

**APPROVED JURISDICTIONAL DETERMINATION FORM**  
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): 12 August 2022**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER: CENAP-OPR-2010-00875-95**

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: Pennsylvania County/parish/borough: Philadelphia County City: Philadelphia  
Center coordinates of site (lat/long in degree decimal format): Lat. 39.894247° **N**, Long. -75.151472° **W**.  
Universal Transverse Mercator:

Name of nearest waterbody: Man-made tidal drainage ditch (DD-1) to the Delaware River

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Man-made tidal drainage ditch (DD-1) to the Delaware River.

Name of watershed or Hydrologic Unit Code (HUC): 020402020405 (City of Philadelphia-Delaware River).

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

Office (Desk) Determination. Date: 08 July 2022 by Robert Youhas, Biologist, USACE-Philadelphia District.

Field Determination. Date(s): 07 July 2022 by Robert Youhas, Biologist, USACE-Philadelphia District.

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.  
Explain: .

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters: linear feet: width (ft) and/or 1.7522 acres.

Wetlands: 18.2256 acres.

**c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual**

Elevation of established OHWM (if known): .

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.  
Explain: **Wetland Features WA, WB, and WC, located on the western portion of the site, were determined to have no hydrologic connection to Waters of the U.S. The nearest water body is the man-made, tidal drainage ditch DD-1 (TNW) which conveys stormwater from upland land parcels to the Delaware River. Wetland Feature WA (4.5107-acres), Wetland Feature WB (0.8553-acres), and Wetland Feature WC (4.5173-acres) are located approximately 280.0-**

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.

linear feet, 240.0-linear feet, and 75.0-linear feet, respectively, to the south of DD-1. Wetland Features WA, WB, and WC form a complex of topographically low-lying areas separated from DD-1 by extensively-disturbed uplands comprised of abandoned above-ground and subsurface infrastructure, spoil piles, and historic fill. No observed field evidence or other data indicates that Wetland Features WA, WB, and WC are ecologically interconnected to DD-1, nor connect hydrologically (i.e. via “overtopping”) to DD-1 during storm events. Thus, Wetland Features WA, WB, and WC were determined to be wetlands that are not adjacent to a TNW. Stormwater runoff and groundwater were determined to be the hydrologic sources for Wetland Features WA, WB, and WC. Thus, given the lack of a hydrologic or ecological connection to Waters of the U.S., Wetland Features WA, WB, and WC were determined to be non-jurisdictional. This determination of non-jurisdiction is also in agreement with a U.S. Supreme Court decision (Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers, No. 99-1178, January 9, 2001). The Court ruled that isolated, interstate waters can no longer be considered Waters of the U.S. based solely upon their use by migratory birds.

A review of historical aerial photography (GoogleEarth aerials dated 02 Aug 2022, 16 Oct 2020, 18 May 2019, 02 July 2017, 07 Oct 2011, 09 May 2010, 11 April 2010, 31 Dec 2009, 27 May 2008, 31 May 2007, 29 Feb 2004, 31 Dec 2003, 31 Dec 2001, 24 March 1995, and 28 March 1992) found that in 2003, DD-1 was created via excavation of uplands to convey stormwater from upland, offsite land parcels, to include the sports stadium area, to the Delaware River. Prior to 2003, the subject property, including the above-mentioned Wetland Features and the area where DD-1 traverses the site, were uplands comprised of baseball/softball fields, a running track, airplane landing strip, helipads, and military training areas associated with operations at the former U.S. Navy Yard. Subsequent to 2003, the site has generally been left unmaintained, with vegetation overtaking and occupying most of the formerly developed landscape. Between 2004-2005, a new roadway and parking area were constructed next to the existing rail line, with access to Kitty Hawk Avenue and the former Navy Yard land parcels to the south.

**SECTION III: CWA ANALYSIS**

**A. TNWs AND WETLANDS ADJACENT TO TNWs**

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

**1. TNW**

Identify TNW: **Man-made tidal drainage ditch (DD-1) to the Delaware River.**

Summarize rationale supporting determination: Man-made tidal drainage ditch DD-1 is a tidal waterbody, subject to the ebb and flow of the tide, which drains stormwater from upland land parcels to the Delaware River.

**2. Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is “adjacent”: Wetland Feature WD (18.2089-acres) and Wetland Feature WE (0.01670-acres) directly abut man-made tidal drainage ditch DD-1.

**B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):**

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

**1. Characteristics of non-TNWs that flow directly or indirectly into TNW**

**(i) General Area Conditions:**

Watershed size: **Pick List**  
Drainage area: **Pick List**  
Average annual rainfall: inches  
Average annual snowfall: inches

**(ii) Physical Characteristics:**

**(a) Relationship with TNW:**

- Tributary flows directly into TNW.
- Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.  
Project waters are **Pick List** river miles from RPW.  
Project waters are **Pick List** aerial (straight) miles from TNW.  
Project waters are **Pick List** aerial (straight) miles from RPW.  
Project waters cross or serve as state boundaries. Explain: .

<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Identify flow route to TNW<sup>5</sup>:  
Tributary stream order, if known:

(b) General Tributary Characteristics (check all that apply):

**Tributary is:**  Natural  
 Artificial (man-made). Explain:  
 Manipulated (man-altered). Explain:

**Tributary properties with respect to top of bank (estimate):**

Average width: feet  
Average depth: feet  
Average side slopes: **Pick List**.

Primary tributary substrate composition (check all that apply):

Silts  Sands  Concrete  
 Cobbles  Gravel  Muck  
 Bedrock  Vegetation. Type/% cover:  
 Other. Explain:

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:

Presence of run/riffle/pool complexes. Explain:

Tributary geometry: **Pick List**

Tributary gradient (approximate average slope): %

(c) Flow:

Tributary provides for: **Pick List**

Estimate average number of flow events in review area/year: **Pick List**

Describe flow regime:

Other information on duration and volume:

Surface flow is: **Pick List**. Characteristics:

Subsurface flow: **Pick List**. Explain findings:

Dye (or other) test performed:

Tributary has (check all that apply):

Bed and banks  
 OHWM<sup>6</sup> (check all indicators that apply):  
 clear, natural line impressed on the bank  the presence of litter and debris  
 changes in the character of soil  destruction of terrestrial vegetation  
 shelving  the presence of wrack line  
 vegetation matted down, bent, or absent  sediment sorting  
 leaf litter disturbed or washed away  scour  
 sediment deposition  multiple observed or predicted flow events  
 water staining  abrupt change in plant community  
 other (list):  
 Discontinuous OHWM.<sup>7</sup> Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

High Tide Line indicated by:  Mean High Water Mark indicated by:  
 oil or scum line along shore objects  survey to available datum;  
 fine shell or debris deposits (foreshore)  physical markings;  
 physical markings/characteristics  vegetation lines/changes in vegetation types.  
 tidal gauges  
 other (list):

(iii) **Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain:

Identify specific pollutants, if known:

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

<sup>6</sup> A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup>Ibid.

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- Riparian corridor. Characteristics (type, average width): .
- Wetland fringe. Characteristics: .
- Habitat for:
  - Federally Listed species. Explain findings: .
  - Fish/spawn areas. Explain findings: .
  - Other environmentally-sensitive species. Explain findings: .
  - Aquatic/wildlife diversity. Explain findings: .

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size:        acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is: **Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

- Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

- Directly abutting

- Not directly abutting

- Discrete wetland hydrologic connection. Explain: .

- Ecological connection. Explain: .

- Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

- Riparian buffer. Characteristics (type, average width): .
- Vegetation type/percent cover. Explain: .
- Habitat for:
  - Federally Listed species. Explain findings: .
  - Fish/spawn areas. Explain findings: .
  - Other environmentally-sensitive species. Explain findings: .
  - Aquatic/wildlife diversity. Explain findings: .

3. **Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately (        ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)      Size (in acres)      Directly abuts? (Y/N)      Size (in acres)

Summarize overall biological, chemical and physical functions being performed:

### C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

**Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:**

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

### D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:

TNWs: DD-1 = 5,196.0 linear feet      width (ft), Or,      acres.

Wetlands adjacent to TNWs: Wetland Feature WD (18.2089-acres) and Wetland Feature WE (0.0167-acres) for a total of

18.2256 acres.

2. **RPWs that flow directly or indirectly into TNWs.**

Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:

Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters:        linear feet        width (ft).
- Other non-wetland waters:        acres.

Identify type(s) of waters:        .

**3. Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters:        linear feet        width (ft).
- Other non-wetland waters:        acres.

Identify type(s) of waters:        .

**4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
  - Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:        .
  - Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:        .

Provide acreage estimates for jurisdictional wetlands in the review area:        acres.

**5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area:        acres.

**6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area:        acres.

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from “waters of the U.S.,” or
- Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- Demonstrate that water is isolated with a nexus to commerce (see E below).

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- which are or could be used for industrial purposes by industries in interstate commerce.
- Interstate isolated waters. Explain:        .
- Other factors. Explain:        .

<sup>8</sup>See Footnote # 3.

<sup>9</sup> To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup> Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

**Identify water body and summarize rationale supporting determination:**

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).
- Other non-wetland waters: acres.  
Identify type(s) of waters: .
- Wetlands: acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
- Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: 9.8833-acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: acres.

**SECTION IV: DATA SOURCES.**

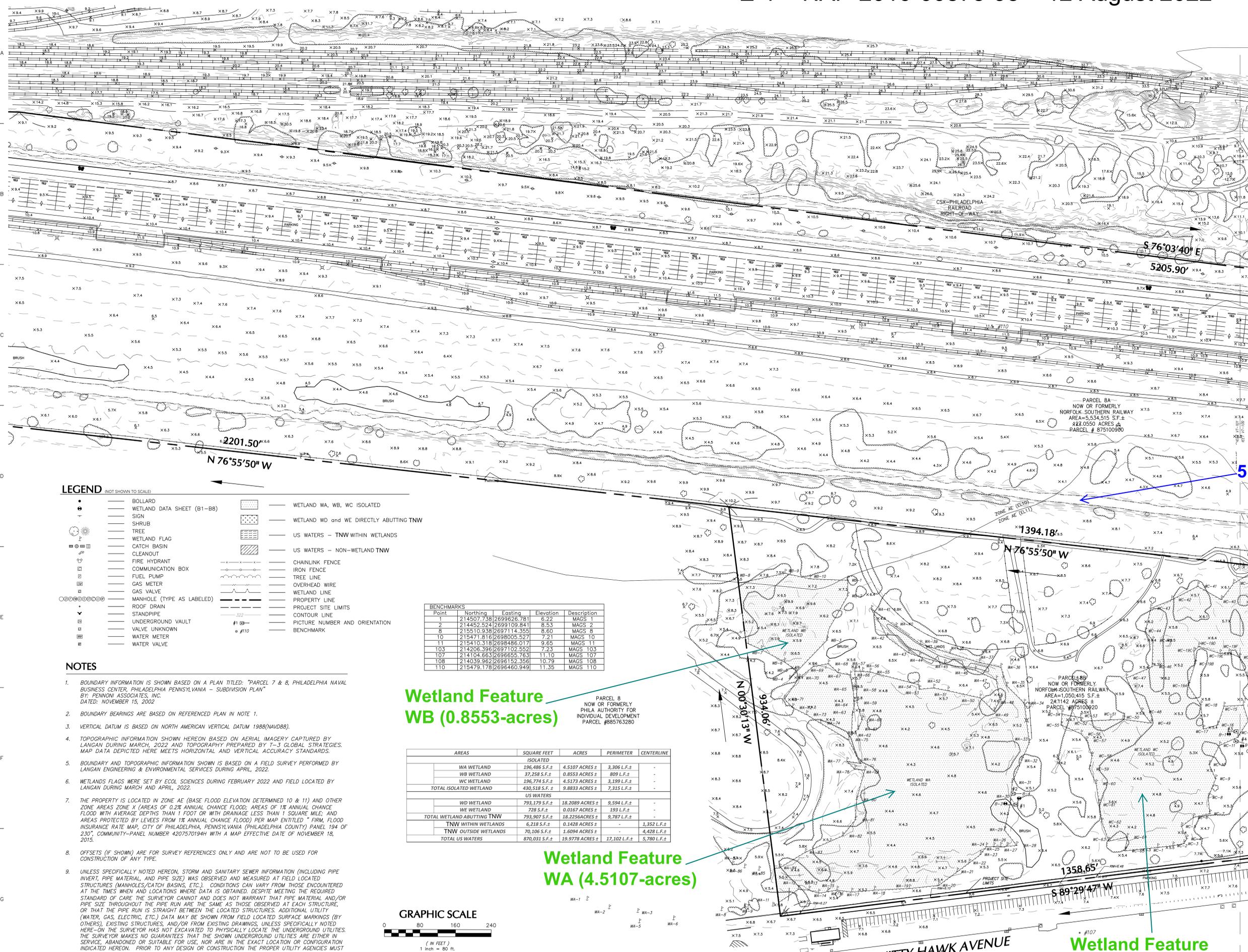
**A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):**

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: E-1 and E-2, both entitled "NAP-2010-00875-95", and both modified and dated 12 August 2022 by USACE.
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps: .
- Corps navigable waters' study: .
- U.S. Geological Survey Hydrologic Atlas: USGS National Hydrography Dataset 2018.
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: 2013 National Geographic Society, i-cubed; Philadelphia; 1" = 2,000'.
- USDA Natural Resources Conservation Service Soil Survey. Citation: USDA-NRCS Custom Soil Resource Report for Philadelphia County, PA - Philadelphia Navy Yard, 14 April 2022.
- National wetlands inventory map(s). Cite name: DCNR PAMAP Program 02 May 2022.
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps: FEMA's National Flood Hazard Layer Viewer, December 2021.
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): GoogleEarth Aerial Photographs: 02 Aug 2022, 16 Oct 2020, 18 May 2019, 02 July 2017, 07 Oct 2011, 09 May 2010, 11 April 2010, 31 Dec 2009, 27 May 2008, 31 May 2007, 29 Feb 2004, 31 Dec 2003, 31 Dec 2001, 24 March 1995, and 28 March 1992.
  - or  Other (Name & Date): Site photos taken on 09 Feb 2022 (by consultant) and 07 July 2022 (by USACE).
- Previous determination(s). File no. and date of response letter: .
- Applicable/supporting case law: .
- Applicable/supporting scientific literature: .
- Other information (please specify): .

**B. ADDITIONAL COMMENTS TO SUPPORT JD: N/A.**



PROJECT LOCATION MAP  
SCALE: 1"=5000'



PA 18083

DD-1  
5,196.0-linear feet

**LEGEND** (NOT SHOWN TO SCALE)

●	BOLLARD	▨	WETLAND WA, WB, WC ISOLATED
○	WETLAND DATA SHEET (B1-B8)	▨	WETLAND WD AND WE DIRECTLY ABUTTING TNW
○	SHRUB	▨	US WATERS - TNW WITHIN WETLANDS
○	TREE	▨	US WATERS - NON-WETLAND TNW
○	WETLAND FLAG	▨	CHAINLINK FENCE
○	CATCH BASIN	▨	IRON FENCE
○	CLEANOUT	▨	TREE LINE
○	FIRE HYDRANT	▨	OVERHEAD WIRE
○	COMMUNICATION BOX	▨	WETLAND LINE
○	FUEL PUMP	▨	PROPERTY LINE
○	GAS METER	▨	PROJECT SITE LIMITS
○	GAS VALVE	▨	CONTOUR LINE
○	MANHOLE (TYPE AS LABELED)	▨	PICTURE NUMBER AND ORIENTATION
○	ROOF DRAIN	▨	BENCHMARK
○	STANDPIPE	▨	
○	UNDERGROUND VAULT	▨	
○	VALVE UNKNOWN	▨	
○	WATER METER	▨	
○	WATER VALVE	▨	

**BENCHMARKS**

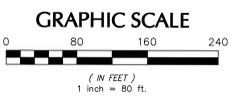
Point	Northing	Easting	Elevation	Description
1	214507.738	2699626.781	6.22	MAGS 1
2	214452.524	2699109.841	8.53	MAGS 2
8	215510.938	2697114.355	8.60	MAGS 8
10	215471.816	2698005.527	7.21	MAGS 10
11	215410.318	2698486.017	9.65	MAGS 11
103	214206.396	2697102.552	7.23	MAGS 103
107	214104.663	2696655.763	11.10	MAGS 107
108	214039.962	2696152.356	10.79	MAGS 108
110	215478.178	2696460.949	11.35	MAGS 110

- NOTES**
- BOUNDARY INFORMATION IS SHOWN BASED ON A PLAN TITLED: "PARCEL 7 & 8, PHILADELPHIA NAVAL BUSINESS CENTER, PHILADELPHIA PENNSYLVANIA - SUBDIVISION PLAN" BY: PENNINO ASSOCIATES, INC. DATED: NOVEMBER 15, 2002
  - BOUNDARY BEARINGS ARE BASED ON REFERENCED PLAN IN NOTE 1.
  - VERTICAL DATUM IS BASED ON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88).
  - TOPOGRAPHIC INFORMATION SHOWN HEREON BASED ON AERIAL IMAGERY CAPTURED BY LANGAN DURING MARCH, 2022 AND TOPOGRAPHY PREPARED BY T-3 GLOBAL STRATEGIES. MAP DATA DEPICTED HERE MEETS HORIZONTAL AND VERTICAL ACCURACY STANDARDS.
  - BOUNDARY AND TOPOGRAPHIC INFORMATION SHOWN IS BASED ON A FIELD SURVEY PERFORMED BY LANGAN ENGINEERING & ENVIRONMENTAL SERVICES DURING APRIL, 2022.
  - WETLAND FLAGS WERE SET BY ECOL SERVICES DURING FEBRUARY 2022 AND FIELD LOCATED BY LANGAN DURING MARCH AND APRIL, 2022.
  - THE PROPERTY IS LOCATED IN ZONE AE (BASE FLOOD ELEVATION DETERMINED TO 10' & 11') AND OTHER ZONE AREAS ZONE X (AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS THAT 1 FOOT OR WITH DRAINAGE LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD) PER MAP ENTITLED "FIRM, FLOOD INSURANCE RATE MAP, CITY OF PHILADELPHIA, PENNSYLVANIA (PHILADELPHIA COUNTY) PANEL 194 OF 230", COMMUNITY-PANEL NUMBER 4207510194H WITH A MAP EFFECTIVE DATE OF NOVEMBER 18, 2015.
  - OFFSETS (IF SHOWN) ARE FOR SURVEY REFERENCES ONLY AND ARE NOT TO BE USED FOR CONSTRUCTION OF ANY TYPE.
  - UNLESS SPECIFICALLY NOTED HEREON, STORM AND SANITARY SEWER INFORMATION (INCLUDING PIPE INVERT, PIPE MATERIAL, AND PIPE SIZE) WAS OBSERVED AND MEASURED AT FIELD LOCATED STRUCTURES (MANHOLES, CATCH BASINS, ETC.). CONDITIONS CAN VARY FROM THOSE ENCOUNTERED AT THE TIMES WHEN AND LOCATIONS WHERE DATA IS OBTAINED. DESPITE MEETING THE REQUIRED STANDARD OF CARE THE SURVEYOR CANNOT AND DOES NOT WARRANT THAT PIPE MATERIAL AND/OR PIPE SIZE THROUGHOUT THE PIPE RUN ARE THE SAME AS THOSE OBSERVED AT EACH STRUCTURE, OR THAT THE PIPE RUN IS STRAIGHT BETWEEN THE LOCATED STRUCTURES. ADDITIONAL UTILITY (WATER, GAS, ELECTRIC, ETC.) DATA MAY BE SHOWN FROM FIELD LOCATED SURFACE MARKINGS (BY OTHERS), EXISTING DRAWINGS, AND/OR FROM EXISTING DRAWINGS, UNLESS SPECIFICALLY NOTED HERE-ON THE SURVEYOR HAS NOT EXCAVATED TO PHYSICALLY LOCATE THE UNDERGROUND UTILITIES. THE SURVEYOR MAKES NO GUARANTEES THAT THE SHOWN UNDERGROUND UTILITIES ARE EITHER IN SERVICE, ABANDONED OR SUITABLE FOR USE, NOR ARE IN THE EXACT LOCATION OR CONFIGURATION INDICATED HEREON. PRIOR TO ANY DESIGN OR CONSTRUCTION THE PROPER UTILITY AGENCIES MUST BE CONTACTED FOR VERIFICATION OF UTILITY TYPE AND FOR FIELD LOCATIONS.
  - THIS PLAN IS NOT VALID UNLESS STAMPED WITH THE SEAL OF THE UNDERSIGNED PROFESSIONAL(S).

Wetland Feature WB (0.8553-acres)

AREAS	SQUARE FEET	ACRES	PERIMETER	CENTERLINE
ISOLATED				
WA WETLAND	196,486 S.F.±	4.5107 ACRES ±	3,306 L.F.±	-
WB WETLAND	37,258 S.F.±	0.8553 ACRES ±	809 L.F.±	-
WC WETLAND	196,774 S.F.±	4.5173 ACRES ±	3,199 L.F.±	-
TOTAL ISOLATED WETLAND	430,518 S.F.±	9.8833 ACRES ±	7,315 L.F.±	-
US WATERS				
WD WETLAND	793,179 S.F.±	18.2089 ACRES ±	9,594 L.F.±	-
WE WETLAND	728 S.F.±	0.0167 ACRES ±	193 L.F.±	-
TOTAL WETLAND ABUTTING TNW	793,907 S.F.±	18.2256 ACRES ±	9,787 L.F.±	-
TNW WITHIN WETLANDS	6,218 S.F.±	0.1428 ACRES ±	-	1,352 L.F.±
TNW OUTSIDE WETLANDS	70,106 S.F.±	1.6094 ACRES ±	-	4,428 L.F.±
TOTAL US WATERS	870,031 S.F.±	19.9778 ACRES ±	17,102 L.F.±	5,780 L.F.±

Wetland Feature WA (4.5107-acres)



Date	Description	No.
05/05/22	PER CLIENT COMMENTS	1
05/09/22	PER CLIENT COMMENTS	2

REVISIONS

SIGNATURE SHAUN F. HIGGINS DATE SIGNED  
PROFESSIONAL LAND SURVEYOR  
PA LIC. No. SU-51088-E

**LANGAN**  
Langan Engineering and Environmental Services, Inc.  
1818 Market Street, Suite 3300  
Philadelphia, PA 19103  
T: 215.845.8900 F: 215.845.8901 www.langan.com

Project  
**NORFOLK SOUTHERN PROPERTY**

PHILADELPHIA PENNSYLVANIA  
Drawing Title

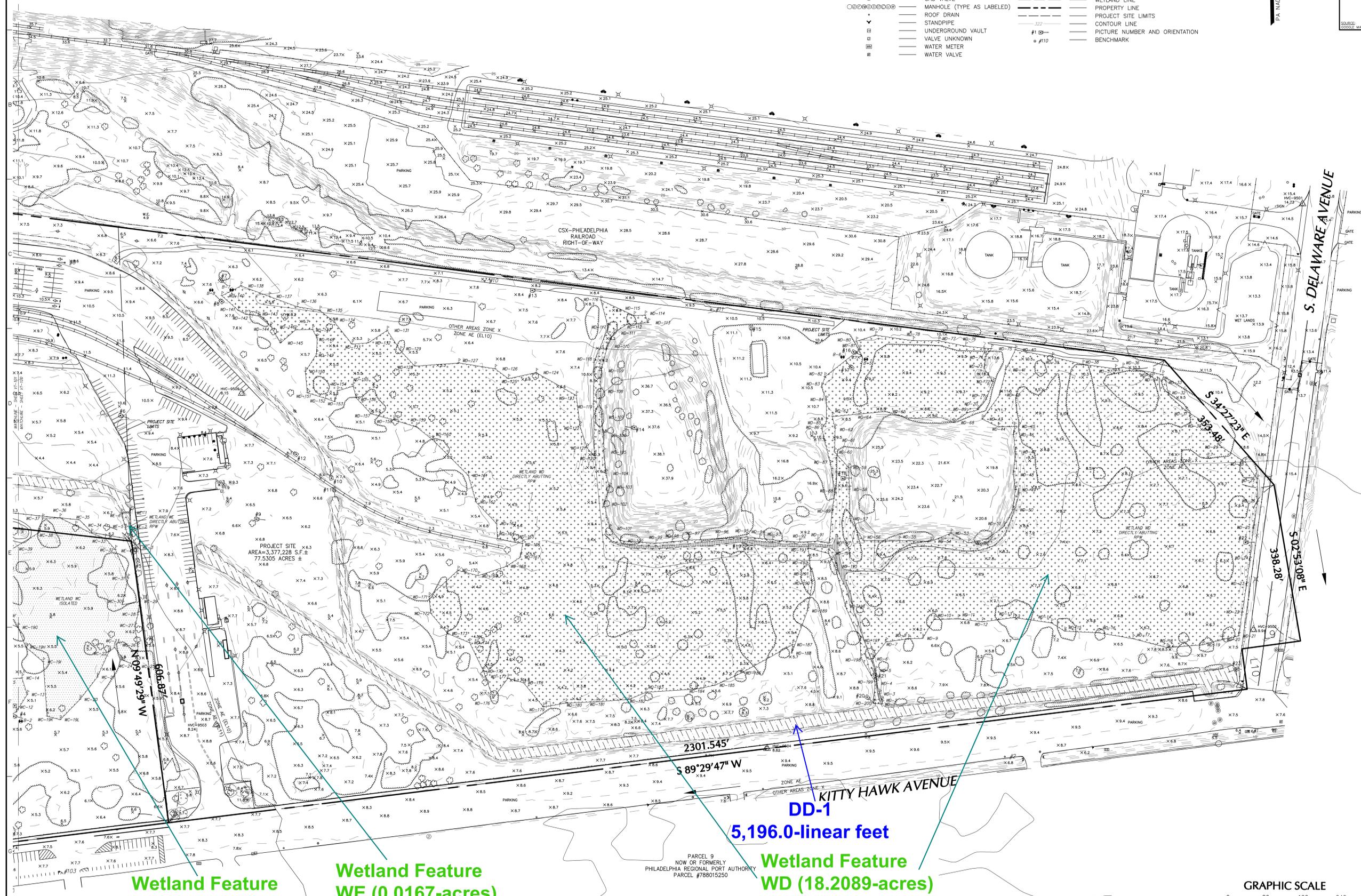
<b>WETLAND PLAN</b>	
Project No. <b>220161901</b>	Drawing No. <b>VT-100</b>
Date <b>05/02/2022</b>	Drawn By <b>KB</b>
Checked By <b>SPH</b>	Sheet 1 of 2

AREAS	SQUARE FEET	ACRES	PERIMETER	CENTERLINE
<b>ISOLATED</b>				
WA WETLAND	196,486 S.F.	4.5107 ACRES ±	3,306 L.F.	-
WB WETLAND	37,238 S.F.	0.8553 ACRES ±	809 L.F.	-
WC WETLAND	196,774 S.F.	4.5173 ACRES ±	3,199 L.F.	-
<b>TOTAL ISOLATED WETLAND</b>	<b>430,518 S.F. ±</b>	<b>9.8833 ACRES ±</b>	<b>7,315 L.F.</b>	-
<b>US WATERS</b>				
WD WETLAND	793,179 S.F.	18.2089 ACRES ±	9,594 L.F.	-
WE WETLAND	728 S.F.	0.0167 ACRES ±	193 L.F.	-
<b>TOTAL WETLAND ABUTTING TNW</b>	<b>793,907 S.F.</b>	<b>18.2256 ACRES ±</b>	<b>9,787 L.F.</b>	-
<b>TNW WITHIN WETLANDS</b>	<b>6,218 S.F.</b>	<b>0.1428 ACRES ±</b>	<b>-</b>	<b>1,352 L.F.</b>
<b>TNW OUTSIDE WETLANDS</b>	<b>70,106 S.F.</b>	<b>1.6094 ACRES ±</b>	<b>-</b>	<b>4,428 L.F.</b>
<b>TOTAL US WATERS</b>	<b>870,031 S.F.</b>	<b>19.9778 ACRES ±</b>	<b>17,102 L.F.</b>	-

Point	Northing	Easting	Elevation	Description
1	214507.738	2699626.781	6.22	MAGS 1
2	214492.524	2699109.841	8.53	MAGS 2
6	215510.938	2699114.355	8.60	MAGS 6
10	215471.816	2698005.527	7.21	MAGS 10
11	215410.318	2698486.017	9.65	MAGS 11
103	214206.396	2697102.552	7.33	MAGS 103
107	214104.683	2698659.763	11.10	MAGS 107
108	214039.962	2696152.356	10.79	MAGS 108
110	215479.178	2696460.949	11.35	MAGS 110

**LEGEND** (NOT SHOWN TO SCALE)

- BOLLARD
- WETLAND DATA SHEET (B1-B8)
- SIGN
- SHRUB
- TREE
- WETLAND FLAG
- CATCH BASIN
- CLEANOUT
- FIRE HYDRANT
- COMMUNICATION BOX
- FUEL PUMP
- GAS VALVE
- GAS VALVE
- MANHOLE (TYPE AS LABELED)
- ROOF DRAIN
- STANDPIPE
- UNDERGROUND VAULT
- VALVE UNKNOWN
- WATER METER
- WATER VALVE
- ▨ WETLAND WA, WB, WC ISOLATED
- ▨ WETLAND WD AND WE DIRECTLY ABUTTING TNW
- ▨ US WATERS - TNW WITHIN WETLANDS
- ▨ US WATERS - NON-WETLAND TNW
- CHAINLINK FENCE
- IRON FENCE
- TREE LINE
- OVERHEAD WIRE
- WETLAND LINE
- PROPERTY LINE
- PROJECT SITE LIMITS
- CONTOUR LINE
- PICTURE NUMBER AND ORIENTATION
- BENCHMARK



Date	Description	No.
05/05/22	PER CLIENT COMMENTS	1
05/09/22	PER CLIENT COMMENTS	2

**REVISIONS**

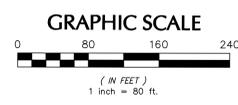
SIGNATURE: SHAUN F. HIGGINS DATE SIGNED: 05/02/2022  
 PROFESSIONAL LAND SURVEYOR  
 PA LIC. No. SU-51088-E

**LANGAN**  
 Langan Engineering and Environmental Services, Inc.  
 1818 Market Street, Suite 3300  
 Philadelphia, PA 19103  
 T: 215.845.8900 F: 215.845.8901 www.langan.com

Project: **NORFOLK SOUTHERN PROPERTY**

PHILADELPHIA PENNSYLVANIA  
 Drawing Title: **WETLAND PLAN**

Project No.	220161901
Date	05/02/2022
Drawn By	KB
Checked By	SFH
Project No.	220161901
Date	05/02/2022
Drawn By	KB
Checked By	SFH
Sheet 2 of 2	



E-2 NAP-2010-00875-95 12 August 2022

LANGAN PROJECT NO. 220161901