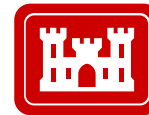




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Regulatory Program



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INTERIM APPROVED JURISDICTIONAL DETERMINATION FORM

U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in the Interim Approved Jurisdictional Determination Form User Manual.

SECTION I: BACKGROUND INFORMATION

A. COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (AJD): JUN 13 2019

B. ORM NUMBER IN APPROPRIATE FORMAT (e.g., HQ-2015-00001-SMJ): CENAP-OP-R-2008-00872

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Pennsylvania County/parish/borough: Philadelphia City: Philadelphia

Center coordinates of site (lat/long in degree decimal format): Lat. 39.870315°, Long. -75.247876°.

Map(s)/diagram(s) of review area (including map identifying single point of entry (SPOE) watershed and/or potential jurisdictional areas where applicable) is/are: attached in report/map titled .

Other sites (e.g., offsite mitigation sites, disposal sites, etc.) are associated with this action and are recorded on a different jurisdictional determination (JD) form. List JD form ID numbers (e.g., HQ-2015-00001-SMJ-1): .

D. REVIEW PERFORMED FOR SITE EVALUATION:

Office (Desk) Determination Only. Date: .

Office (Desk) and Field Determination. Office/Desk Dates: 6/4/19 Field Date(s): 6/29/18 & 10/25/18.

SECTION II: DATA SOURCES

Check all that were used to aid in the determination and attach data/maps to this AJD form and/or references/citations in the administrative record, as appropriate.

Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant. Title/Date: see attached MFR.

Data sheets prepared/submitted by or on behalf of the applicant/consultant.

Data sheets/delineation report are sufficient for purposes of AJD form. Title/Date: see attached MFR.

Data sheets/delineation report are not sufficient for purposes of AJD form. Summarize rationale and include information on revised data sheets/delineation report that this AJD form has relied upon:

Revised Title/Date: .

Data sheets prepared by the Corps. Title/Date: .

Corps navigable waters study. Title/Date: .

CorpsMap ORM map layers. Title/Date: .

USGS Hydrologic Atlas. Title/Date: .

USGS, NHD, or WBD data/maps. Title/Date: .

USGS 8, 10 and/or 12 digit HUC maps. HUC number: .

USGS maps. Scale & quad name and date: .

USDA NRCS Soil Survey. Citation: .

USFWS National Wetlands Inventory maps. Citation: .

State/Local wetland inventory maps. Citation: .

FEMA/FIRM maps. Citation: As provided by the applicant.

Photographs: Aerial. Citation: Google Earth see attached MFR . or Other. Citation: .

LiDAR data/maps. Citation: .

Previous JDs. File no. and date of JD letter: 2008-00872 (01/28/14); 2016-00173 (12/01/17).

Applicable/supporting case law: .

Applicable/supporting scientific literature: .

Other information (please specify): .

SECTION III: SUMMARY OF FINDINGS

Complete ORM "Aquatic Resource Upload Sheet" or Export and Print the Aquatic Resource Water Droplet Screen from ORM for All Waters and Features, Regardless of Jurisdictional Status – Required

A. RIVERS AND HARBORS ACT (RHA) SECTION 10 DETERMINATION OF JURISDICTION:

"navigable waters of the U.S." within RHA jurisdiction (as defined by 33 CFR part 329) in the review area.

- **Complete Table 1 - Required**

NOTE: If the navigable water is not subject to the ebb and flow of the tide or included on the District's list of Section 10 navigable waters list, DO NOT USE THIS FORM TO MAKE THE DETERMINATION. The District must continue to follow the procedure outlined in 33 CFR part 329.14 to make a Section 10 RHA navigability determination.

B. CLEAN WATER ACT (CWA) SECTION 404 DETERMINATION OF JURISDICTION: "waters of the U.S." within CWA jurisdiction (as defined by 33 CFR part 328.3) in the review area. **Check all that apply.**

(a)(1): All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide. (Traditional Navigable Waters (TNWs))

- **Complete Table 1 - Required**

This AJD includes a case-specific (a)(1) TNW (Section 404 navigable-in-fact) determination on a water that has not previously been designated as such. Documentation required for this case-specific (a)(1) TNW determination is attached.

(a)(2): All interstate waters, including interstate wetlands.

- **Complete Table 2 - Required**

(a)(3): The territorial seas.

- **Complete Table 3 - Required**

(a)(4): All impoundments of waters otherwise identified as waters of the U.S. under 33 CFR part 328.3.

- **Complete Table 4 - Required**

(a)(5): All tributaries, as defined in 33 CFR part 328.3, of waters identified in paragraphs (a)(1)-(a)(3) of 33 CFR part 328.3.

- **Complete Table 5 - Required**

(a)(6): All waters adjacent to a water identified in paragraphs (a)(1)-(a)(5) of 33 CFR part 328.3, including wetlands, ponds, lakes, oxbows, impoundments, and similar waters.

- **Complete Table 6 - Required**

Bordering/Contiguous.

Neighboring:

(c)(2)(i): All waters located within 100 feet of the ordinary high water mark (OHWM) of a water identified in paragraphs (a)(1)-(a)(5) of 33 CFR part 328.3.

(c)(2)(ii): All waters located within the 100-year floodplain of a water identified in paragraphs (a)(1)-(a)(5) of 33 CFR part 328.3 and not more than 1,500 feet of the OHWM of such water.

(c)(2)(iii): All waters located within 1,500 feet of the high tide line of a water identified in paragraphs (a)(1) or (a)(3) of 33 CFR part 328.3, and all waters within 1,500 feet of the OHWM of the Great Lakes.

(a)(7): All waters identified in 33 CFR 328.3(a)(7)(i)-(v) where they are determined, on a case-specific basis, to have a significant nexus to a water identified in paragraphs (a)(1)-(a)(3) of 33 CFR part 328.3.

- **Complete Table 7 for the significant nexus determination. Attach a map delineating the SPOE watershed boundary with (a)(7) waters identified in the similarly situated analysis. - Required**

Includes water(s) that are geographically and physically adjacent per (a)(6), but are being used for established, normal farming, silviculture, and ranching activities (33 USC Section 1344(f)(1)) and therefore are not adjacent and require a case-specific significant nexus determination.

(a)(8): All waters located within the 100-year floodplain of a water identified in paragraphs (a)(1)-(a)(3) of 33 CFR part 328.3 not covered by (c)(2)(ii) above and all waters located within 4,000 feet of the high tide line or OHWM of a water identified in paragraphs (a)(1)-(a)(5) of 33 CFR part 328.3 where they are determined on a case-specific basis to have a significant nexus to a water identified in paragraphs (a)(1)-(a)(3) of 33 CFR part 328.3.

- **Complete Table 8 for the significant nexus determination. Attach a map delineating the SPOE watershed boundary with (a)(8) waters identified in the similarly situated analysis. - Required**

Includes water(s) that are geographically and physically adjacent per (a)(6), but are being used for established, normal farming, silviculture, and ranching activities (33 USC Section 1344(f)(1)) and therefore are not adjacent and require a case-specific significant nexus determination.

C. NON-WATERS OF THE U.S. FINDINGS:

Check all that apply.

- The review area is comprised entirely of dry land.
- Potential-(a)(7) Waters: Waters that DO NOT have a significant nexus to a water identified in paragraphs (a)(1)-(a)(3) of 33 CFR part 328.3.
 - **Complete Table 9 and attach a map delineating the SPOE watershed boundary with potential (a)(7) waters identified in the similarly situated analysis. - Required**
 - Includes water(s) that are geographically and physically adjacent per (a)(6), but are being used for established, normal farming, silviculture, and ranching activities (33 USC Section 1344(f)(1)) and therefore are not adjacent and require a case-specific significant nexus determination.
- Potential-(a)(8) Waters: Waters that DO NOT have a significant nexus to a water identified in paragraphs (a)(1)-(a)(3) of 33 CFR part 328.3.
 - **Complete Table 9 and attach a map delineating the SPOE watershed boundary with potential (a)(8) waters identified in the similarly situated analysis. - Required**
 - Includes water(s) that are geographically and physically adjacent per (a)(6), but are being used for established, normal farming, silviculture, and ranching activities (33 USC Section 1344(f)(1)) and therefore are not adjacent and require a case-specific significant nexus determination.
- Excluded Waters (Non-Waters of U.S.), even where they otherwise meet the terms of paragraphs (a)(4)-(a)(8):
 - **Complete Table 10 - Required**
 - (b)(1): Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the CWA.
 - (b)(2): Prior converted cropland.
 - (b)(3)(i): Ditches with ephemeral flow that are not a relocated tributary or excavated in a tributary.
 - (b)(3)(ii): Ditches with intermittent flow that are not a relocated tributary, excavated in a tributary, or drain wetlands.
 - (b)(3)(iii): Ditches that do not flow, either directly or through another water, into a water identified in paragraphs (a)(1)-(a)(3).
 - (b)(4)(i): Artificially irrigated areas that would revert to dry land should application of water to that area cease.
 - (b)(4)(ii): Artificial, constructed lakes and ponds created in dry land such as farm and stock watering ponds, irrigation ponds, settling basins, fields flooded for rice growing, log cleaning ponds, or cooling ponds.
 - (b)(4)(iii): Artificial reflecting pools or swimming pools created in dry land.¹
 - (b)(4)(iv): Small ornamental waters created in dry land.¹
 - (b)(4)(v): Water-filled depressions created in dry land incidental to mining or construction activity, including pits excavated for obtaining fill, sand, or gravel that fill with water.
 - (b)(4)(vi): Erosional features, including gullies, rills, and other ephemeral features that do not meet the definition of tributary, non-wetland swales, and lawfully constructed grassed waterways.¹
 - (b)(4)(vii): Puddles.¹
 - (b)(5): Groundwater, including groundwater drained through subsurface drainage systems.¹
 - (b)(6): Stormwater control features constructed to convey, treat, or store stormwater that are created in dry land.¹
 - (b)(7): Wastewater recycling structures created in dry land; detention and retention basins built for wastewater recycling; groundwater recharge basins; percolation ponds built for wastewater recycling; and water distributary structures built for wastewater recycling.
- Other non-jurisdictional waters/features within review area that do not meet the definitions in 33 CFR 328.3 of (a)(1)-(a)(8) waters and are not excluded waters identified in (b)(1)-(b)(7).
 - **Complete Table 11 - Required.**

D. ADDITIONAL COMMENTS TO SUPPORT AJD: see attached MFR.

¹ In many cases these excluded features will not be specifically identified on the AJD form, unless specifically requested. Corps Districts may, in case-by-case instances, choose to identify some or all of these features within the review area.

Jurisdictional Waters of the U.S.

Table 1. (a)(1) Traditional Navigable Waters

(a)(1) Waters Name	(a)(1) Criteria	Rationale to Support (a)(1) Designation Include High Tide Line or Ordinary High Water Mark indicators, when applicable.
2008_00872_DR-6	The waterbody is subject to Section 9 or 10 of the Rivers and Harbors Act	Resource includes Sec. 10 waters to mean high tide and Sec. 404 waters to the high tide line (scum line).
2008_00872_LH-G	The waterbody is subject to Section 9 or 10 of the Rivers and Harbors Act	Resource includes Sec. 10 waters to mean high tide and Sec. 404 waters to the high tide line (scum line).
2008_00872_LH-J	The waterbody is subject to Section 9 or 10 of the Rivers and Harbors Act	Resource includes Sec. 10 waters to mean high tide and Sec. 404 waters to the high tide line (scum line).
2008_00872_LH-4	The waterbody is subject to Section 9 or 10 of the Rivers and Harbors Act	Resource includes Sec. 10 waters to mean high tide and Sec. 404 waters to the high tide line (scum line).
2008_00872_DR-10	The waterbody is subject to Section 9 or 10 of the Rivers and Harbors Act	Resource includes Sec. 10 waters to mean high tide and Sec. 404 waters to the high tide line (scum line).
2008_00872_DR-11	The waterbody is subject to Section 9 or 10 of the Rivers and Harbors Act	Resource includes Sec. 10 waters to mean high tide and Sec. 404 waters to the high tide line (scum line).
2008_00872_DR-12	The waterbody is subject to Section 9 or 10 of the Rivers and Harbors Act	Resource includes Sec. 10 waters to mean high tide and Sec. 404 waters to the high tide line (scum line).
2008_00872_DR-2	The waterbody is subject to Section 9 or 10 of the Rivers and Harbors Act	Resource includes Sec. 10 waters to mean high tide and Sec. 404 waters to the high tide line (scum line).
2008_00872_DR-3	The waterbody is subject to Section 9 or 10 of the Rivers and Harbors Act	Resource includes Sec. 10 waters to mean high tide and Sec. 404 waters to the high tide line (scum line).
2008_00872_DR-3A	The waterbody is subject to Section 9 or 10 of the Rivers and Harbors Act	Resource includes Sec. 10 waters to mean high tide and Sec. 404 waters to the high tide line (scum line).
2008_00872_LH-1	The waterbody is subject to Section 9 or 10 of the Rivers and Harbors Act	Resource includes Sec. 10 waters to mean high tide and Sec. 404 waters to the high tide line (scum line).
2008_00872_LH-2H	The waterbody is subject to Section 9 or 10 of the Rivers and Harbors Act	Resource includes Sec. 10 waters to mean high tide and Sec. 404 waters to the high tide line (scum line).
2008_00872_LH-3	The waterbody is subject to Section 9 or 10 of the Rivers and Harbors Act	Resource includes Sec. 10 waters to mean high tide and Sec. 404 waters to the high tide line (scum line).

Table 2. (a)(2) Interstate Waters

(a)(2) Waters Name	Rationale to Support (a)(2) Designation
N/A	N/A

Table 3. (a)(3) Territorial Seas

(a)(3) Waters Name	Rationale to Support (a)(3) Designation
N/A	N/A

Table 4. (a)(4) Impoundments

(a)(4) Waters Name	Rationale to Support (a)(4) Designation
N/A	N/A
N/A	N/A

Table 5. (a)(5)Tributaries

(a)(5) Waters Name	Flow Regime	(a)(1)-(a)(3) Water Name to which this (a)(5) Tributary Flows	Tributary Breaks	Rationale for (a)(5) Designation and Additional Discussion. Identify flowpath to (a)(1)-(a)(3) water or attach map identifying the flowpath; explain any breaks or flow through excluded/non-jurisdictional features, etc.
2008_00872_NSPD-1 2008_00872_Q	Perennial	2008_00872_LH-J	Yes	Bed and banks with OHWM; both flow into LH-J via separate culverts
2008_00872_SCPD-4 2008_00872_SCPD-3 2008_00872_SCPD-2 2008_00872_SCPD-1 2008_00872_NSPD-11 2008_00872_NSPD-12	Perennial	Delaware River	Yes	Bed and banks with OHWM; For identification purposes each segment of this tributary was uniquely labeled, but are one tributary system connected by culverts. Flow path is from SCPD-4 downstream to NSPD-12 and into the Delaware River.
2008_00872_NSPD-10	Perennial	Delaware River	Yes	Bed and banks with OHWM; Flows into NSPD-12 through culvert
2008_00872_SEPD-1 2008_00872_SEPD-6 2008_00872_SEPD-2 2008_00872_SEPD-7 2008_00872_DR-6	Perennial	Delaware River	Yes	Bed and banks with OHWM; For identification purposes each segment of this tributary was uniquely labeled, but are one tributary system connected by culverts. Flow path is from SCPD-1 downstream to DR-6 and into the Delaware River.
2008_00872_SEPD-2A	Perennial	Delaware River	Yes	Bed and banks with OHWM; Flows into SEPD-2 through culvert.
2008_00872_SEPD-8 2008_00872_SEPD-3 2008_00872_SEPD-4 2008_00872_SEPD-5	Perennial	Delaware River	Yes	Bed and banks with OHWM; For identification purposes each segment of this tributary was uniquely labeled, but are one tributary system connected by culverts. Flow path is from SEPD-8 downstream to SEPD-5 and into SEPD-2.
2008_00872 EMC-19 2008_00872 EMC-20 2008_00872 EMC-4A	Perennial	Mingo Creek	Yes	Bed and banks with OHWM; For identification purposes each segment of this tributary was uniquely labeled, but are one tributary system connected by culverts. Flow path is from EMC-19 downstream to EMC-4A and into offsite Mingo Creek, an (a)(1) water.
2008_00872 EMC-21	Perennial	Delaware River	Yes	Bed and banks with OHWM; Flows into EMC-4A through culvert.
2008_00872_CMC-1 2008_00872_CMC-2	Perennial	Delaware River	Yes	Bed and banks with OHWM; For identification purposes each segment of this tributary was uniquely labeled, but are one tributary system connected by culverts. Flow path is from CMC-1 to CMC-2 to offsite Mingo Creek, an (a)(1) water.

2008_00872_DR-7 2008_00872_DR-8	Perennial	Delaware River	Yes	Bed and banks with OHWM; For identification purposes each segment of this tributary was uniquely labeled, but are one tributary system connected by culverts. Flow path is from DR-7 to DR-8 to Delaware River.
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Table 6. (a)(6) Adjacent Waters

(a)(6) Waters Name	(a)(1)-(a)(5) Water Name to which this Water is Adjacent	Rationale for (a)(6) Designation and Additional Discussion. Identify the type of water and how the limits of jurisdiction were established (e.g., wetland, 87 Manual/Regional Supplement); explain how the 100-year floodplain and/or the distance threshold was determined; whether this water extends beyond a threshold; explain if the water is part of a mosaic, etc.
2008_00872_DC-11	Unnamed tidal wetland	wetland, 87 Manual/Regional Supplement; bordering
2008_00872_DR-A	Delaware River	wetland, 87 Manual/Regional Supplement; w/i 1500' of HTL
2008_00872_DR-B	Delaware River	wetland, 87 Manual/Regional Supplement; w/i 1500' of HTL
2008_00872_NSPD-13	Delaware River	wetland, 87 Manual/Regional Supplement; w/i 1500' of HTL
2008_00872_NSPD-13A	Delaware River	wetland, 87 Manual/Regional Supplement; w/i 1500' of HTL
2008_00872_NSPD-17	Delaware River	wetland, 87 Manual/Regional Supplement; w/i 1500' of HTL
2008_00872_NSPD-18	Delaware River	wetland, 87 Manual/Regional Supplement; w/i 1500' of HTL
2008_00872_EMC-12 2008_00872_EMC-13 2008_00872_EMC-14 2008_00872_EMC-15/23 2008_00872_EMC-16 2008_00872_EMC-17	Delaware River	wetland, 87 Manual/Regional Supplement; these six wetlands are separated only by roads, so they were treated as one entire wetland. Part of the wetland is within 500' of HTL.
2008_00872_EMC-18	2008_00872-EMC-10	wetland, 87 Manual/Regional Supplement; bordering
2008_00872_EMC-25	Delaware River	wetland, 87 Manual/Regional Supplement; w/i 1500' of HTL
2008_00872_SCPD-5	Delaware River	wetland, 87 Manual/Regional Supplement; w/i 1500' of HTL
2008_00872_EMC-10 2008_00872_EMC-10A	Delaware River	OHWM; these two open waters are separated only by a road, so they were treated as one entire wetland all within 1500' of HTL.
2008_00872_EMC-26	Delaware River	wetland, 87 Manual/Regional Supplement; w/i 1500' of HTL
2008_00872_EMC-1	offsite Mingo Creek	OHWM; bordering
2008_00872_EMC-2	offsite Mingo Creek	OHWM; bordering
2008_00872_EMC-9	2008-00872-EMC_4A	wetland, 87 Manual/Regional Supplement; bordering
2008_00872_NSPD-3 2008_00872_NSPD-8	2008_00872_NSPD-10	
2008_00872_NSPD-6	2008_00872_NSPD-10	wetland, 87 Manual/Regional Supplement; w/i 100' of (a)(5) OHWM; extends beyond threshold

2008_00872_NSPD-9	2008_00872_NSPD-10	wetland, 87 Manual/Regional Supplement; w/i 100' of (a)(5) OHWM; extends beyond threshold
2008_00872_G1 2008_00872_J 2008_00872_K 2008_00872_H 2008_00872_G2	2008_00872_LH-4	These aquatic features are considered as one water that is a mosaic of vegetated and open water. G1,J,K: wetlands, 87 Manual/Regional Supplement; H,G2:waters, OHWM.
2008_00872_F	2008_00872_LH-4	wetland, 87 Manual/Regional Supplement; bordering, separated by man-made berm
2008_00872_B	2008_00872_LH-3	wetland, 87 Manual/Regional Supplement; bordering through pipe
2008_00872_A	2008_00872_LH-1	wetland, 87 Manual/Regional Supplement; bordering through pipe
2008_00872_LH-2	LH-J	wetland, 87 Manual/Regional Supplement; bordering through pipe
2008_00872_LH-H	LH-G	wetland, 87 Manual/Regional Supplement; bordering, separated by man-made berm
2008_00872_LH-I	LH-J	wetland, 87 Manual/Regional Supplement; w/i 100' of (a)(5) OHWM
2008_00872_LH-K	LH-J	wetland, 87 Manual/Regional Supplement; w/i 100' of (a)(5) OHWM
2008_00872_LH-L	Delaware River	wetland, 87 Manual/Regional Supplement; w/i 1500' of HTL
2008_00872_R	Q	wetland, 87 Manual/Regional Supplement; w/i 100' of (a)(5) OHWM

Table 7. (a)(7) Waters

SPOE Name	(a)(7) Waters Name	(a)(1)-(a)(3) Water Name to which this Water has a Significant Nexus	Significant Nexus Determination Identify SPOE watershed; discuss whether any similarly situated waters were present and aggregated for SND; discuss data, provide analysis, and summarize how the waters have more than speculative or insubstantial effect on the physical, chemical, or biological integrity of the (a)(1)-(a)(3) water, etc.
N/A	N/A	N/A	N/A

Table 8. (a)(8) Waters

SPOE Name	(a)(8) Waters Name	(a)(1)-(a)(3) Water Name to which this Water has a Significant Nexus	Significant Nexus Determination Identify SPOE watershed; explain how 100-yr floodplain and/or the distance threshold was determined; discuss whether waters were determined to be similarly situated to subject water and aggregated for SND; discuss data, provide analysis, and then summarize how the waters have more than speculative or insubstantial effect the on the physical, chemical, or biological integrity of the (a)(1)-(a)(3) water, etc.
N/A	N/A	N/A	N/A

Non-Jurisdictional Waters

Table 9. Non-Waters/No Significant Nexus

SPOE Name	Non-(a)(7)/(a)(8) Waters Name	(a)(1)-(a)(3) Water Name to which this Water DOES NOT have a Significant Nexus	Basis for Determination that the Functions DO NOT Contribute Significantly to the Chemical, Physical, or Biological Integrity of the (a)(1)-(a)(3) Water. Identify SPOE watershed; explain how 100-yr floodplain and/or the distance threshold was determined; discuss whether waters were determined to be similarly situated to the subject water; discuss data, provide analysis, and summarize how the waters did not have more than a speculative or insubstantial effect on the physical, chemical, or biological integrity of the (a)(1)-(a)(3) water.
2008_00872_SPOE	NSPD-2	Delaware River	See attached Significant Nexus Determination MFR. These four wetlands were considered to be similar situated.
2008_00872_SPOE	NSPD-7	Delaware River	
2008_00872_SPOE	NSPD-15	Delaware River	
2008_00872_SPOE	NSPD-16	Delaware River	

Table 10. Non-Waters/Excluded Waters and Features

Paragraph (b) Excluded Feature/Water Name	Rationale for Paragraph (b) Excluded Feature/Water and Additional Discussion.
NPSDE-14	(b)(3)(i) ditch with ephemeral flow and not a relocated tributary or excavated in a tributary

Table 11. Non-Waters/Other

Other Non-Waters of U.S. Feature/Water Name	Rationale for Non-Waters of U.S. Feature/Water and Additional Discussion.
N/A	N/A

Waters_Name	State	Cowardin	HGM	Meas_T	Amour	Units	Waters_Type	Latitude	Longitude	Local_Waterway	Similarity_Situated	Sim_Situated	Adjacent_Waters_Subct_33USC1344	OHHM_Chg_In_Plant_Community	OHHM_Bed_Artd_Banks	OHHM_Break_In_Slope	OHHM_Chg_In_Character_Of_Soil	OHHM_Chg_In_Veg_Density_Maturity	OHHM_Line_In_Sediment_Texture	OHHM_Destr_Of_Terrstral_V	OHHM_Leaf_Litter	OHHM
2008_00872_CMC-1	PENNSYLVANIA	R2UB		Area	0.31	ACRE	A5	39.88305556	-75.23916667	Mingo Creek												
2008_00872_CMC-2	PENNSYLVANIA	R2UB		Area	0.21	ACRE	A5	39.88444444	-75.23805556	Mingo Creek												
2008_00872_DR-6	PENNSYLVANIA	E1UB		Area	0.16	ACRE	A1	39.86500000	-75.23027778	Delaware River												
2008_00872_DR-7	PENNSYLVANIA	R2UB		Area	0.25	ACRE	A5	39.86722222	-75.22805556	Delaware River				YES						YES		
2008_00872_DR-8	PENNSYLVANIA	R2UB		Area	0.16	ACRE	A5	39.86583333	-75.22833333	Delaware River				YES						YES		
2008_00872 EMC-4A	PENNSYLVANIA	R2UB		Area	0.48	ACRE	A5	39.88222222	-75.21916667	Delaware River				YES						YES		
2008_00872_A	PENNSYLVANIA	PEM		Area	11.27	ACRE	A6BWB	39.86638889	-75.27111111	Long Hook Creek												
2008_00872_B	PENNSYLVANIA	PEM		Area	2.94	ACRE	A6BWB	39.86500000	-75.27833333	Long Hook Creek												
2008_00872_DC-11	PENNSYLVANIA	PEM		Area	6.07	ACRE	A6BWB	39.87527778	-75.25250000	Darby Creek												
2008_00872_DR-10	PENNSYLVANIA	E2EM		Area	2.85	ACRE	A1	39.85666667	-75.25388889	Delaware River												
2008_00872_DR-11	PENNSYLVANIA	E2EM		Area	1.55	ACRE	A1	39.85638889	-75.25500000	Delaware River												
2008_00872_DR-12	PENNSYLVANIA	E2EM		Area	0.91	ACRE	A1	39.85666667	-75.25194444	Delaware River												
2008_00872_DR-2	PENNSYLVANIA	E2EM		Area	8.12	ACRE	A1	39.85805556	-75.25111111	Delaware River												
2008_00872_DR-3	PENNSYLVANIA	E2EM		Area	4.25	ACRE	A1	39.86222222	-75.23944444	Delaware River												
2008_00872_DR-3A	PENNSYLVANIA	E2EM		Area	2.63	ACRE	A1	39.85833333	-75.24833333	Delaware River												
2008_00872_DR-A	PENNSYLVANIA	PEM		Area	0.17	ACRE	A6N3HWP	39.85916667	-75.27527778	Delaware River												
2008_00872_DR-B	PENNSYLVANIA	PEM		Area	0.02	ACRE	A6N3HWP	39.85944444	-75.27527778	Delaware River												
2008_00872 EMC-1	PENNSYLVANIA	POW		Area	0.68	ACRE	A6BOHWM	39.88416667	-75.21166667	Mingo Creek												
2008_00872 EMC-10	PENNSYLVANIA	POW		Area	5.4	ACRE	A6N3HOHWM	39.87888889	-75.21166667	Delaware River											YES	
2008_00872 EMC-10A	PENNSYLVANIA	POW		Area	0.33	ACRE	A6N3HOHWM	39.87694444	-75.21333333	Delaware River											YES	
2008_00872 EMC-12	PENNSYLVANIA	PEM		Area	1.76	ACRE	A6N3HWP	39.87888889	-75.21305556	Mingo Creek												
2008_00872 EMC-13	PENNSYLVANIA	PEM		Area	0.52	ACRE	A6N3HWP	39.87777778	-75.21388889	Mingo Creek												
2008_00872 EMC-14	PENNSYLVANIA	PEM		Area	0.4	ACRE	A6N3HWP	39.87972222	-75.21305556	Mingo Creek												
2008_00872 EMC-15/23	PENNSYLVANIA	PEM		Area	10.85	ACRE	A6N3HWP	39.87861111	-75.21527778	Mingo Creek												
2008_00872 EMC-16	PENNSYLVANIA	PEM		Area	2.95	ACRE	A6N3HWP	39.87694444	-75.21444444	Mingo Creek												
2008_00872 EMC-17	PENNSYLVANIA	PEM		Area	3.7	ACRE	A6N3HWP	39.87777778	-75.21611111	Mingo Creek												
2008_00872 EMC-18	PENNSYLVANIA	PEM		Area	0.56	ACRE	A6BWB	39.87722222	-75.22166667	Mingo Creek												
2008_00872 EMC-19	PENNSYLVANIA	R2UB		Area	0.19	ACRE	A5	39.87777778	-75.22055556	Mingo Creek				YES							YES	
2008_00872 EMC-2	PENNSYLVANIA	POW		Area	0.4	ACRE	A6BOHWM	39.88361111	-75.21222222	Mingo Creek											YES	
2008_00872 EMC-20	PENNSYLVANIA	R2UB		Area	0.32	ACRE	A5	39.87888889	-75.22027778	Mingo Creek				YES							YES	
2008_00872 EMC-21	PENNSYLVANIA	R2UB		Area	0.23	ACRE	A5	39.87888889	-75.21972222	Mingo Creek				YES							YES	
2008_00872 EMC-25	PENNSYLVANIA	PEM		Area	0.85	ACRE	A6N3HWP	39.87416667	-75.21805556	Mingo Creek												
2008_00872 EMC-26	PENNSYLVANIA	PEM		Area	0.07	ACRE	A6N3HWP	39.87361111	-75.22111111	Delaware River												
2008_00872 EMC-9	PENNSYLVANIA	PEM		Area	5.55	ACRE	A6BWB	39.88194444	-75.22083333	Mingo Creek												
2008_00872_F	PENNSYLVANIA	PFO		Area	4.83	ACRE	A6BWB	39.87111111	-75.27527778	Long Hook Creek												
2008_00872_G1	PENNSYLVANIA	L2OW		Area	1.85	ACRE	A6BOHWM	39.87194444	-75.27777778	Long Hook Creek				YES								
2008_00872_G2	PENNSYLVANIA	PEM		Area	1.05	ACRE	A6BWB	39.87222222	-75.27750000	Long Hook Creek												
2008_00872_H	PENNSYLVANIA	L2AB		Area	1.95	ACRE	A6BOHWM	39.87138889	-75.27694444	Long Hook Creek				YES								
2008_00872_J	PENNSYLVANIA	PEM		Area	0.26	ACRE	A6BWB	39.87111111	-75.27888889	Long Hook Creek												
2008_00872_K	PENNSYLVANIA	PFO		Area	0.18	ACRE	A6BWB	39.87111111	-75.27861111	Long Hook Creek												
2008_00872_LH-1	PENNSYLVANIA	E2EM		Area	1.01	ACRE	A1	39.86527778	-75.27222222	Long Hook Creek												
2008_00872_LH-2	PENNSYLVANIA	PEM		Area	0.06	ACRE	A6BWB	39.86508200	-75.27197100	Long Hook Creek												
2008_00872_LH-2H	PENNSYLVANIA	E2EM		Area	0.23	ACRE	A1	39.86472222	-75.27472222	Long Hook Creek												
2008_00872_LH-3	PENNSYLVANIA	E2EM		Area	1.48	ACRE	A1	39.86416667	-75.27833333	Long Hook Creek												
2008_00872_LH-4	PENNSYLVANIA	E2AB		Area	6.69	ACRE	A1	39.86888889	-75.27611111	Long Hook Creek												
2008_00872_LH-G	PENNSYLVANIA	E2		Area	0.41	ACRE	A1	39.86083333	-75.27861111	Long Hook Creek												
2008_00872_LH-H	PENNSYLVANIA	PEM		Area	2.8	ACRE	A6BWB	39.86111111	-75.27861111	Long Hook Creek												
2008_00872_LH-I	PENNSYLVANIA	PEM		Area	0.01	ACRE	A6N1WB	39.86241300	-75.27677400	Long Hook Creek												
2008_00872_LH-J	PENNSYLVANIA	E2		Area	5.72	ACRE	A1	39.86361111	-75.27694444	Long Hook Creek												
2008_00872_LH-K	PENNSYLVANIA	PEM		Area	0.18	ACRE	A6N1WB	39.86180900	-75.27650500	Long Hook Creek												
2008_00872_LH-L	PENNSYLVANIA	PEM		Area	0.1	ACRE	A6N3HWP	39.85972222	-75.27833333	Long Hook Creek												
2008_00872_NSPD-1	PENNSYLVANIA	R2UB		Area	2.45	ACRE	A5	39.86388889	-75.27277778	Delaware River				YES							YES	
2008_00872_NSPD-10	PENNSYLVANIA	R2UB		Area	6.36	ACRE	A5	39.86555556	-75.26111111	Delaware River				YES							YES	
2008_00872_NSPD-11	PENNSYLVANIA	R2UB		Area	2.17	ACRE	A5	39.86250000	-75.25861111	Delaware River				YES							YES	
2008_00872_NSPD-12	PENNSYLVANIA	R2UB		Area	4.15	ACRE	A5	39.86083333	-75.26666667	Delaware River				YES							YES	
2008_00872_NSPD-13	PENNSYLVANIA	PEM		Area	4.8	ACRE	A6N3HWP	39.85972222	-75.26583333	Delaware River												
2008_00872_NSPD-13A	PENNSYLVANIA	PEM		Area	0.41	ACRE	A6N3HWP	39.86000000	-75.26722222	Delaware River												
2008_00872_NSPD-14	PENNSYLVANIA	POW		Area	0.24	ACRE	EXCLDB3I	39.85888889	-75.27166667													
2008_00872_NSPD-17	PENNSYLVANIA	PEM		Area	0.52	ACRE	A6N3HWP	39.86027778	-75.26333333	Delaware River												

NO DATA IN REST OF COLUMNS

Aquatic Resources Upload Sheet

MEMORANDUM FOR RECORD
Attachment to Interim Approved JD Form

SUBJECT: CENAP-OP-R-2008-0872 Philadelphia International Airport (PHL)
Approved Jurisdictional Determination (AJD)
Significant Nexus Determination

Applicant: City of Philadelphia, PHL, Division of Aviation
Agent/Consultant: Pat Quigley, PAQ, Inc. (PAQ)

Significant Nexus Analysis for the Four Subject Wetlands Identified as NSPD-2, NSPD-7, NSPD-15, and NSPD-16

Types of waters of the U.S. (WoUS) as defined at 40 CFR 328.3 (2015 Clean Water Rule (Rule):

(a)(1) Traditional Navigable Waters; (a)(2) Interstate Waters; (a)(3) Territorial Seas; (a)(4) Impoundments of (a)(1) – (a)(3) waters; (a)(5) Tributaries; (a)(6) Adjacent Waters; (a)(7) Specific categories of waters that have a significant nexus to downstream (a)(1)– (a)(3) waters; (a)(8) Waters located within the 100-year floodplain of an (a)(1) – (a)(3) water and all waters located within 4,000 feet of the high tide line or ordinary high water mark of an (a)(1) – (a)(5) water, and that have a significant nexus to downstream (a)(1) –(a)(3) waters.

Subject Wetlands Description:

The Subject Wetlands do not fit the definition of an (a)(1) – (a)(6) water and thus requires a case specific significant nexus analysis. As measured from submitted plans, the Subject Wetlands are not within 100 feet of OHWM of (a)1-(a)(5) water and also not within 1500’ of HTL of (a)(1) or(a)(3) water. These wetlands are also not one of the identified categories of (a)(7) waters. The wetlands are within the 100 year floodplain and within 4,000 feet of the Delaware River (an (a)(1) water), and thus are potentially an (a)(8) water if they are determined to have a significant nexus to the Delaware River.

The Subject Wetlands are comprised of four separate wetland areas totaling 0.83 acres. The Subject Wetlands are located in the western portion of the PHL runway complex and are situated in an “in-field” area between runways and taxi-ways (Figure 1). The soils are mapped as “Made land, gravelly materials”, contain similar herbaceous vegetation, e.g., *Lythrum salicaria* and *Juncus effuses*, and are in the same landform (flat).

The Subject Wetlands are within a small sub-basin (6.8 acres) and do not have discernable outflows to each other or to downstream waters. Topographically, the area is an uneven-bottomed shallow (<1.0 foot) depression that is relatively flat (Figure 2). The hydrology of the surface water of the Subject Wetlands are mostly ephemeral (ponded after storms), but dry most of the growing season. Saturated soils can be seen on most available aerial imagery (Enclosure 1). The Subject Wetlands are regularly mowed per Federal Aviation Administration (FAA) wildlife hazard safety standards every 2 – 4 weeks from April through October.



Figure 1: Subject Wetlands Location and 2008_00872_SPOE.



Figure 2: Topography in the vicinity of the Subject Wetlands

Significant Nexus Definition (328.3(c)(5)):

“The term **significant nexus** means that a water, including wetlands, either alone or in combination with other similarly situated waters in the region, significantly affects the chemical, physical, or biological integrity of a water identified in paragraphs (a)(1) through (a)(3) of this definition...” “For an effect to be significant, it must be more than speculative or insubstantial.”

The **region** is defined as a **single point of entry (SPOE)** watershed. A SPOE is the drainage basin within whose boundaries all precipitation ultimately flows to the nearest single traditional navigable water, interstate water (the Delaware River in this case), or the territorial sea. For this case, the SPOE was defined based on PAQ’s knowledge of the drainage patterns in the vicinity of the Subject Wetlands (Figure 1).

Similarly situated waters are described as two concepts within the preamble of the Rule. Waters are similarly situated when: (1) They are located sufficiently close to each other; i.e. within a contiguous area of land with relatively homogeneous soils, vegetation, and landform; or (2) They perform similar functions. The Subject Wetlands meet both of these criteria and are therefore similarly situated. They are located within a radius of 300 feet of each other, have the same soil and vegetation characteristics, and are in the same landform. Since the Subject Wetlands are of the same type (palustrine emergent), and are in the same landscape location, it is reasonable to conclude they perform similar functions. No other potential (a)(8) waters were located within the SPOE.

I analyzed the functions listed in the Rule (328.3(c)(5)(i) – (ix) relevant to the significant nexus evaluation below. The degree to which the Subject Wetlands perform functions that affect the chemical, physical, and biological integrity of the Delaware River is tied to the connectivity of the Subject Wetlands to the Delaware River. The connectivity of the Subject Wetlands can be described as mostly isolated, except during unusually high rainfall events where the wetlands could fill and spill into the tributary system. Such an event has not been directly observed or documented. The Subject Wetlands are located close together and have a closed watershed of 6.8 acres. The flow path to the Delaware River begins by the overtopping of the wetlands over uplands into tributary NSPD-10, through a 1240 foot long pipe into tributary NSPD-12, through a 130 foot long pipe that is controlled by a tide gate, and thence into the Delaware River. The total flow distance from the center of the Subject Wetlands to the Delaware River is approximately 4,000 feet (Figure 2).

Functions at 40 CFR 328.3(c)(5):

(i) Sediment trapping: The Subject Wetlands have very limited ability to trap sediments as most of the runoff from the surrounding infrastructure is initially directed to catch basins where the sediments would drop out. The decanted water then bypasses the Subject Wetlands through pipes from the catch basins directly to NSPD-10. In addition, the enclosed, small sub-basin containing the Subject Wetlands is almost completely vegetated so there is a low probability that sediments within the sub-basin would be displaced.

(ii) Nutrient recycling: Nutrient recycling likely occurs within the Subject Wetlands, particularly nitrogen. However, sequestration is limited due to the frequent mowing of the vegetation.



Figure 2. Flow path from Subject Wetlands to the Delaware River

Due to the low connectivity to the Delaware River, nitrogen recycling in the Subject Wetlands is so minor that it has an insignificant effect on the Delaware River. Since the phosphorous cycle is sedimentary, it would be expected that the Subject Wetlands do not contribute significantly to phosphorous recycling.

(iii.) Pollutant trapping, transformation, filtering, and transport: for reasons stated under sediment trapping, the Subject Wetlands would not be expected to significantly trap pollutants or transport pollutants to the Delaware River.

(iv) Retention and attenuation of flood waters: The Subject Wetlands do not have an insignificant capability to retain flood waters because of the shallowness of the wetlands and the small contributing watershed.

(v) Runoff storage: Stormwater is highly managed by the airport drainage system, most of which is directed into the excavated tributary system. The Subject Waters have an estimated 0.42 acre-feet of storage capacity, depending on the antecedent moisture conditions. Therefore, the runoff storage function of the Subject Wetlands are insignificant.

(vi) Contribution of flow: Since the small size of the Subject Wetlands have low storage capacity and do not have a confined surface connection, the Subject Waters do not contribute any significant flow to the Delaware River. A shallow subsurface connection is also unlikely because of the highly disturbed circumstances of the area. The area is mowed with heavy equipment

which compacts the underlying soil, likely leading to a perched water condition rather than a permeable condition.

(vii) Export of organic matter and (viii) Export of food resources: Due to the lack of connectivity, the Subject Wetlands do not function as a significant exporter of organic matter or food resources to the Delaware River.

(ix) Provision of life cycle dependent aquatic habitat: No formal survey for animal life has been conducted for the Subject Wetlands. PAQ staff have observed only insects during the multiple times they have been onsite over the years. For reasons stated below, the Subject Wetlands do not provide significantly affect the Delaware River (effect is insubstantial effect) for this function.

The Subject Wetlands do not provide habitat for fish because of lack of persistent water. No aquatic or semi-aquatic mammals are known to use the Subject Wetlands. Due to FAA regulations, preventive strategies are also used to discourage water birds and other wildlife that would potentially use the Subject Wetlands for foraging or feeding.

Some Delaware River amphibian and reptile inhabitants have the potential to use the Subject Wetlands for breeding and shelter. However, the path for dispersal to and from the Delaware River has several habitat barriers. To travel via the tributary system, the path includes traveling 180 to 540 feet (depending on which of the Subject Wetlands is the origination) through a mowed area, a 1240 foot long pipe, and a second 130 foot long pipe that is controlled by a tide gate. The straightest path overland includes grassy areas that are mowed, approximately 620 feet of paved runways and taxiways, a chain link fence, a well-traveled 40 foot wide road, and a 20 foot wide railroad bed.

Turtles are unlikely to use the Subject Wetlands due to the shallowness and very short duration of ponding. Snakes that use the Delaware River would not likely use the Subject Wetlands because of the limited connectivity, even though prey potentially exists in the Subject Wetlands. The Subject Wetlands do not hold water long enough for amphibians to develop. Adult amphibians that disperse from the tributary system may occasionally use the Subject Wetlands, but those individuals likely do not contribute to the biological integrity (food resource) of the Delaware River because of the barriers to connectivity.

The Subject Wetlands likely foster some aquatic insects, mainly midges and mosquitoes, which could provide food resources for fish in the Delaware River. However, due to the seasonal nature, size, and FAA required management of the wetlands, the production of aquatic insects is expected to be low.

Conclusion

The significant nexus analysis examines the connectivity of the Subject Wetlands to the Delaware River. Based on the available information, the Subject Wetlands have little connectivity to the Delaware River. Due to the high management of the drainage within the airport, the frequency, duration, and magnitude of surface connection to the Delaware River is very low. The rate of change of water, material, and biotic fluxes to the Delaware River is also

very low. Although within the 100-year floodplain of the Delaware River, the Subject Wetlands are disconnected by the topography and infrastructure around the Subject Wetlands and the piping of the drainages.

According to the preamble of the Rule, a water has a significant nexus when any single function or combination of functions performed by the water, alone or together with similarly situated waters in the region, contributes significantly to the chemical, physical, or biological integrity of the nearest traditional navigable water, interstate water, or the territorial seas. Although the Subject Wetlands provide some minor functions, the effect of these functions on the Delaware River are insubstantial.

I conclude that the Subject Wetlands do not have a significant nexus to an (a)(1) through (a)(3) water of the U.S. and are therefore not subject to Federal jurisdiction.

A handwritten signature in black ink that reads "Todd A. Hoernemann". The signature is written in a cursive style with a long, sweeping underline.

Todd A. Hoernemann
Senior Biologist
Surveillance and Enforcement Section



Image date 12-31-2009



Image date 04-11-2010



Image date 10-07-2011



Image date 05-24-2016



Image date 07-25-2016



Image date 07-02-2017