2	0			FACW species <u>80</u> x 2 = <u>160</u>		
3				FAC species $0 \times 3 = 0$		
4	-			FACU species $0 \times 4 = 0$		
5				UPL species x 5 =		
6.				Column Totals: <u>110</u> (A) <u>190</u> (B)		
7				Prevalence Index = B/A = 1.727		
		- Total Cover				
_Herb Stratum (Plot size: 5 ft. Radius)				Hydrophytic Vegetation Indicators: Image: Construction of the second s		
1. Impatiens capensis	80	\checkmark	FACW			
2. Juncus effusus	20		OBL	✓ Dominance Test is > 50%		
3. Lemna minor	5		OBL	✓ Prevalence Index is $\leq 3.0^{1}$		
4. Typha latifolia	5		OBL	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)		
5	0			Problematic Hydrophytic Vegetation ¹ (Explain)		
6						
7	0			¹ Indicators of hydric soil and wetland hydrology must		
8	_			be present, unless disturbed or problematic.		
9	0			Definitions of Vegetation Strata:		
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter		
11				at breast height (DBH), regardless of height.		
12	0			Sapling/shrub - Woody plants less than 3 in. DBH and		
	110 =	Total Cover		greater than 3.28 ft (1m) tall.		
Woody Vine Stratum (Plot size:)	0					
1	0			Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.		
2	0					
3	0			Woody vine - All woody vines greater than 3.28 ft in		
4	-	- Total Cover		height.		
		= Total Cover				
				Hydrophytic		
				Vegetation Present? Yes • No ·		
				Present? 103 C 110 C		
Demonstra (Tarabada abada anaritara barra arra arra da b	-+)			L		
Remarks: (Include photo numbers here or on a separate she	et.)					

* Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Depth	Matrix			Redox Featu	ires			
nches) C	olor (moist)	%	Color (moist)		Type ¹	Loc ²	Texture	Remarks
0-10 5	Y 2.5/1	90	7.5YR 5/6	10	С	М		
		-						
			······	<u>_</u>				
		-						
be: C=Concentrat	ion. D=Depletic	on. RM=Redu	iced Matrix, CS=Cov	vered or Coate	ed Sand Gra	ains ² Locat	ion: PL=Pore Lining. M=Ma	ıtrix
dric Soil Indica	tors:						Indicators for Proble	matic Hydric Soils : ³
Histosol (A1)			Polyvalue B	elow Surface ((S8) (LRR F	2,		
Histic Epipedon	(A2)		MLRA 149B)				2 cm Muck (A10) (l	
Black Histic (A3)	(· - /		Thin Dark S	urface (S9) (I	LRR R, MLF	A 149B)	Coast Prairie Redox	
Hydrogen Sulfide	(14)		Loamy Mucl	ky Mineral (F1) LRR K, L)			r Peat (S3) (LRR K, L, R)
				ed Matrix (F2)			Dark Surface (S7)	(LRR K, L, M)
Stratified Layers							Polyvalue Below Su	rface (S8) (LRR K, L)
Depleted Below		(11)	Depleted Matrix (F3)				Thin Dark Surface ((S9) (LRR K, L)
Thick Dark Surfa			Redox Dark Surface (F6)				Iron-Manganese Ma	asses (F12) (LRR K, L, R)
Sandy Muck Min	eral (S1)		Depleted Dark Surface (F7)				Piedmont Floodplai	n Soils (F19) (MLRA 149B)
Sandy Gleyed M	atrix (S4)		Redox Depr	essions (F8)				(MLRA 144A, 145, 149B)
Sandy Redox (S	5)						Red Parent Materia	
Stripped Matrix	(S6)						Very Shallow Dark	
Dark Surface (ST) (LRR R, MLRA	A 149B)						
							Other (Explain in Re	emarks)
dicators of hydro	phytic vegetatic	on and wetla	nd hydrology must b	e present, un	less disturk	ed or probler	matic.	
trictive Layer (f observed):							
Туре:								
Depth (inches):							Hydric Soil Present?	Yes 🔿 🛛 No 🖲
marks:								

Project/Site: I-80 Reconstruction		City/County:	Monroe	Sampl	ing Date: 21-Sep-	17	
Applicant/Owner: Pennsylvania Department of Transpotation		State: PA	State: PA Sampling Point:				
Investigator(s): N Jones, B. Thompso	on	Section, T	ownship, Range: S.	T. Stroud		R.	
Landform (hillslope, terrace, etc.):	Bench	Local relief (c	concave, convex, nor	ne): flat	Slope: <u>0.0</u>	% / <u>0.0</u> °	
Subregion (LRR or MLRA): LRR R	Lat.:	40.987345°	Long.:	-75.242918°	Datum: N	IAD 83	
Soil Map Unit Name: ReB; Rexford	gravelly silt loam, 3 to 8 percent	slopes		NWI classification:	N/A		
Are Vegetation , Soil Are Vegetation , Soil Summary of Findings - At Hydrophytic Vegetation Present?	, or Hydrology 🗌 naturally	Is th	(If needed, expoint locations,	rcumstances" present plain any answers in R , transects, impo Yes O No O	- emarks.)	s⊖ es, etc	
Wetland Hydrology Present? Remarks: (Explain alternative pro- Upland sample point associated w in an upland forest.	cedures here or in a separate repo	-	etland. The sample	point is located on the	e edge of a raised	road bed	

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)				
Primary Indicators (minimum of one required;	Surface Soil Cracks (B6)					
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)				
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)				
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)				
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)				
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)				
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)				
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)				
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)				
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)				
Sparsely Vegetated Concave Surface (B8)		FAC-neutral Test (D5)				
Field Observations:						
Surface Water Present? Yes O No 🔍	Depth (inches):					
Water Table Present? Yes O No 🖲	Depth (inches):	drology Present? Yes 🔿 No 🖲				
Saturation Present? Yes No •	Depth (inches):	drology Present? Yes 🔾 No 🖲				
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:						
Remarks:						
No evidence of hydrology was observed at this location.						
		North control and North cost Device Mercian 2.0				

VEGETATION - Use scientific names of plants

Sampling Point:	W-3-15 USP
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	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30 ft. Radius)	% Cover	Species?	Status	Number of Dominant Species
1. Carya ovata	30	\checkmark	FACU	That are OBL, FACW, or FAC: 1 (A)
2. Acer rubrum	20	\checkmark	FAC	
3	0			Total Number of Dominant
3				Species Across All Strata:4_ (B)
4	0			
5				Percent of dominant Species
				That Are OBL, FACW, or FAC: 25.0% (A/B)
6	0			
7	0			Prevalence Index worksheet:
1				
(Plot size: 15 ft Padius)	50 =	= Total Cove	r	Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15 ft. Radius)				OBL species $0 \times 1 = 0$
1. Elaeagnus umbellata	10	\checkmark	UPL	
				FACW species $0 \times 2 = 0$
2	0			FAC speciles $20 \times 3 = 60$
3	0			
				FACU speci es 40 x 4 = 160
4	0			$10 \times 5 = 50$
5	0			UPL species <u>10</u> x 5 = <u>50</u>
				Column Totals: 70 (A) 270 (B)
6	0			
7	0			Prevalence Index = $B/A = 3.857$
		- T-4-1 C		
_Herb Stratum (Plot size: 5 ft. Radius)	10=	= Total Cove	r	Hydrophytic Vegetation Indicators:
Herd Stratum (Fiot Size: One Readed)				Rapid Test for Hydrophytic Vegetation
1. Polystichum acrostichoides	10	\checkmark	FACU	
••				Dominance Test is > 50%
2	0			Prevalence Index is \leq 3.0 ¹
3	0			\square Prevalence Index is ≥ 3.0
				Morphological Adaptations ¹ (Provide supporting
4	0			data in Remarks or on a separate sheet)
5	0			Problematic Hydrophytic Vegetation ¹ (Explain)
6	0			
7	0			¹ Indicators of hydric soil and wetland hydrology must
				be present, unless disturbed or problematic.
8	0			
9	0			Definitions of Vegetation Strata:
10	0			Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11				at breast height (DBH), regardless of height.
12	0			Sapling/shrub - Woody plants less than 3 in. DBH and
	10 =	= Total Cove	r	greater than 3.28 ft (1m) tall.
Woody Vine Stratum (Plot size:)				
	0			
1	0			Herb - All herbaceous (non-woody) plants, regardless of
2	0			size, and woody plants less than 3.28 ft tall.
	0			
3				Woody vine - All woody vines greater than 3.28 ft in
4	0			height.
		- Total Caus	-	-
	0 =	= Total Cove	r	
				Hydrophytic
				Vogotation
				Present? Yes No •
Remarks: (Include photo numbers here or on a separate s	heat)			
Remarks. (Include photo numbers here of on a separate s	leet.)			

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

US Army Corps of Engineers

Depth			ane aehtu				ue	absence of indicators.)			
(inches)			Matrix Redox Features Color (moist) % Color (moist) % Type ¹ L				Loc ²				
0-10	10YR	4/4	100					Silt Loam			
				·	-						
					-			. <u> </u>			
		-	-					-			
		-			-						
		-									
		-									
		-									
Type: C=Cor	ncentration. D	=Depletio	n. RM=Red	uced Matrix, CS=Covere	ed or Coate	ed Sand Gra	ins ² Loca	ation: PL=Pore Lining. M=M	atrix		
Hydric Soil	Indicators:							Indicators for Proble	ematic Hydric Soils : ³		
Histosol	(A1)			Polyvalue Belov	w Surface	(S8) (LRR R	,				
Histic Ep	ipedon (A2)			MLRA 149B)					(LRR K, L, MLRA 149B)		
Black His				Thin Dark Surfa	ace (S9) (I	LRR R, MLR	A 149B)		x (A16) (LRR K, L, R)		
	n Sulfide (A4)			Loamy Mucky N	Mineral (F1) LRR K, L)			or Peat (S3) (LRR K, L, R)		
	Layers (A5)			Loamy Gleyed	Matrix (F2))		Dark Surface (S7)			
	Below Dark S	Surface (A	11)	Depleted Matrix	x (F3)				urface (S8) (LRR K, L)		
	irk Surface (A1		,	Redox Dark Su	rface (F6)			Thin Dark Surface			
_	uck Mineral (S	•		Depleted Dark	Surface (F	7)			lasses (F12) (LRR K, L, R)		
	leyed Matrix (Redox Depress	ions (F8)				in Soils (F19) (MLRA 149B)		
	edox (S5)	.,) (MLRA 144A, 145, 149B)		
	Matrix (S6)							Red Parent Materia			
	face (S7) (LRF	R. MIRA	(149B)					Very Shallow Dark			
								Other (Explain in R	Remarks)		
"Indicators of	of hydrophytic	vegetatio	n and wetla	nd hydrology must be p	present, un	iless disturb	ed or proble	ematic.			
Restrictive	Layer (if obs	erved):									
Туре:									\sim		
Depth (in	ches):							Hydric Soil Present?	Yes 🔾 No 🖲		
Remarks:											
	at 10 inche	c									
		3.									

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: I-80 Reconstruction	City/County:	Monroe	Samplin	1g Date: 21-Sep-17
Applicant/Owner: Pennsylvania Department of Transpotation	State: PA	Sampling Point:	w	-3-17
Investigator(s): N Jones, B. Thompson	Section, T	ownship, Range: S.	T. Stroud	R
Landform (hillslope, terrace, etc.): Footslope	Local relief (c	oncave, convex, none): concave	Slope: <u>4.0</u> % / <u>2.3</u> °
Subregion (LRR or MLRA): LRR R Lat.:	40.990807°	Long.:	-75.247145°	Datum: NAD 83
Soil Map Unit Name: BbB; Bath channery silt loam, 0 to 8 percent slo	opes, extremely	y stony	NWI classification:	N/A
	tly disturbed? problematic?	Are "Normal Cire (If needed, expl	no, explain in Remarks cumstances" present? ain any answers in Rei transects, impo l	Yes • No ·
Hydrophytic Vegetation Present?YesNoHydric Soil Present?YesNoWetland Hydrology Present?YesNo		e Sampled Area in a Wetland? Y	ies $ullet$ No $ightarrow$	
Remarks: (Explain alternative procedures here or in a separate repo	,			
PEM wetland located in a small depression at the toe of slope alon depression. The wetland is dominated by a vegetative community mottled soils.	5			2

Hydrology

Wetland Hydrology Indica	tors:			Secondary Indicators (minimum of 2 required)
Primary Indicators (minim		Surface Soil Cracks (B6)		
Surface Water (A1)			Water-Stained Leaves (B9)	Drainage Patterns (B10)
✓ High Water Table (A2)			Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)			Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)			Hydrogen Sulfide Odor (C1)	Cravfish Burrows (C8)
Sediment Deposits (B2)			 Oxidized Rhizospheres along Living Roots (C3) 	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)			Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)			Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)			Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aer	ial Imagery	(B7)		Microtopographic Relief (D4)
Sparsely Vegetated Conca	0,0	• •	Uther (Explain in Remarks)	\checkmark FAC-neutral Test (D5)
		(50)		
Field Observations:				
Surface Water Present?	Yes 🖲	No 🔿	Depth (inches):1	
Water Table Present?	Yes 🖲	No 🔿	Depth (inches): <u>6</u>	
Saturation Present? (includes capillary fringe)	Yes 🖲	$_{\rm No}$ O	Depth (inches):0	Hydrology Present? Yes 🖲 No 🔾
Describe Recorded Data (s	tream gau	ge, monito	ring well, aerial photos, previous inspections), if	available:
Remarks:				
The primary source of hyd	rology is si	urface wat	er runoff from uplsope uplands and Interstate 80).

VEGETATION - Use scientific names of plants

VEGETATION - Use scientific names of plan	ITS		Sai	mpling Point:W-3-17
	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species
1				That are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata: <u>3</u> (B)
4				
5	0			Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
6	0			
7	0			Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size:)	0 =	Total Cover	•	Total % Cover of: Multiply by:
	0			OBL species <u>100</u> x 1 = <u>100</u>
1 2	0			FACW species $0 \times 2 = 0$
3				FAC species $0 \times 3 = 0$
3 4.				FACU species x 4 =0
5				UPL species x 5 =
6.				Column Totals:(A)(B)
7				Prevalence Index = $B/A = 1.000$
		- Total Cover		
Herb Stratum (Plot size: 5 ft. Radius)				Hydrophytic Vegetation Indicators:
1. Juncus effusus	40	\checkmark	OBL	✓ Rapid Test for Hydrophytic Vegetation
2. Carex vulpinoidea	20	\checkmark	OBL	✓ Dominance Test is > 50%
3. Carex lurida	15		OBL	✓ Prevalence Index is $\leq 3.0^{1}$
4. Typha latifolia	20	\checkmark	OBL	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. Lythrum salicaria	5		OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
6				
7				¹ Indicators of hydric soil and wetland hydrology must
8				be present, unless disturbed or problematic.
9				Definitions of Vegetation Strata:
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11				at breast height (DBH), regardless of height.
12	0			Sopling/shrub Weady plants loss than 2 in DPH and
	100 =	Total Cover		Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall
Woody Vine Stratum (Plot size:)				
1	0			Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
2	0			5120, and woody plants less than 5.20 it tail.
3	0			Woody vine - All woody vines greater than 3.28 ft in
4	0			height.
	=	Total Cover	•	
				Hydrophytic
				Vegetation
				Present? Yes Vo V
Remarks: (Include photo numbers here or on a separate she	et.)			

* Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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rofile Description: (Describe to the dep Depth Matrix		lox Features		· ·····,	
(inches) Color (moist) %	Color (moist)	<u>%</u> Type ¹	Loc ²	Texture	Remarks
0-8 10YR 3/1 95	7.5YR 5/6	5 C	M	Silt Loam	
be: C=Concentration. D=Depletion. RM=R dric Soil Indicators:				_	Matrix
 Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Muck Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) 	MLŘA 149B) Thin Dark Surfa Loamy Mucky N Loamy Gleyed I Depleted Matrix Redox Dark Sur Redox Depressi	(F3) face (F6) Surface (F7) ons (F8)	A 149B)	Coast Prairie Red S cm Mucky Pea Dark Surface (S) Polyvalue Below Thin Dark Surfac Iron-Manganese Piedmont Floodp Mesic Spodic (T/ Red Parent Mate Very Shallow Da Other (Explain ir	Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R) dain Soils (F19) (MLRA 149B) A6) (MLRA 144A, 145, 149B) rrial (F21) rk Surface (TF12)
Indicators of hydrophytic vegetation and we estrictive Layer (if observed):	tland hydrology must be p	resent, unless disturb	ed or proble	ematic.	
Type: Depth (inches):				Hydric Soil Present?	Yes $lacksquare$ No $igodot$
Remarks: ock refusal at 8 inches.					

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: I-80 Reconstruction	City/County:	Monroe	Samplin	ng Date: 21-Sep-17
Applicant/Owner: Pennsylvania Department of Transpotation	State: PA	Sampling Point:	W-3	-17 USP
Investigator(s): N Jones, B. Thompson	Section, T	ownship, Range: S.	T. Stroud	R
Landform (hillslope, terrace, etc.): Hillside	Local relief (o	concave, convex, non	e): flat	Slope: <u>12.0</u> % / <u>6.8</u> °
Subregion (LRR or MLRA): LRR R Lat.:	40.990817°	Long.:	-75.247106°	Datum: NAD 83
Soil Map Unit Name: BbB; Bath channery silt loam, 0 to 8 percent slo	opes, extremel	y stony	NWI classification:	N/A
	tly disturbed? problematic? sampling p	Are "Normal Cir (If needed, exp point locations,	f no, explain in Remarks rcumstances" present? lain any answers in Ren transects, impo r Yes O No O	Yes No
Remarks: (Explain alternative procedures here or in a separate repo Upland sample point associated with W-3-17. The upland sample p	2	to the north, upslop	e from the wetland and	l on the side of a hill.

Hydrology

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)			
Primary Indicators (minimum of one required;	check all that apply)	Surface Soil Cracks (B6)			
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)			
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)			
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)			
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)			
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)			
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)			
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)			
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)			
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)			
Sparsely Vegetated Concave Surface (B8)	(,	FAC-neutral Test (D5)			
Field Observations:					
Surface Water Present? Yes O No 🖲	Depth (inches):				
Water Table Present? Yes O No 🖲	Depth (inches):	rdrology Present? Yes 🔿 No 🖲			
Saturation Present? Yes No •	Depth (inches):	rdrology Present? Yes 🔾 No 🖲			
Describe Recorded Data (stream gauge, monito	pring well, aerial photos, previous inspections), if av	vailable:			
Remarks:					
No evidence of hydrology was observed at this	location.				

VEGETATION - Use scientific names of plants

Sampling Poin	: W-3-17 USP
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		Dominant		
	Absolute	Species?	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover	opecies:	Status	Number of Dominant Species
1	0			That are OBL, FACW, or FAC: 1 (A)
2				Total Number of Dominant
3	0			Species Across All Strata: 2 (B)
4				
				Percent of dominant Species
5	0			That Are OBL, FACW, or FAC:
6	0			That Are ODL, FACW, OF FAC
7.				Prevalence Index worksheet:
1				
	0 =	= Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:)				OBL species 0 x 1 = 0
1	0			
				FACW species $0 \times 2 = 0$
2				FAC species55_ x 3 =165
3	0			
4				FACU species45 x 4 =180
				UPL species $0 \times 5 = 0$
5				
6	0			Column Totals: <u>100</u> (A) <u>345</u> (B)
7				Prevalence Index = B/A = 3.450
<i>I</i>				Prevalence Index = $B/A = 3.450$
Herb Stratum (Plot size: 5 ft. Radius)	0 =	= Total Cove	•	Hydrophytic Vegetation Indicators:
Herb Stratum (Flot size. 5 tt. Rudius)	-			Rapid Test for Hydrophytic Vegetation
1. Euthamia graminifolia	50	\checkmark	FAC	
••				Dominance Test is > 50%
2. Solidago canadensis	20		FACU	Prevalence Index is ≤3.0 ¹
3. Dipsacus fullonum	15		FACU	
A Diantana maian	10		FACU	Morphological Adaptations ¹ (Provide supporting
				data in Remarks or on a separate sheet)
5. Prunella vulgaris	5		FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
6	0			
7				¹ Indicators of hydric soil and wetland hydrology must
				be present, unless disturbed or problematic.
8	0			
9	0			Definitions of Vegetation Strata:
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11	0			at breast height (DBH), regardless of height.
12				
	-	- Total Cover		Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size:)	100 =	= Total Cove		greater than 3.28 ft (1m) tall
1	0			Herb - All herbaceous (non-woody) plants, regardless of
2	0			size, and woody plants less than 3.28 ft tall.
	0			
3				Woody vine - All woody vines greater than 3.28 ft in
4	0			height.
	0 =	= Total Cove		
				Hadaa ahadha
				Hydrophytic
				Vegetation Present? Yes O No O
				riesent:
Remarks: (Include photo numbers here or on a separate she	ot)			
Kemarks. (Include photo numbers here of on a separate she				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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Depth			ale depui				ue e	absence of indicators.)		
(inches)			Matrix				Loc ²	Texture Remarks		
0-12	10YR	4/4	100			Type		Silt Loam	Kemarks	
0.12		+/+	100							
		-								
		-								
			-							
			-		-					
		-								
Type: C=Cor	ncentration. D	=Depletio	n. RM=Red	uced Matrix, CS=Covere	ed or Coate	ed Sand Gra	ains ² Loca	ation: PL=Pore Lining. M=Ma	atrix	
Hydric Soil	Indicators:							Indiantary for Durble	matic Hydric Soils : ³	
Histosol (Polyvalue Belov	N Surface	(S8) (I RR R				
_	ipedon (A2)			MLRA 149B)			1		LRR K, L, MLRA 149B)	
Black His				Thin Dark Surfa	ace (S9) (I	LRR R, MLR	A 149B)	Coast Prairie Redox	x (A16) (LRR K, L, R)	
_	. ,			Loamy Mucky M				5 cm Mucky Peat o	r Peat (S3) (LRR K, L, R)	
	n Sulfide (A4)			Loamy Gleyed				Dark Surface (S7)	(LRR K, L, M)	
_	Layers (A5)			Depleted Matrix		,		Polyvalue Below Su	urface (S8) (LRR K, L)	
	Below Dark S		11)	Redox Dark Su				Thin Dark Surface	(S9) (LRR K, L)	
Thick Da	rk Surface (A1	2)						Iron-Manganese M	asses (F12) (LRR K, L, R)	
Sandy Mu	uck Mineral (S	1)		Depleted Dark		/)		Piedmont Floodplai	n Soils (F19) (MLRA 149B)	
Sandy Gl	eyed Matrix (S	54)		Redox Depress	ions (F8)) (MLRA 144A, 145, 149B)	
Sandy Re	edox (S5)							Red Parent Materia		
Stripped	Matrix (S6)							Very Shallow Dark		
Dark Sur	face (S7) (LRF	R R, MLRA	149B)							
								Other (Explain in R	enalks)	
"Indicators o	of hydrophytic	vegetatio	n and wetla	nd hydrology must be p	present, un	less disturb	ed or proble	ematic.		
Restrictive L	ayer (if obse	erved):								
Туре:										
Depth (inc	ches):							Hydric Soil Present?	Yes 🔿 No 🖲	
Remarks:										
Rock refusal	at 12 inches	5.								

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: I-80 Reconstruction		City/County: Monroe	Sampl	ing Date: 21-Sep-17
Applicant/Owner: Pennsylvania Depa	rtment of Transportation	State: PA Sam	pling Point:	W-3-18
Investigator(s): N.Jones, B.Thompso	n	Section, Township, Range	: S T Stroud	R
Landform (hillslope, terrace, etc.):	Toeslope	Local relief (concave, conve	x, none): concave	Slope:/ 0.0 °
Subregion (LRR or MLRA): LRR R			Long.: -75.243516	Datum: NAD 83
Soil Map Unit Name: ReB; Rexford			WI classification: N/A	
		· · · · · · · · · · · · · · · · · · ·		
Are climatic/hydrologic conditions or			no, explain in Remarks.)	7 Yes 🖲 No 🔾
Are Vegetation, Soil	, or Hydrology 📃 significa	ntly disturbed? Are "Nori	mal Circumstances" present	_? Yes \odot No \bigcirc
Are Vegetation 🗌 , Soil 🗌	, or Hydrology 🗌 naturally	problematic? (If neede	ed, explain any answers in R	emarks.)
Summary of Findings - At	tach site man showing	sampling point locati	ions transacts imm	ortant features etc
Hydrophytic Vegetation Present?	Yes No			
Hydric Soil Present?	Yes Vo No	Is the Sampled Are within a Wetland?	^a Yes $ullet$ No $igcap$	
Wetland Hydrology Present?	Yes 🔍 No 🔾	within a wettanti:		
Hydrology				
Hydrology Wetland Hydrology Indicators:			Secondary Indicators (min	imum of two required)
	ne required; check all that apply))	Secondary Indicators (min	
Wetland Hydrology Indicators:	ne required; check all that apply)		-	5)
Wetland Hydrology Indicators: Primary Indicators (minimum of or		nts (B14)	Surface Soil Cracks (Bé	5) ncave Surface (B8)
Wetland Hydrology Indicators: Primary Indicators (minimum of or Surface Water (A1)	True Aquatic Pla Hydrogen Sulfide	nts (B14)	Surface Soil Cracks (Bé	5) ncave Surface (B8) D)
Wetland Hydrology Indicators: Primary Indicators (minimum of or ✓ Surface Water (A1) ✓ High Water Table (A2)	True Aquatic Pla Hydrogen Sulfide	nts (B14) e Odor (C1) pheres along Living Roots (C3)	Surface Soil Cracks (Bd Sparsely Vegetated Co Drainage Patterns (B10	5) ncave Surface (B8) D)
Wetland Hydrology Indicators: Primary Indicators (minimum of or Surface Water (A1) High Water Table (A2) Saturation (A3)	True Aquatic Pla Hydrogen Sulfide Oxidized Rhizosp Presence of Red	nts (B14) e Odor (C1) pheres along Living Roots (C3)	Surface Soil Cracks (Bd Sparsely Vegetated Co Drainage Patterns (B10 Moss Trim Lines (B16)	5) ncave Surface (B8) D)
Wetland Hydrology Indicators: Primary Indicators (minimum of or Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	True Aquatic Pla Hydrogen Sulfide Oxidized Rhizosp Presence of Red	nts (B14) e Odor (C1) pheres along Living Roots (C3) uced Iron (C4) uction in Tilled Soils (C6)	Surface Soil Cracks (Be Sparsely Vegetated Co Drainage Patterns (B10 Moss Trim Lines (B16) Dry Season Water Tab	5) Incave Surface (B8) D) le (C2)
Wetland Hydrology Indicators: Primary Indicators (minimum of or ✓ Surface Water (A1) ✓ High Water Table (A2) ✓ Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	True Aquatic Pla Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Red	nts (B14) e Odor (C1) pheres along Living Roots (C3) uced Iron (C4) uction in Tilled Soils (C6) ce (C7)	Surface Soil Cracks (Bd Sparsely Vegetated Co Drainage Patterns (B10 Moss Trim Lines (B16) Dry Season Water Tab Crayfish Burrows (C8)	5) ncave Surface (B8) D) le (C2) erial Imagery (C9)
Wetland Hydrology Indicators: Primary Indicators (minimum of or ✓ Surface Water (A1) ✓ High Water Table (A2) ✓ Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift deposits (B3)	True Aquatic Pla Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Red Thin Muck Surfac	nts (B14) e Odor (C1) pheres along Living Roots (C3) uced Iron (C4) uction in Tilled Soils (C6) ce (C7)	 Surface Soil Cracks (Bd Sparsely Vegetated Co Drainage Patterns (B10 Moss Trim Lines (B16) Dry Season Water Tab Crayfish Burrows (C8) Saturation Visible on A 	5) ncave Surface (B8) D) le (C2) erial Imagery (C9) ants (D1)
Wetland Hydrology Indicators: Primary Indicators (minimum of or ✓ Surface Water (A1) ✓ High Water Table (A2) ✓ Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imager	 True Aquatic Pla Hydrogen Sulfide Oxidized Rhizosp Presence of Reduination Recent Iron Reduination Thin Muck Surfact Other (Explain in 	nts (B14) e Odor (C1) pheres along Living Roots (C3) uced Iron (C4) uction in Tilled Soils (C6) ce (C7)	 Surface Soil Cracks (Bd Sparsely Vegetated Co Drainage Patterns (B10 Moss Trim Lines (B16) Dry Season Water Tab Crayfish Burrows (C8) Saturation Visible on A Stunted or Stressed Plate 	5) ncave Surface (B8) D) le (C2) erial Imagery (C9) ants (D1)
Wetland Hydrology Indicators: Primary Indicators (minimum of or ✓ Surface Water (A1) ✓ High Water Table (A2) ✓ Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imager ✓ Water-Stained Leaves (B9)	 True Aquatic Pla Hydrogen Sulfide Oxidized Rhizosp Presence of Reduination Recent Iron Reduination Thin Muck Surfact Other (Explain in 	nts (B14) e Odor (C1) pheres along Living Roots (C3) uced Iron (C4) uction in Tilled Soils (C6) ce (C7)	 Surface Soil Cracks (86) Sparsely Vegetated Co Drainage Patterns (B10) Moss Trim Lines (B16) Dry Season Water Tab Crayfish Burrows (C8) Saturation Visible on A Stunted or Stressed Pla Geomorphic Position (1) Shallow Aquitard (D3) Microtopographic Relie 	5) incave Surface (B8) D) le (C2) erial Imagery (C9) ants (D1) D2)
Wetland Hydrology Indicators: Primary Indicators (minimum of or ✓ Surface Water (A1) ✓ High Water Table (A2) ✓ Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imager	 True Aquatic Pla Hydrogen Sulfide Oxidized Rhizosp Presence of Reduination Recent Iron Reduination Thin Muck Surfact Other (Explain in 	nts (B14) e Odor (C1) pheres along Living Roots (C3) uced Iron (C4) uction in Tilled Soils (C6) ce (C7)	 Surface Soil Cracks (86) Sparsely Vegetated Co Drainage Patterns (B10) Moss Trim Lines (B16) Dry Season Water Tab Crayfish Burrows (C8) Saturation Visible on A Stunted or Stressed Pla Geomorphic Position (1) Shallow Aquitard (D3) 	5) incave Surface (B8) D) le (C2) erial Imagery (C9) ants (D1) D2)
Wetland Hydrology Indicators: Primary Indicators (minimum of or ✓ Surface Water (A1) ✓ High Water Table (A2) ✓ Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imager ✓ Water-Stained Leaves (B9) ✓ Aquatic Fauna (B13)	True Aquatic Pla Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Red Thin Muck Surfae Other (Explain in y (B7)	nts (B14) e Odor (C1) pheres along Living Roots (C3) uced Iron (C4) uction in Tilled Soils (C6) ce (C7) n Remarks)	 Surface Soil Cracks (86) Sparsely Vegetated Co Drainage Patterns (B10) Moss Trim Lines (B16) Dry Season Water Tab Crayfish Burrows (C8) Saturation Visible on A Stunted or Stressed Pla Geomorphic Position (1) Shallow Aquitard (D3) Microtopographic Relie 	5) ncave Surface (B8) D) le (C2) erial Imagery (C9) ants (D1) D2)
Wetland Hydrology Indicators: Primary Indicators (minimum of or ✓ Surface Water (A1) ✓ High Water Table (A2) ✓ Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imager ✓ Water-Stained Leaves (B9) ✓ Aquatic Fauna (B13) Field Observations: Surface Water Present?	 True Aquatic Pla Hydrogen Sulfide Oxidized Rhizosp Presence of Redi Recent Iron Red Thin Muck Surfac Other (Explain in 	nts (B14) e Odor (C1) pheres along Living Roots (C3) uced Iron (C4) uction in Tilled Soils (C6) ce (C7) n Remarks)	 Surface Soil Cracks (86) Sparsely Vegetated Co Drainage Patterns (B10) Moss Trim Lines (B16) Dry Season Water Tab Crayfish Burrows (C8) Saturation Visible on A Stunted or Stressed Pla Geomorphic Position (1) Shallow Aquitard (D3) Microtopographic Relie 	5) ncave Surface (B8) D) le (C2) erial Imagery (C9) ants (D1) D2)
Wetland Hydrology Indicators: Primary Indicators (minimum of or ✓ Surface Water (A1) ✓ High Water Table (A2) ✓ Saturation (A3) ✓ Water Marks (B1) Sediment Deposits (B2) Drift deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imager ✓ Water-Stained Leaves (B9) ✓ Aquatic Fauna (B13)	 True Aquatic Pla Hydrogen Sulfide Oxidized Rhizosp Presence of Redi Recent Iron Red Thin Muck Surfac Other (Explain in 	nts (B14) e Odor (C1) wheres along Living Roots (C3) uced Iron (C4) uction in Tilled Soils (C6) ce (C7) n Remarks) :3 :0	Surface Soil Cracks (Bd Sparsely Vegetated Co Drainage Patterns (B10) Moss Trim Lines (B16) Dry Season Water Tab Crayfish Burrows (C8) ✓ Saturation Visible on A Stunted or Stressed Pla Geomorphic Position (I Shallow Aquitard (D3) Microtopographic Relied ✓ FAC-neutral Test (D5)	5) ncave Surface (B8) D) le (C2) erial Imagery (C9) ants (D1) D2)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

The primary source of hydrology is persistent groundwater seeps.

VEGETATION (Five/Four Strata)- Use scientific names of plants.

		Dominant		Sampling Point: <u>W-3-18</u>
	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover	Cover	Status	Number of Dominant Species
1	0	0.0%		That are OBL, FACW, or FAC:4(A)
2	0	0.0%		
3	0	0.0%		Total Number of Dominant Species Across All Strata: 4 (B)
4	-	0.0%		
5		0.0%		Percent of dominant Species
6.		0.0%		That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
7.		0.0%		Prevalence Index worksheet:
8.		0.0%		Total % Cover of: Multiply by:
		= Total Cover		OBL speci es 25 x 1 = 25
Sapling-Sapling/Shrub Stratum (Plot size:)				FACW species 45 x 2 = 90
1	-	0.0%		• • • • • • • • • • • • • • • • • • • •
2	0	0.0%		FAC species $20 \times 3 = 60$
3	0	0.0%		FACU species $0 \times 4 = 0$
4	0	0.0%		UPL species x 5 =
5	0	0.0%	-	Column Totals: (A) (B)
6.		0.0%		Prevalence Index = B/A = 1.944
7		0.0%		
8		0.0%		Hydrophytic Vegetation Indicators:
9		0.0%		Rapid Test for Hydrophytic Vegetation
10		0.0%		✓ Dominance Test is > 50%
		= Total Cover		✓ Prevalence Index is \leq 3.0 ¹
_Shrub Stratum (Plot size:)				Morphological Adaptations ¹ (Provide supporting
1. Cornus amomum	10	✓ 100.0%	FACW	data in Remarks or on a separate sheet)
2	0	0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)
3	0	0.0%		¹ Indicators of hydric soil and wetland hydrology must
4	0	0.0%		be present, unless disturbed or problematic.
5	0	0.0%		Definition of Vegetation Strata:
6	0	0.0%		Four Vegetation Strata:
7	0	0.0%		Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH),
Herb Stratum (Plot size: <u>5 ft radius</u>)	10 :	= Total Cover		regardless of height.
	20	25.0%	FACW	Sapling/shrub stratum – Consists of woody plants, excluding
1. Impatiens capensis 2. Nasturtium officinale	20	25.0%	OBL	vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants,
		25.0%	FAC	regardless of size, and all other plants less than 3.28 ft tall.
3. <u>Solanum dulcamara</u>	10	12.5%	FACW	Woody vines – Consists of all woody vines greater than 3.28 ft
4. Lythrum salicaria		6.3%	OBL	in height.
5. <u>Acorus calamus</u>				
6. <u>Scirpus cyperinus</u>		6.3%	FACW	Five Vegetation Strata:
7		0.0%		Tree - Woody plants, excluding woody vines, approximately 20
8		0.0%		ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
9	0	0.0%		Sapling stratum – Consists of woody plants, excluding woody
10	0	0.0%		vines, approximately 20 ft (6 m) or more in height and less
11	0	0.0%		than 3 in. (7.6 cm) DBH.
12	0	0.0%		Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
	80 :	= Total Cover		Herb stratum – Consists of all herbaceous (non-woody) plants,
1	0	0.0%		including herbaceous vines, regardless of size, and woody
2	0	0.0%		species, except woody vines, less than approximately 3 ft (1 m) in height.
3.	0	0.0%		Woody vines – Consists of all woody vines, regardless of
4		0.0%		height.
		0.0%		
5	0	0.0%		Hydrophytic Vogetation
6		= Total Cover		Vegetation Present? Yes • No ·
Remarks: (Include photo numbers here or on a separate shee	t.)			

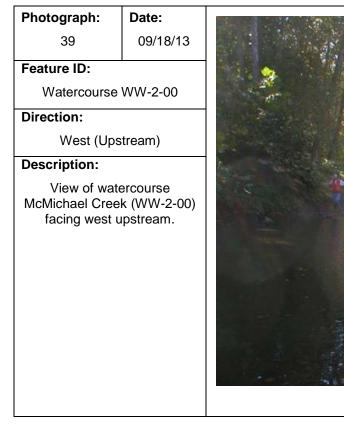
Depth		Matrix			Re	dox Featu							
(inches)	Color	(moist)		Color	(moist)	%	Tvpe ¹	Loc ²	Texture Remarks				
0-10	10YR	2/1	100	-					Loam				
10-21	10YR	4/2	90	7.5YR	5/6	10	С	M	Silty Clay Loam				
ydric Soil I	Indicators:	D=Depletic	on. RM=Red				ed Sand Gra	iins ² Loca	tion: PL=Pore Lining. M=Matrix Indicators for Problematic Hydric Soils ³ :				
Black Hist	pedon (A2) ic (A3) Sulfide (A4)		Poly	Dark Surf	w Surface (ace (S9) (N Matrix (F2)	ILRA 147, 1		 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) 				
 Stratified Layers (A5) 2 cm Muck (A10) (LRR N) Depleted Below Dark Surface (A11) Thick Dark Surface (A12)) (LRR N) Image: Redox Dark Surface (F6) Dark Surface (A11) Image: Depleted Dark Surface (F7) Ince (A12) Image: Redox Depressions (F8)						Very Shallow Dark Surface (TF12)				
Depleted		•	,	Red	ox Depress	sions (F8))						
Depleted	k Surface (A ick Mineral (.12)	·	Iron	•	sions (F8) se Masses (Ν,	Uther (Explain in Remarks)				
Depleted Thick Darl Sandy Mu MLRA 147	k Surface (A ick Mineral (.12) S1) (LRR I	·	Iron MLR	-Manganes A 136)	. ,	F12) (LRR						
Depleted Thick Darl Sandy Mu MLRA 147	k Surface (A ick Mineral (7, 148) eyed Matrix	.12) S1) (LRR I	·	Iron MLR	-Manganes A 136) pric Surface	se Masses (F12) (LRR RA 136, 12	2)	³ Indicators of hydrophytic vegetation and				
Depleted Thick Dari Sandy Mu MLRA 147 Sandy Gle Sandy Re	k Surface (A ick Mineral (7, 148) eyed Matrix	.12) S1) (LRR I	·	Iron MLR Uml	-Manganes A 136) pric Surface	se Masses (e (F13) (ML	F12) (LRR RA 136, 12 (F19) (MLI	2) RA 148)					

Remarks:

The majority of the wetland soil was too saturated to obtain good redoxomorphic features. Due to the conditions present the investigators applied best professional judgement in evaluating soil conditions.

Appendix B Resource Photographs







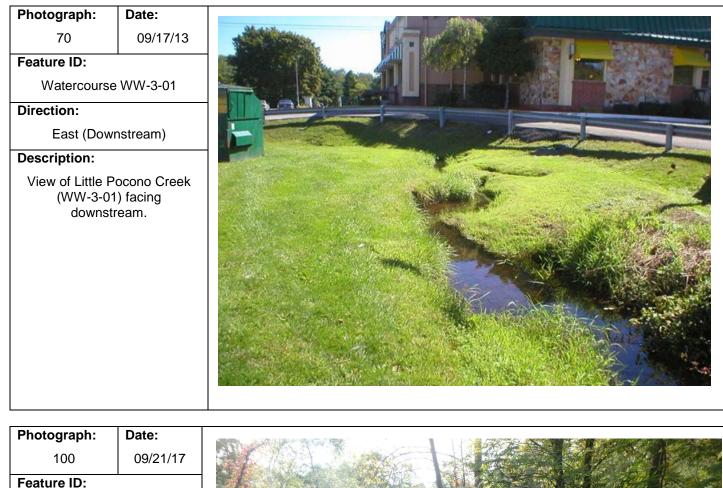
Photograph:	Date:	
66	09/18/13	and the second
Feature ID:		
Watercourse	WW-3-00	
Direction:		
N/A		
Description:		
View of waterco Creek (WW-3-00 upstrea) facing west	



Water Resources Delineation Report Expanded Study Area Addendum

I-80 Section 17M Reconstruction Project





WW-3-13

Direction:

West (Upstream)

Description:

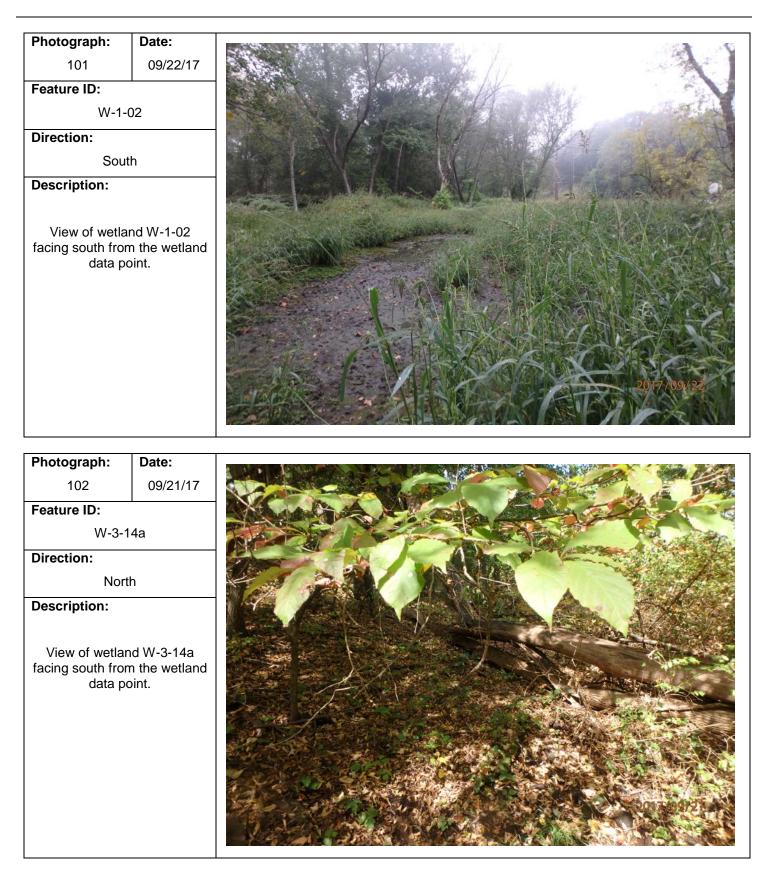
View of UNT to Pocono Creek (WW-3-13) facing downstream.



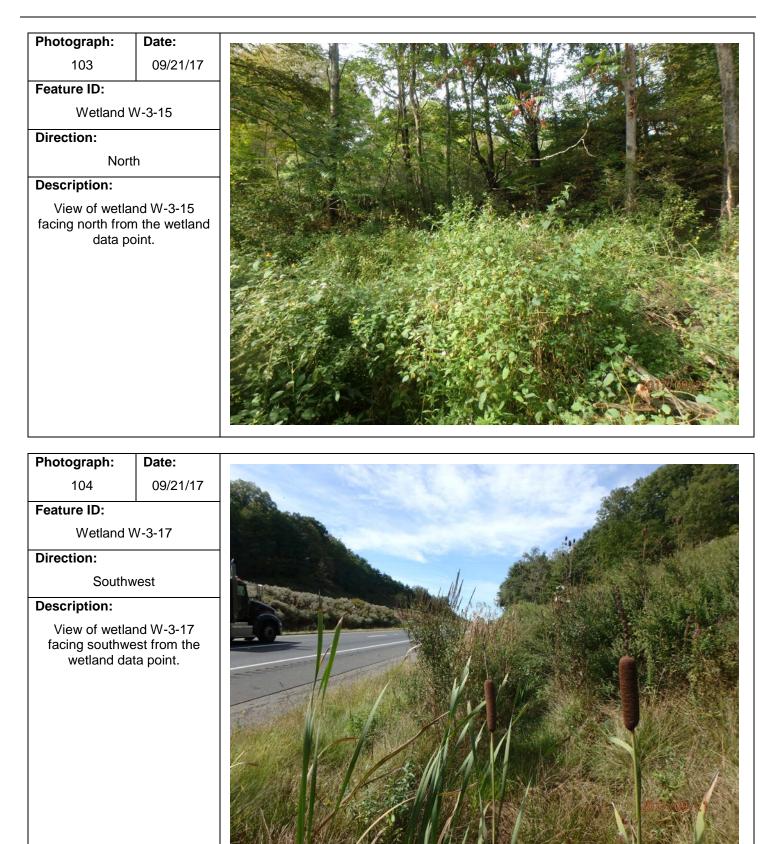
Water Resources Delineation Report Expanded Study Area Addendum

I-80 Section 17M Reconstruction Project











Photograph:	Date:
105	09/21/17
Feature ID:	
Wetland V	V-3-18
Direction:	
Northw	est
Description:	
View of wetlar facing northwe wetland I	st from the
This wetland	is PBTH.

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Appendix C Function Value Evaluation Forms

Total a	rea of wetland <u>0.17</u> Human made? <u>No</u>	Is wetland part of a wildlife corridor? Yes or a "habitat island"? No					Wetland I.D	0. <u>W-1-02</u> 75° 11' 02.05	50"
Adjace	nt land use Waste Disposal,	Distance to nearest roadway or other development				120 feet		Longitude 40° 59' 10.880"	
Domin PEM	ant wetland systems present	Contiguous	s undevelop	bed buffer zone present		Prepared by Date	: BJT 9-Jan-2018		
	vetland a separate hydraulic system? <u>No</u>	If not, does the wetland lie in the drainage basin? <u>Floodplain</u> Wildlife & vegetation diversity/abundance (see attached list)						pact: be <u>Unknown</u> based on: be X	Area N/A
HOW II			bility	Rationale	Principal			al wetland deline	
	Function/Value	Y	N	(Reference #)*	-	(s)/Value(s)		Comments	
T	Groundwater Recharge/Discharge		Х						
~	Floodflow Alteration		Х						
	Fish and Shellfish Habitat		Х						
X	Sediment/Toxicant Retention	Х			2 Y	Wetland is within a r	efuse dispos	al site.	
	Nutrient Removal		Х						
	Production Export		Х						
m	Sediment/Shoreline Stabilization		Х						
2	Wildlife Habitat		Х						
Æ	Recreation		Х						
	Educational/Scientific Value		Х						
\star	Uniqueness/Heritage		Х						
$\langle \rangle$	Visual Quality/Aesthetics		Х						
ES	ES Endangered Species Habitat		Х						
	Other								

Notes:

Total a	rea of wetland 0.078 Human made? No	Is wetland	part of a w	ildlife corridor? Yes	or a "hab	or a "habitat island"? <u>No</u> Wetland I.D. <u>W-3-14a</u> Latitude <u>75° 14' 42.210"</u>			
Adjace	ent land use residential, highway	Distance to	nearest roa	adway or other development	100 feet		Longitude 40° 59' 27.050		50
Domin PFO	ant wetland systems present	Contiguous	s undevelop	loped buffer zone present <u>No</u> Prepared by: <u>BJ</u> Date <u>9-J</u>			: BJT 9-Jan-2018		
	vetland a separate hydraulic system? <u>No</u>	If not, does the wetland lie in the drainage basin? Floodplain						pact: be <u>Unknown</u> based on:	
How n	nany tributaries contribute to the wetland? <u>None</u>	Wildlife & Suita	-	diversity/abundance (see attac Rationale	hed list) Principal			e X al wetland delin Yes	
	Function/Value	Y	N	(Reference #)*	-	s)/Value(s)		Comments	
	Groundwater Recharge/Discharge	х				, , ,			
	Floodflow Alteration		Х						
	Fish and Shellfish Habitat		Х						
X	Sediment/Toxicant Retention	Х		10, 14	Y				
	Nutrient Removal	Х		14					
	Production Export		Х						
m	Sediment/Shoreline Stabilization		Х						
2	Wildlife Habitat		Х						
Æ	Recreation		Х						
_	Educational/Scientific Value		Х						
\star	Uniqueness/Heritage		Х						
$\langle \rangle$	Visual Quality/Aesthetics		Х						
ES	ES Endangered Species Habitat		Х						
	Other								

Notes:

Total a	rea of wetland 0.279 Human made? No	Is wetland	part of a w	ildlife corridor? Yes	or a "hal	or a "habitat island"? <u>No</u> Wetland I.D. <u>W-3-15</u> Latitude 75° 14' 34.500			
Adjace	ent land use residential	Distance to	nearest roa	adway or other development	20 feet		Longitude $40^{\circ} 59' 14.810$		
		a .					Prepared by: BJT		
Domin PFO	ant wetland systems present	Contiguous	sundevelop	bed buffer zone present	No		- Date	9-Jan-2018	
Is the v	wetland a separate hydraulic system? <u>No</u>			d lie in the drainage basin? diversity/abundance (see attac	Floodplain		Evaluation	e Unknown	
		a			D· · 1		Corps manu completed?	al wetland delin Yes	neation
	Function/Value	Suita Y	bility N	Rationale (Reference #)*	Principal Eurotion(s)/Value(s)		Comments	
	Groundwater Recharge/Discharge	X	1	13	Y	s)/ v alue(s)		Comments	
	Floodflow Alteration	Λ	Х	15	1				
	Fish and Shellfish Habitat		X						
X	Sediment/Toxicant Retention	X	Λ	10, 14	Y				
	Nutrient Removal	X		13, 14	Y				
	Production Export		Х	15, 14	1				
m	Sediment/Shoreline Stabilization		X						
2	Wildlife Habitat		X						
Æ	Recreation		Х						
	Educational/Scientific Value		Х						
*	Uniqueness/Heritage		Х						
	Visual Quality/Aesthetics		Х						
ES	ES Endangered Species Habitat		Х						
	Other								

Notes:

Total a	rea of wetland 0.018 Human made? No	Is wetland part of a wildlife corridor? <u>No</u>				bitat island"? <u>No</u>	Wetland I.D	0. <u>W-3-17</u> 75° 14' 49.7	30"
Adjace	nt land use Highway	Distance to	nearest ro	adway or other development	10 feet		Longitude 40° 59' 26.920"		
Domin PFO	ant wetland systems present	Contiguous	s undevelop	bed buffer zone present	No		Prepared by Date	: BJT 9-Jan-2018	
	vetland a separate hydraulic system? Yes			d lie in the drainage basin?		Evaluation b	be Unknown based on:		
How m	nany tributaries contribute to the wetland? <u>None</u>	Suita	-	diversity/abundance (see attac Rationale	Principal			ce X al wetland delin Yes	
	Function/Value	Y	N	(Reference #)*	-	s)/Value(s)		Comments	
Ţ	Groundwater Recharge/Discharge	Х		13	Y				
-	Floodflow Alteration		Х						
	Fish and Shellfish Habitat		Х						
X	Sediment/Toxicant Retention	Х		10, 14	Y				
	Nutrient Removal	Х		13, 14	Y				
	Production Export		Х						
my	Sediment/Shoreline Stabilization		Х						
2	Wildlife Habitat		Х						
Æ	Recreation		Х						
	Educational/Scientific Value		Х						
\star	Uniqueness/Heritage		Х						
$\langle \rangle$	Visual Quality/Aesthetics		Х						
ES	ES Endangered Species Habitat		Х						
	Other								

Notes:

Total a	rea of wetland 0.018 Human made? No	Is wetland part of a wildlife corridor? Yes or a "habitat island"? Yes					Wetland I.I	D. <u>W-3-18</u> 75° 14' 36.8	80"
Adjace	nt land use Highway	Distance to	nearest ro	adway or other development	10 feet				
Domin PFO	ant wetland systems present	Contiguous	s undevelop	bed buffer zone present	No		Prepared by Date	7: BJT 9-Jan-2018	
	vetland a separate hydraulic system? <u>No</u>			d lie in the drainage basin?		Evaluation	pe Unknown based on:		
How m	nany tributaries contribute to the wetland? <u>None</u>		-	diversity/abundance (see attac				ce X al wetland delin Yes	
	Function/Value	Suita Y	bility N	Rationale (Reference #)*	Principal Function(s)/Value(s)		Comments	
	Groundwater Recharge/Discharge	X	1	13	Y			Comments	
-	Floodflow Alteration	Λ	Х	15	1				
	Fish and Shellfish Habitat		X						
X	Sediment/Toxicant Retention	X	21	10, 14	Y				
	Nutrient Removal	X		13, 14	Y				
	Production Export		Х	10,11	-				
m	Sediment/Shoreline Stabilization		X						
ż	Wildlife Habitat	Х		16, 20					
Æ	Recreation		Х	- , -					
4	Educational/Scientific Value		Х						
*	Uniqueness/Heritage		Х						
	Visual Quality/Aesthetics		Х						
ES	ES Endangered Species Habitat		Х						
	Other								

Notes: