RECCEIVELL)
JAN 272029

Woodland Design Associates, Inc.

Landscape Architects 🗆 Site Planners 🗆 Wetlands Specialists 🖰 CHIVE

JAN 27 2023

Jurisdictional Wetland Determination Report

Prepared for: PATH Partners, LLC 50 Mott Road Blairstown, NJ 07825

Site address: 218 Twin Rocks Road, Sterling Township Wayne County, PA

Date of site visit: January 26, 2023

Date of Boundary Survey: Unknown

1. PURPOSE AND INTRODUCTION

Woodland Design Associates, Inc. was retained by PATH Partners, LLC. to delineate wetlands at the proposed site identified as 218 Twin Rocks Road, Sterling Township, Wayne County, PA. The purpose of this study was to map wetland areas based on the "U.S. ARMY CORPS OF ENGINEERS WETLAND DELINEATION MANUAL, TECHNICAL REPORT Y-87-1" which includes regional supplement: NORTHCENTRAL AND NORTHEAST REGION. This report represents the findings of this investigation. The method for identification and delineation of wetlands on this project was the Routine On-Site Determination.

2. SITE LOCATION

This site is in Sterling Township, Wayne County, Pennsylvania. It is found on Twin Rocks Road. FIGURE 1 is a location map showing the site. FIGURE 2 shows the subdivision map for this area. The size of the project site is approx. 25 acres.

3. PRELIMINARY INFORMATION SOURCES

TOPOGRAPHY

This site is located on the NEWFOUNDLAND, PA Quadrangle, which is shown in FIGURE 3. The site is below the 1370-foot contour interval and drains into West Branch Wallenpaupack and Butternut Creek.

SOILS

Figure 4 shows the soil survey map (Wayne County GIS Mapping) with the site marked. The soil survey indicated that five (5) soil would be found on the site. Below is the description for this soil:

MaC- Mardin channery loam, 8 to 15 percent slopes:

MdD- Mardin extremely stony loam, 8 to 25 percent slopes:

This series is gently sloping, moderately well drained soil on ridgetops, plateaus, and benches. Slopes are slightly concave to smooth and are irregular in shape. The surface layer is dark yellowish brown channery loam about 6 inches thick. The subsoil extends to a depth of 49 inches. The upper part of the subsoil is yellowish brown and light yellowish brown channery loam about 16 inches thick; mottles are in the lower 5 inches. Below that, the subsoil is a mottled, dark yellowish brown and yellowish brown channery loam fragipan. Permeability is moderate above the fragipan and slow and very slow in the fragipan. Runoff is slow and the available water capacity is low and very low.

VoB- Volusia channery silt loam, 3 to 8 percent slopes:

VxB- Volusia extremely stony silt loam,

VxC- Volusia extremely stony silt loam, 8 to 15 percent slopes:

This is a gently sloping, somewhat poorly drained soil on plateaus and low benches. The areas are irregular in shape. The surface layer is very dark grayish brown channery silt loam about 2 inches thick. The subsurface layer is dark brown channery silt loam about 3 inches thick. The subsoil extends to a depth of 45 inches. In the upper 7 inches, it is dark brown and olive brown

channery silt loam. Below that, at a depth of 12 inches, the subsoil is mottled, dark grayish brown channery loam and channery silty clay loam fragipan 33 inches thick. Permeability is slow and very slow, and the available water capacity is very low and low. Runoff is medium.

According to the USDA Soil Conservation's HYDRIC SOILS MANUAL OF THE UNITED STATES Mardin and Volusia are upland soils that may have hydric inclusions of Chippewa soils.

NATIONAL WETLAND INVENTORY MAP

The national Wetland Inventory Map (FIGURE 5) indicates that the project site is uplands.

4. SITE INVESTIGATION

The site was visited on January 26, 2023. The wetland delineator was Michael C. Wood, Registered Landscape Architect, principal and Alex Kammeier, GPS operator. The weather was cloudy and approximately 38 degrees. It had not rained in the area in the last 24 hours. Four borings were taken for this project. The boring locations are shown on the attached plan (FIGURE 6). Vegetation, soils, and hydrology were observed and recorded on the following Field Data Sheet for each boring. Thirteen photographs were also taken of the property and are located on FIGURE 7.1-7.2. The location and direction of the photographs are shown on the attached plan (FIGURE 6).

5. FINDINGS AND SUMMARY

Five (5) wetlands/water were found on site. The flag location and labels can be found on Figure 6. The U.S. Army Corp of Engineers has the final determination as to jurisdiction of wetlands and Waters of the U.S. The Corps can provide, if requested, a jurisdictional determination with regards to this property if you should so desire. A Jurisdictional Determination Request Form is available either through this firm, or through the Corp District office.

The limit of professional liability for this project shall be limited to an amount equal to the fee paid for all work performed by Woodland Design Associates, Inc.

6. CERTIFICATION

Registered Landscape Architect

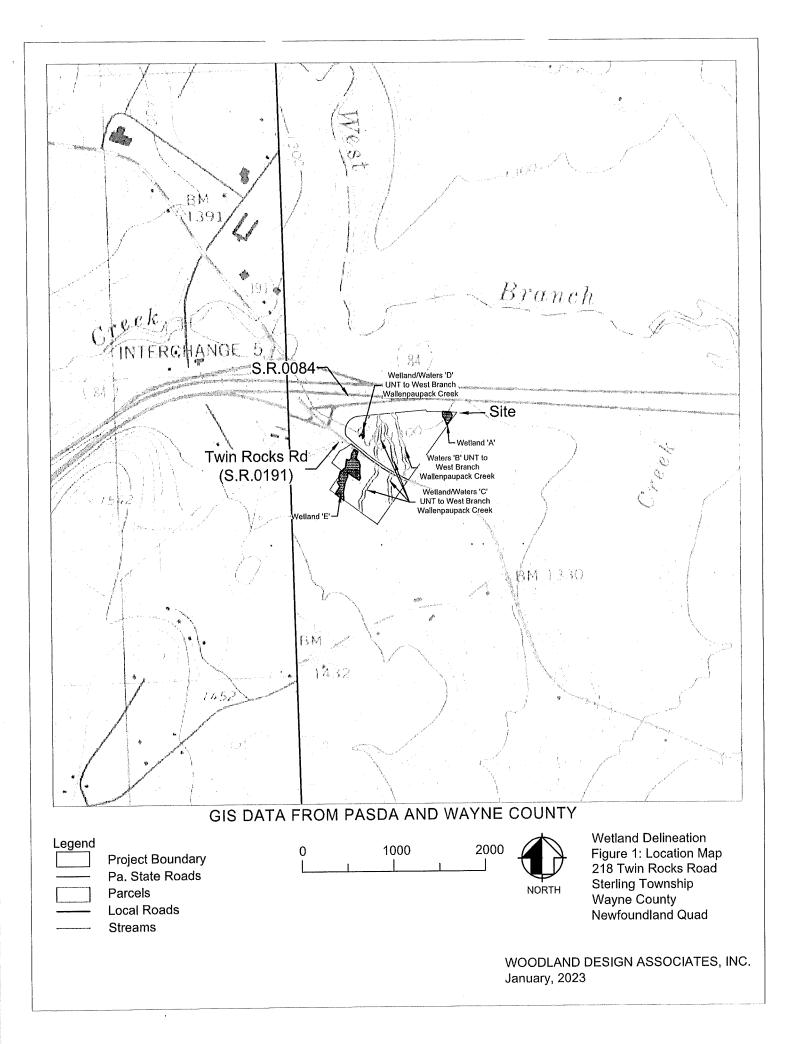
PA. Reg. #000-782-E

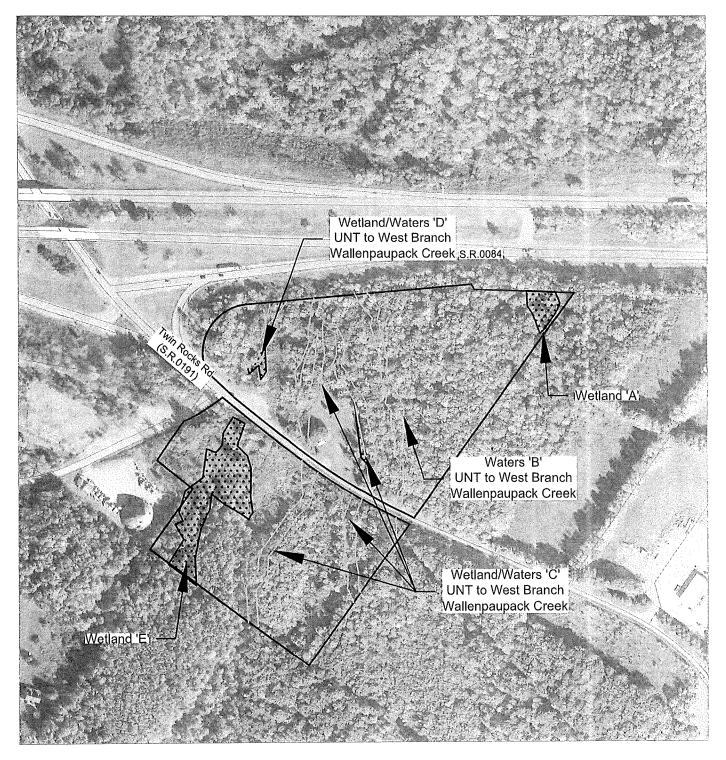
I certify that the above statements, attachments, including those labeled and identified as FIGURES 1 through 7, and all conclusions are true, correct, and based upon current environmental principles and science, to the best of my knowledge and belief.

Michael C. Wood

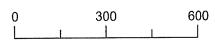
January 27, 2023

Date



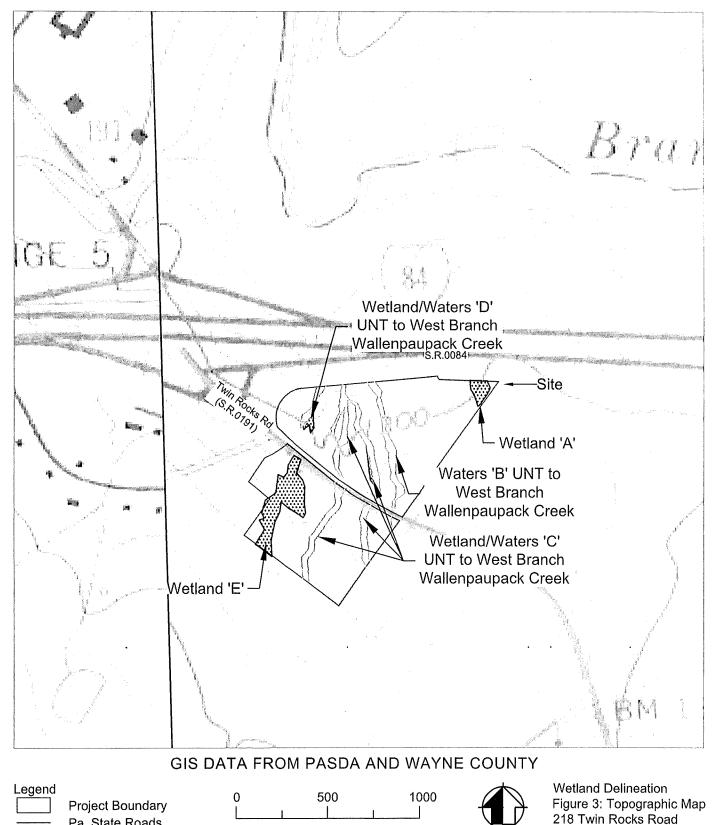


| Legend | |
|--------|------------------|
| | Project Boundary |
| | Pa. State Roads |
| | Parcels |
| | Local Roads |
| | Streams |





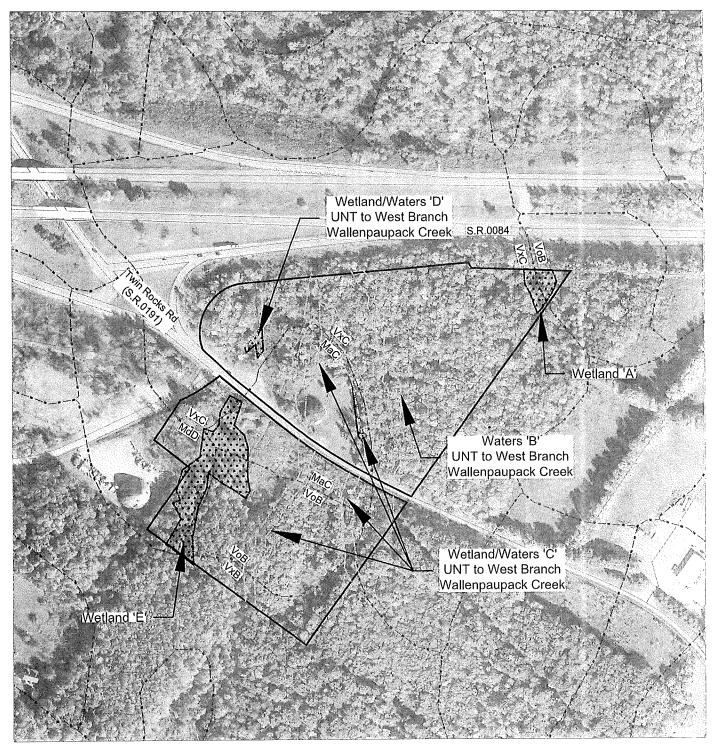
Wetland Delineation
Figure 2: Subdivision Map
218 Twin Rocks Road
Sterling Township
Wayne County
Newfoundland Quad



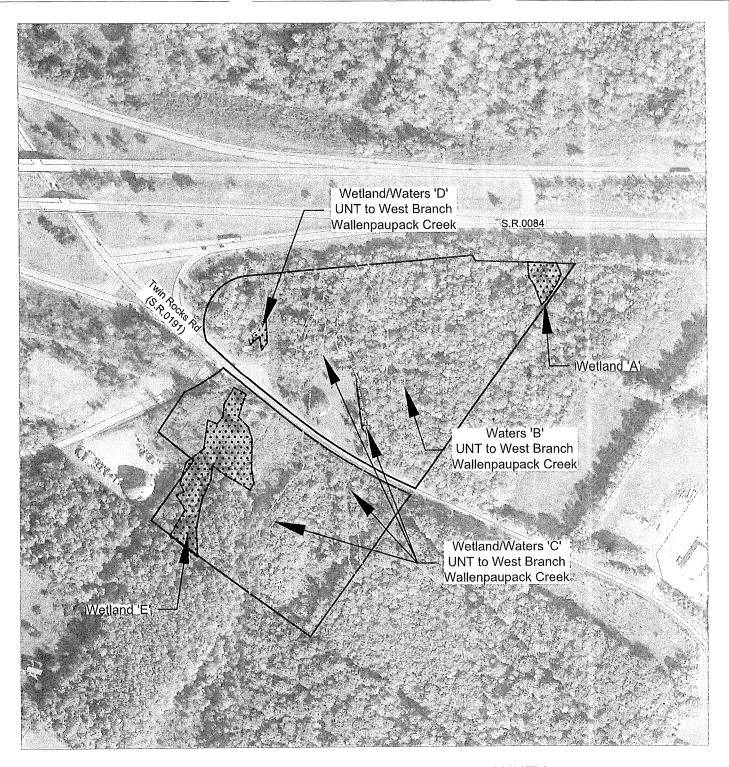
| Legend | | 0 | 500 |
|--------|------------------|---------|----------|
| | Project Boundary | 1 , | 300 I |
| | Pa. State Roads | <u></u> | |
| | Parcels | | |
| | Local Roads | | |
| - | Streams | | |



218 Twin Rocks Road Sterling Township Wayne County Newfoundland Quad



| Legend | Project Boundary Soils Pa. State Roads Parcels Local Roads | 0 | 300 | 600 | NORTH | Wetland Delineation Figure 4: Soils Map 218 Twin Rocks Road Sterling Township Wayne County Newfoundland Quad |
|--------|--|---|---------|-----|-------|--|
| | Stroams | | | | | |

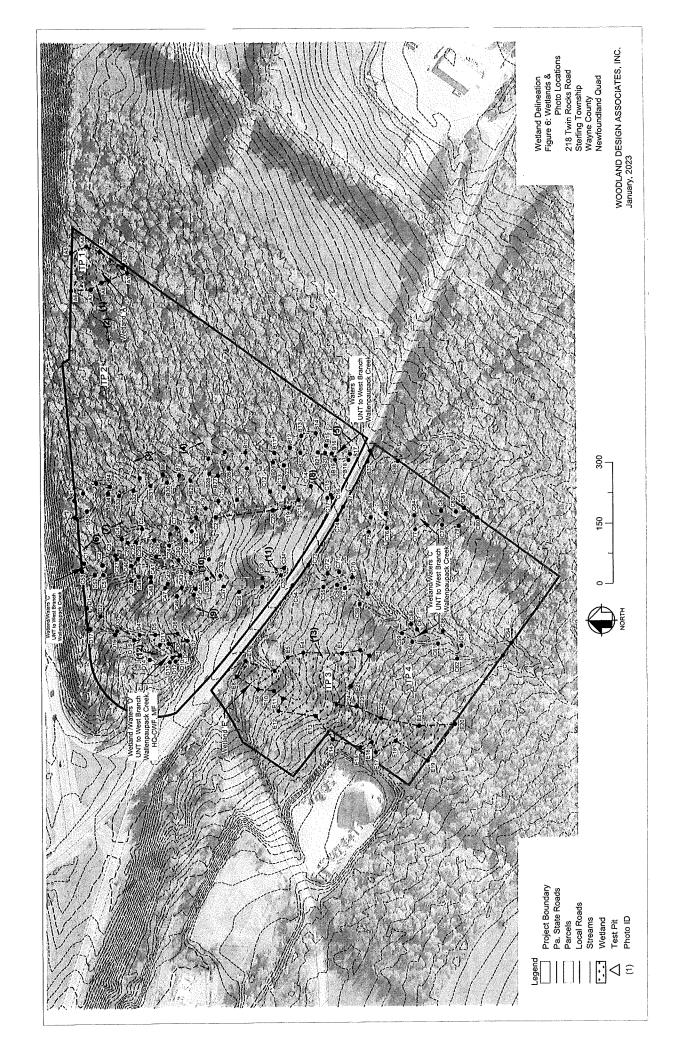


600

| Legend | | 0 | 300 |
|--------|---------------------|---|-----|
| | Project Boundary | Ĺ | |
| | Pa. State Roads | | |
| | Parcels | | |
| | Local Roads | | |
| | Streams | | |
| + + + | NWI- No NWI Present | | |



Wetland Delineation Figure 5: NWI 218 Twin Rocks Road Sterling Township Wayne County Newfoundland Quad



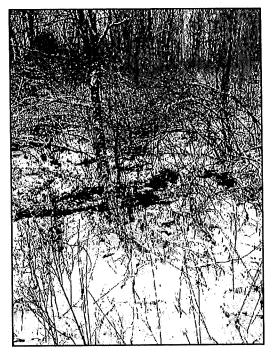


Photo 1

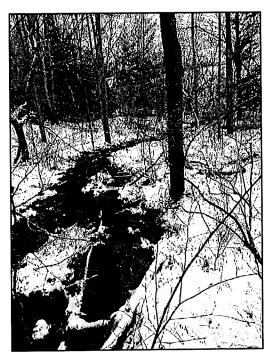


Photo 3



Photo 2

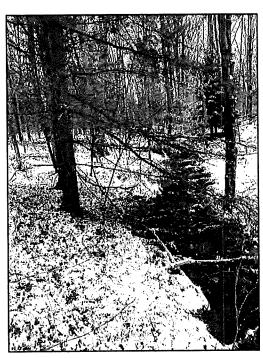


Photo 4

Wetland Delineation
Figure 7.1: Photos
218 Twin Rocks Road
Sterling Township
Wayne County
Newfoundland Quad

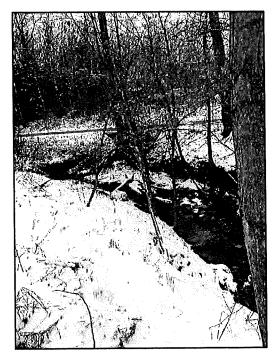


Photo 5



Photo 7



Photo 6



Photo 8

Wetland Delineation Figure 7.2: Photos 218 Twin Rocks Road Sterling Township Wayne County Newfoundland Quad

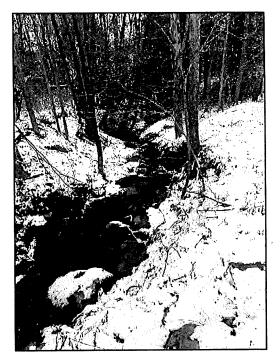


Photo 9



Photo 11



Photo 10

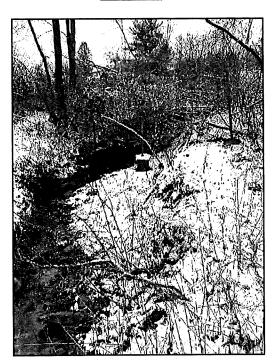


Photo 12

Wetland Delineation Figure 7.3: Photos 218 Twin Rocks Road Sterling Township Wayne County Newfoundland Quad

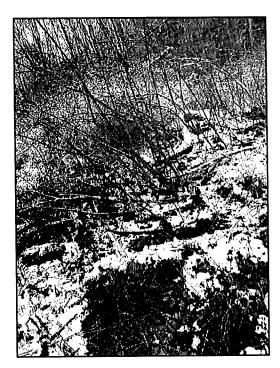


Photo 13

Wetland Delineation Figure 7.3: Photos 218 Twin Rocks Road Sterling Township Wayne County Newfoundland Quad

| Project/Site: 218 Twin Rocks Road | City/County: Wayne Sampling Date: 1.26.23 |
|--|--|
| Applicant/Owner: PATH Partners, LLC | State: PA Sampling Point: IP 1 |
| Investigator(s): Micahel Wood, RLA, Alex Kammeier | Section, Township, Range: Sterling Township |
| Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): Convex |
| Slope (%): 3-8% Lat: 41.353512 | Long: -75.368839 Datum: WGS84 |
| Soil Map Unit Name: VoB- Volusia channery silt loam | NWI classification: UPL |
| Are climatic / hydrologic conditions on the site typical for this time of ye | |
| | y disturbed? Are "Normal Circumstances" present? Yes X No |
| Are Vegetation <u>No</u> , Soil <u>No</u> , or Hydrology <u>No</u> naturally pr | roblematic? (If needed, explain any answers in Remarks.) |
| SUMMARY OF FINDINGS – Attach site map showing | g sampling point locations, transects, important features, etc. |
| | Is the Sampled Area |
| Hydrophytic Vegetation Present? Yes X No | . Y |
| Hydric Soil Present? Yes X No Wetland Hydrology Present? Yes X No | If yes, optional Wetland Site ID: Wetland A |
| Remarks: (Explain alternative procedures here or in a separate repr | ort.) |
| | |
| HYDROLOGY | |
| Wetland Hydrology Indicators: | Secondary Indicators (minimum of two required) |
| Primary Indicators (minimum of one is required; check all that apply | |
| X Surface Water (A1) X Water-Stained | |
| X High Water Table (A2) Aquatic Faun. | |
| X Saturation (A3) Marl Deposits Water Marks (B1) Hydrogen Sul | |
| | zospheres on Living Roots (C3) X Saturation Visible on Aerial Imagery (C9) |
| X Sediment Deposits (B2) Oxidized Rhiz Drift Deposits (B3) Presence of F | Reduced Iron (C4) Stunted or Stressed Plants (D1) |
| | Reduction in Tilled Soils (C6) X Geomorphic Position (D2) |
| Iron Deposits (B5) Thin Muck St | urface (C7) Shallow Aquitard (D3) |
| x Inundation Visible on Aerial Imagery (B7) Other (Explain | n in Remarks) Microtopographic Relief (D4) |
| Sparsely Vegetated Concave Surface (B8) | FAC-Neutral Test (D5) |
| Field Observations: | 2 |
| Surface Water Present? Yes X No Depth (inche | |
| Water Table Present? Yes X No Depth (inche | es): 0 Wetland Hydrology Present? Yes X No |
| Saturation Present? Yes X No Depth (inche (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial pho | |
| | atou, provided inspection, it as a second |
| google maps | |
| Remarks: | f to to to the surround and the surround |
| Evidence of water table immediately below the | ne surface for 12.5 percent of the growing season |
| measured in consecutive days. | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

| ١ | /EG | ETA | MOITA | – Use | scientific | names | of | plants. |
|---|-----|-----|--------|-------|-------------|---------|----|---------|
| • | · | | 111011 | - 000 | 30101111110 | Hallios | 0, | piarito |

Sampling Point: TP 1

| 30 ' dia | | Dominant | | Dominance Test worksheet: |
|---|-----------------|------------|--------|--|
| Tree Stratum (Plot size: 30 ' dia) | <u>% Cover</u> | Species? | Status | Number of Dominant Species |
| 1. none | | | | That Are OBL, FACW, or FAC: 2 (A) |
| 2 | | | | Total Number of Dominant |
| 3 | | | | Species Across All Strata: 2 (B) |
| 4 | | | | Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B) |
| 5 | | | | That Ale OBL, FACW, of FAC. (AVB) |
| 6 | | | | Prevalence Index worksheet: |
| 7 | _ | | | Total % Cover of: Multiply by: |
| | 0 | = Total Co | ver | OBL species <u>75</u> x 1 = <u>75</u> |
| Sapling/Shrub Stratum (Plot size: 15' dia) | | | | FACW species x 2 = x 2 = |
| 1. Red Maple | 10 | no | FAC | FAC species $\frac{10}{10}$ $\times 3 = \frac{30}{10}$ |
| 2 | | | | FACU species $\frac{0}{x}$ $x = \frac{0}{x}$ |
| 3 | | | | UPL species $\frac{0}{100}$ x 5 = $\frac{0}{100}$ |
| | | | | Column Totals: 100 (A) 135 (B) |
| 4 | | | | Prevalence Index = B/A = 1.35 |
| 5 | | | | Hydrophytic Vegetation Indicators: |
| 6 | | | | x Rapid Test for Hydrophytic Vegetation |
| 7 | 10 | . | | × Dominance Test is >50% |
| El dia | 10 | = Total Co | ver | X Prevalence Index is ≤3.0¹ |
| Herb Stratum (Plot size: 5' dia) Leafy Tusic Sedge | 50 | yes | OBL | Morphological Adaptations ¹ (Provide supporting |
| | - 25 | | OBL | data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) |
| 2. Reed Canary Grass | _ | yes | | Problematic Hydrophytic Vegetation (Explain) |
| 3. Cinnamon Fern | _ <u>15</u> | <u>no</u> | FACW | ¹ Indicators of hydric soil and wetland hydrology must |
| 4 | _ | | | be present, unless disturbed or problematic. |
| 5 | | | | Definitions of Vegetation Strata: |
| 6 | _ | | | Tree – Woody plants 3 in. (7.6 cm) or more in diameter |
| 7 | _ | | | at breast height (DBH), regardless of height. |
| 8 | | | | Sapling/shrub – Woody plants less than 3 in. DBH |
| 9. | | | | and greater than 3,28 ft (1 m) tall. |
| 10. | | | | Herb – All herbaceous (non-woody) plants, regardless |
| 11. | | | | of size, and woody plants less than 3.28 ft tall. |
| 12 | | | | Woody vines - All woody vines greater than 3.28 ft in |
| | 90 | = Total Co | ver | height. |
| Woody Vine Stratum (Plot size: 30' Dia) | | | | |
| nona | | | | |
| | | | | |
| 2 | | | | l., |
| 3 | | | | Hydrophytic Vegetation |
| 4 | | | | Present? Yes X No |
| | 0 | = Total Co | ver | |
| Remarks: (Include photo numbers here or on a separate | sheet.) | | | |
| See Photo 1. | | | | |
| | | | | |
| Meets rapid, dominance and prevalence | e test. | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

| Sampling | Point: | TP | 1 |
|----------|--------|----|---|
| | | | |

| Profile Desc | ription: (Describe | to the de | pth needed to docun | nent the i | ndicator | or confirn | n the absence | of indicators.) |
|--|--|---------------------|-----------------------|--|---|-------------------|---|---|
| Depth (inches) | Matrix | % | | x Feature | | Loc² | Toyturo | Pomorko |
| (inches) 0-4" | Color (moist) 10YR 3/1 | - 80 | Color (moist) | % | _Type' | Loc | Texture | Remarks 20% coarse fragments |
| 4-10" | 5YR 5/2 | 70 | 2.5YR 5/6 | 10 | С | M | weak medium granular s | 20% coarse fragments |
| 10-16" | 2.5YR 5/2 | 65 | 2.5YR 5/2 | 10 | С | M | weak medium subangul. | 25% coarse fragments |
| | | | | | | | | |
| | | | | _ | | | | |
| | | | | | | | | |
| 1 | | | | | | | . 21 | C - DI D - Liste MANAGE |
| Type: C=C Hydric Soil | | pletion, RN | /I=Reduced Matrix, CS | S=Covere | d or Coat | ed Sand G | | cation: PL=Pore Lining, M=Matrix. for Problematic Hydric Soils ³ : |
| Black H X Hydrogo Stratifie Deplete Thick D Sandy I Sandy I Sandy I Dark St | pipedon (A2) istic (A3) en Sulfide (A4) d Layers (A5) d Below Dark Surfac ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) d Matrix (S6) urface (S7) (LRR R, | MLRA 149 | |) ace (S9) (Mineral (F Matrix (F2 x (F3) urface (F6 Surface (I sions (F8) | LRR R, M 1) (LRR F 2)) F7) | LRA 149E (, L) | Coast 5 cm f Dark 5 Polyva Thin E Iron-N Piedm Mesic Red P Very 5 | Muck (A10) (LRR K, L, MLRA 149B) Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L) alue Below Surface (S8) (LRR K, L) Dark Surface (S9) (LRR K, L) Anganese Masses (F12) (LRR K, L, R) Mont Floodplain Soils (F19) (MLRA 149B) Spodic (TA6) (MLRA 144A, 145, 149B) Parent Material (TF2) Shallow Dark Surface (TF12) (Explain in Remarks) |
| | of hydrophytic vegeta Layer (if observed) | | vetland hydrology mus | st be pres | ent, unles | s disturbed | d or problemati | C. |
| Type: | Euyer (II observed) | ,. | | | | | | |
| Depth (ir | iches): | | | | | | Hydric Soi | I Present? Yes X No |
| tl | ne surface. | | | | | | | ations immediately below |

| Project/Site: 218 Twin Rocks | Road | City/County: Wayr | ne | Sampling Date: 1.26.23 |
|---|--|-----------------------|--------------------------------|---|
| Applicant/Owner: PATH Partn | | | State: PA | Sampling Point: TP 2 |
| Investigator(s): Micahel Wood | | Section, Township, | Range: Sterling Township |) |
| Landform (hillslope, terrace, etc | | | elief (concave, convex, none): | |
| Slope (%): 8-15% Lat: 4 | | -75.36987 | 6 | Datum, WGS84 |
| | lusia extremely stony silt loam | Long: | 6 NWI classific | LIPI |
| | | | | |
| · · · | ons on the site typical for this time of y | | | |
| | , or Hydrology No significantly | | Are "Normal Circumstances" p | resent? Yes X No |
| Are Vegetation, Soil | , or Hydrology <u>No</u> naturally pr | roblematic? (| If needed, explain any answe | rs in Remarks.) |
| SUMMARY OF FINDING | S – Attach site map showing | g sampling poi | nt locations, transects | , important features, etc. |
| Hydrophytic Vegetation Preser | nt? Yes No X | Is the Sam | | |
| Hydric Soil Present? | Yes No × | within a We | etland? Yes | No <u>X</u> |
| Wetland Hydrology Present? | | * | nal Wetland Site ID: | |
| Remarks: (Explain alternative | procedures here or in a separate repo | | | |
| Does not meet any o | of the three criteria | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| HYDROLOGY | | | | |
| Wetland Hydrology Indicato | | | | tors (minimum of two required) |
| Primary Indicators (minimum o | of one is required; check all that apply) | | Surface Soil | |
| Surface Water (A1) | Water-Stained | | Drainage Pa | 1 |
| High Water Table (A2) | Aquatic Fauna | | Moss Trim Li | |
| Saturation (A3) | Marl Deposits | | | Water Table (C2) |
| Water Marks (B1) | Hydrogen Sulf | | Crayfish Bur | |
| Sediment Deposits (B2) | Oxidized Rniz | cospheres on Living F | | sible on Aerial Imagery (C9) tressed Plants (D1) |
| Drift Deposits (B3) Algal Mat or Crust (B4) | | eduction in Tilled So | | Position (D2) |
| Algar wat of Crust (B4) Iron Deposits (B5) | Thin Muck Su | | Shallow Aqu | |
| Inundation Visible on Aeri | | | | aphic Relief (D4) |
| Sparsely Vegetated Conc | - | • | FAC-Neutral | |
| Field Observations: | | | | |
| Surface Water Present? | Yes No X Depth (inches | s): | | |
| Water Table Present? | Yes No X Depth (inches | s): | | |
| Saturation Present? | Yes No X Depth (inche | s): | Wetland Hydrology Preser | t? Yes No X |
| (includes capillary fringe) | am gauge, monitoring well, aerial pho | tos previous inspec | tions), if available: | |
| | am gaage, memering neil, densi prie | 100, p. 0 | ,,, | |
| google maps | | | | |
| Remarks: | | | | |
| No evidence of water | er table at or near the surf | ace for 12.5% | of the growing sea | son measured in |
| consecutive days | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

| 201 dia | Absolute | Dominant | | Dominance Test worksheet: |
|---|-----------------|-------------|-------------|--|
| Tree Stratum (Plot size: 30' dia) | | Species? | | Number of Dominant Species |
| 1. American Beech | $\frac{30}{20}$ | Yes | FACU | That Are OBL, FACW, or FAC: 0 (A) |
| 2. Sugar Maple | 20 | Yes | FACU | Total Number of Dominant |
| 3. Black Cherry | 15 | Yes | FACU | Species Across All Strata: 5 (B) |
| 4. Eastern White Pine | 10 | <u>No</u> | FACU | Percent of Dominant Species That Are ORL FACW or FAC: 0 |
| 5 | | | | That Are OBL, FACW, or FAC: 0 (A/B) |
| 6 | | | | Prevalence Index worksheet: |
| 7 | | | | Total % Cover of:Multiply by: |
| | 75 | = Total Cov | /er | OBL species 0 x 1 = 0 |
| Sapling/Shrub Stratum (Plot size: 15' dia | .) | | | FACW species 0 x 2 = 0 |
| 1. American Beech Sapling | 15 | Yes | FACU | FAC species 0 x 3 = 0 |
| 2 | | | | FACU species 90 x 4 = 360 |
| | | | | UPL species $\frac{10}{100}$ x 5 = $\frac{50}{100}$ |
| 3 | | | | Column Totals: 100 (A) 410 (B) |
| 4 | | | | Prevalence Index = B/A = 4.10 |
| 5 | | | | |
| 6 | | | | Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation |
| 7 | | | | Dominance Test is >50% |
| | 15 | = Total Co | /er | — Prevalence Index is ≤3.0¹ |
| Herb Stratum (Plot size: 5' dia) | | | | Morphological Adaptations ¹ (Provide supporting |
| 1. Hay Scented Fern | 10 | Yes | UPL | data in Remarks or on a separate sheet) |
| 2 | | | | Problematic Hydrophytic Vegetation¹ (Explain) |
| 3, | | | | 1 |
| 4 | | | | ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 5 | | | | |
| | | | | Definitions of Vegetation Strata: |
| 6 | | | | Tree – Woody plants 3 in. (7.6 cm) or more in diameter |
| 7. | | | | at breast height (DBH), regardless of height. |
| 8 | | | | Sapling/shrub – Woody plants less than 3 in. DBH |
| 9 | | | | and greater than 3.28 ft (1 m) tall. |
| 10 | | | | Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. |
| 11. | | | | |
| 12 | | _ | | Woody vines – All woody vines greater than 3.28 ft in height. |
| | 10 | _= Total Co | ver | Hoight. |
| Woody Vine Stratum (Plot size: 30' dia) | | | | |
| 1. none | 0 | | | |
| 2 | | | | |
| 3. | | | | - Hydrophytic |
| 4. | | | | Vegetation |
| 4. | 0 | = Total Co | vor | Present? Yes No _X |
| Remarks: (Include photo numbers here or on a sepa | rate sheet) | 10101 00 | | |
| · | ilate sileet.) | | | |
| See photo 2 | | langa ta | oto | |
| Does not meet the rapid, dominance | e, or preva | ience (e | ડા ડ | |
| | | | | |
| | • | | | |
| | | | | |
| | | | | |
| | | | | |

Sampling Point: TP2

| Profile Desc | cription: (Describe | to the dep | oth needed to docum | | ator or confir | m the absence | of indicators.) |
|---|--|--------------|----------------------|--|-----------------------------------|---------------------------|---|
| Depth (inches) | Matrix Color (moist) | % | Color (moist) | Features % | /pe ¹ Loc ² | Texture | Remarks |
| 0-2 | 10YR 3/2 | 85 | <u>Color (molot)</u> | | 100 | mod, very fine and fine (| 15% Coarse Fragments |
| 2-5 | 10YR 4/3 | 85 | | | | weak very fine subangul | 15% Coarse Fragments |
| 5-9 | 10YR 4/3 | 85 | | | | mod, fine subangular bk | 15% Coarse Fragments |
| 9-12 | 2.5Y 4/4 | 80 | | | | weak fine subangular bl | 20% Coarse Fragments |
| | | | | | | | |
| | | | | | | | |
| ¹ Type: C=C Hydric Soil | | oletion, RM | l=Reduced Matrix, CS | S=Covered or | Coated Sand (| | cation: PL=Pore Lining, M=Matrix. for Problematic Hydric Soils ³ : |
| Black H Hydroge Stratifie Deplete Thick D Sandy N Sandy N Dark Su | pipedon (A2) istic (A3) en Sulfide (A4) d Layers (A5) d Below Dark Surfac ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) d Matrix (S6) urface (S7) (LRR R, | MLRA 149 | | ce (S9) (LRR dineral (F1) (I Matrix (F2) (F3) face (F6) Surface (F7) ions (F8) | R, MLRA 149 LRR K, L) | Coast B) 5 cm M | Muck (A10) (LRR K, L, MLRA 149B) Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R) Burface (S7) (LRR K, L) Burlace (S8) (LRR K, L) Burk Surface (S9) (LRR K, L) Burk Surface (S9) (LRR K, L) Burk Surface (S9) (LRR K, L) Burlace Masses (F12) (LRR K, L, R) Burlace Masses (F12) (MLRA 149B) Spodic (TA6) (MLRA 144A, 145, 149B) Burlace Material (TF2) Shallow Dark Surface (TF12) (Explain in Remarks) |
| | of hydrophytic vegeta | | etland hydrology mus | t be present, | unless disturbe | ed or problemation | С. |
| Type: no | - ' | | *** | | | | |
| Depth (ir | | | | | | Hydric Soil | I Present? Yes No X |
| Remarks: C | Chroma of ma | trix is > | 2; no mottles o | or gleying | immediat | ely below t | he surface |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

| Project/Site: 218 Twin Rocks | Road | City/County: Wayn | е | Sampling Date: 1.26.23 |
|--|--|------------------------|---|---------------------------------|
| Applicant/Owner: PATH Partn | | | State: PA | Sampling Point: TP 3 |
| Investigator(s): Micahel Wood | I, RLA, Alex Kammeier | Section Township | Range: Sterling Townshi | ρ |
| Landform (hillslope, terrace, etc. | | Local rel | ief (concave, convex, none) | Convex |
| Slope (%): 3-8% Lat: 4 | | | | |
| Soil Map Unit Name: VoB- Vol | usia channery silt loam | Long; | A448 1 12 | LIPI |
| | | | NWI classific | |
| • - | ons on the site typical for this time of y | | | |
| Are Vegetation NO, Soil NO | , or Hydrology No significantly | y disturbed? A | re "Normal Circumstances" | present? Yes X No |
| Are Vegetation No, Soil No | , or Hydrology <u>No</u> naturally pr | roblematic? (I | f needed, explain any answe | ers in Remarks.) |
| SUMMARY OF FINDING | S – Attach site map showin | g sampling poir | t locations, transects | s, important features, etc. |
| Hydrophytic Vegetation Preser Hydric Soil Present? | V . Y N. | _ Within a We | tland? Yes X | No |
| Wetland Hydrology Present? Remarks: (Explain alternative | Yes X No | | al Wetland Site ID: Wetlar | nd E |
| Remarks: (Explain alternative | procedures here or in a separate rep | ort.) | | |
| | | | | |
| HYDROLOGY | | | | 1 |
| Wetland Hydrology Indicato | | , | | ators (minimum of two required) |
| | of one is required; check all that apply | | | Cracks (B6) |
| X Surface Water (A1) | × Water-Stained | | X Drainage PageMoss Trim I | |
| X High Water Table (A2) | Aquatic Fauna Marl Deposits | | | Water Table (C2) |
| X Saturation (A3) Water Marks (B1) | Hydrogen Sul | | Crayfish Bu | |
| X Sediment Deposits (B2) | | zospheres on Living F | | /isible on Aerial Imagery (C9) |
| Drift Deposits (B3) | | Reduced Iron (C4) | | Stressed Plants (D1) |
| Algal Mat or Crust (B4) | | Reduction in Tilled So | ls (C6) X Geomorphi | Position (D2) |
| Iron Deposits (B5) | Thin Muck Su | ırface (C7) | Shallow Aq | uitard (D3) |
| X Inundation Visible on Aer | ial Imagery (B7) Other (Explain | n in Remarks) | Microtopog | aphic Relief (D4) |
| Sparsely Vegetated Cond | ave Surface (B8) | | FAC-Neutra | Il Test (D5) |
| Field Observations: | | | | |
| Surface Water Present? | Yes X No Depth (inche | es): <u>2</u> | | |
| Water Table Present? | Yes X No Depth (inche | | | x |
| Saturation Present? (includes capillary fringe) Describe Recorded Data (stre | Yes X No Depth (inche | • | Wetland Hydrology Preseions), if available: | nt? Yes X No |
| google maps | | | | |
| Remarks: | | | | |
| Evidence of water ta measured in consec | able immediately below the cutive days. | ne surface for 1 | 2.5 percent of the | growing season |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

| | Λ la = = l t = | Daminant | Indicator | |
|---|----------------|----------------------|-----------|--|
| Tree Stratum (Plot size: 30 ' dia) | | Dominant Species? | | Dominance Test worksheet: |
| , none | | | | Number of Dominant Species That Are ORL FACW or FAC: 2 (A) |
| | | | | That Are OBL, FACW, or FAC: 2 (A) |
| 2. | | | | Total Number of Dominant |
| 3, | | | | Species Across All Strata: 2 (B) |
| 4 | | | | Percent of Dominant Species That Are OBL FACW or FAC: 100 (A/B) |
| 5 | | | | That Are OBL, FACW, or FAC: 100 (A/B) |
| 6 | | | | Prevalence Index worksheet: |
| 7 | | | | Total % Cover of: Multiply by: |
| | 0 | = Total Cov | | OBL species 60 x 1 = 60 |
| 15' dia | | 10tai Cov | /ei | FACW species 30 x 2 = 60 |
| Sapling/Shrub Stratum (Plot size: 15' dia) | 10 | | FAC | FAC species 10 x 3 = 30 |
| 1. Red Maple | _ 10 | no | | FACU species 0 x 4 = 0 |
| 2 | | | | UPL species $0 \times 5 = 0$ |
| 3 | | | | Column Totals: 100 (A) 150 (B) |
| 4 | | | | Column Totals, (A) (B) |
| | | | | Prevalence Index = B/A = 1.5 |
| 5 | | | | Hydrophytic Vegetation Indicators: |
| 6, | | | | x Rapid Test for Hydrophytic Vegetation |
| 7 | | | | X Dominance Test is >50% |
| | 10 | _ = Total Co | ver | × Prevalence Index is ≤3.0 ¹ |
| Herb Stratum (Plot size: 5' dia) | | | | Morphological Adaptations¹ (Provide supporting |
| 1. Leafy Tusic Sedge | 30 | yes | OBL | data in Remarks or on a separate sheet) |
| 2 Reed Canary Grass | 30 | . yes | OBL | Problematic Hydrophytic Vegetation¹ (Explain) |
| 3. Cinnamon Fern | 20 | no | FACW | |
| | | | FACW | ¹ Indicators of hydric soil and wetland hydrology must |
| 4. Sensitive Fern | _ <u>10</u> | no | FACVV | be present, unless disturbed or problematic. |
| 5 | | | | Definitions of Vegetation Strata: |
| 6. | | | | The Meadurate 2 in 77.6 cm) or more in diameter |
| 7. | | | | Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. |
| | | | | |
| 8 | | | | Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. |
| 9 | | | | |
| 10 | | | | Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. |
| 11 | | | | Of Size, and woody plants less than 5.20 it tall. |
| 12. | | | | Woody vines – All woody vines greater than 3.28 ft in |
| | 90 | = Total Co | ver | height. |
| 30' Dia | | | | |
| Woody Vine Stratum (Plot size: 30' Dia) | | | | |
| 1. none | | | | • |
| 2 | | | | |
| 3 | | | | Hydrophytic |
| 4. | | | | Vegetation Present? Yes X No |
| | 0 | = Total Co | ver | riesenti ita |
| Remarks: (Include photo numbers here or on a separate | sheet.) | | | |
| , | , | | | |
| See Photo 14. | | | | |
| | 44 | | | |
| Meets rapid, dominance and prevalen | ce test. | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

| Profile Desc | ription: (Describe | to the de | oth needed to docun | nent the | indicator | or confirm | n the absence | of indicators.) | |
|---------------------------|--|----------------|---|----------------|---|-------------|--|---|--|
| Depth | Matrix | ~~~ | | x Feature % | s Type ¹ | Loc² | Texture | Remarks | |
| (inches) 0-4" | Color (moist) 10YR 3/1 | 80 | Color (moist) | | iybe | LUC | weak fine and medium (| 20% coarse fragments | |
| 4-10" | 5YR 5/2 | 70 | 2.5YR 5/6 | 10 | | | weak medium granular s | 20% coarse fragments | |
| | | | | | | | | | |
| 10-16" | 2.5YR 5/2 | 65 | 2.5YR 5/2 | 10 | <u>C</u> | <u>M</u> | weak medium subangul: | 25% coarse fragments | |
| | | | | | | | | | |
| | | | | | | <u> </u> | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | * ************************************* | | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | | |
| | | | | - | | | | | |
| | | | *************************************** | | | | | | |
| | | | | | * | | | | |
| | | | | | - | | | | |
| | | • •••••• | | | | | | | |
| | | letion, RM | I=Reduced Matrix, CS | S=Covere | d or Coate | ed Sand G | | cation: PL=Pore Lining, M=Matrix. | |
| Hydric Soil Histosol | | | Polyvalue Belov | u Surface | . (SB) (I D | D D | | for Problematic Hydric Soils ³ : Muck (A10) (LRR K, L, MLRA 149B) | |
| | oipedon (A2) | | MLRA 149B | | 5 (30) (LK | ιχ ιχ, | | Prairie Redox (A16) (LRR K, L, R) | |
| Black Hi | stic (A3) | | Thin Dark Surfa | | | | , | Mucky Peat or Peat (S3) (LRR K, L, R) | |
| 1 | n Sulfide (A4) d Layers (A5) | | Loamy Mucky N Loamy Gleyed | | | (, L) | | Surface (S7) (LRR K, L) alue Below Surface (S8) (LRR K, L) | |
| | d Below Dark Surfac | e (A11) | × Depleted Matrix | | _, | | | Park Surface (S9) (LRR K, L) | |
| | ark Surface (A12) | | Redox Dark Su | | • | | | langanese Masses (F12) (LRR K, L, R) | |
| | Mucky Mineral (S1) Bleyed Matrix (S4) | | Depleted Dark | | | | | ont Floodplain Soils (F19) (MLRA 149B) Spodic (TA6) (MLRA 144A, 145, 149B) | |
| | Redox (S5) | | Nodox Boproso | 10110 (1 0) | | | | arent Material (TF2) | |
| Stripped | Matrix (S6) | | | | | | Very Shallow Dark Surface (TF12) | | |
| Dark Su | rface (S7) (LRR R, I | VILRA 149 | /B) | | | | Other | (Explain in Remarks) | |
| ³ Indicators o | f hydrophytic vegeta | tion and w | etland hydrology mus | st be pres | ent, unles | s disturbed | d or problemati | c. | |
| Restrictive | Layer (if observed): | | | | | | | | |
| Туре: | | | | | | | 11 | Present? Yes X No | |
| Depth (in | ches): | | | | | | Hyaric Soil | Present? Yes No | |
| Remarks: | nmediatelv be | low the | e surface the c | hroma | a is < 3 | ; redox | concentra | ations immediately below | |
| 1 | ne surface. | | | | | • | | · | |
| T | | | | | | | | | |
| S | oil mapped or | n site is | s Volusia, Volu | sia so | il has (| Chippay | wa inclusio | ons. Soil found on site was | |
| C | hippawa | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

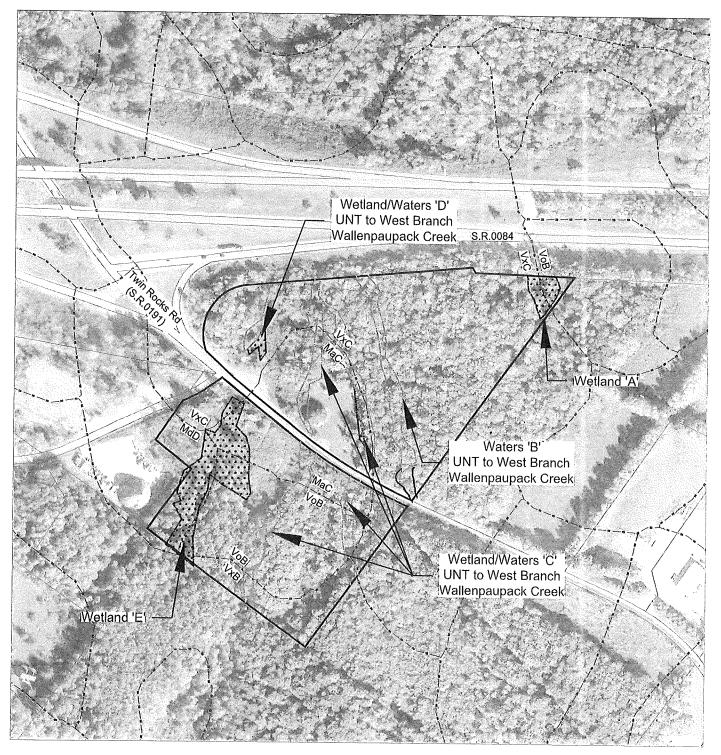
| Project/Site: 218 Twin Rocks Road | City/County: Wayne Sampling Date: 1.26.23 |
|--|--|
| Applicant/Owner: PATH Partners, LLC | State: PA Sampling Point: TP4 |
| Investigator(s): Michael C. Wood, RLA | Section, Township, Range: Sterling Township |
| | Local relief (concave, convex, none): Convex |
| | Long: -75.372681 Datum: WGS84 |
| Soil Map Unit Name: VoB- Volusia channery silt loam | NWI classification: UPL |
| Are climatic / hydrologic conditions on the site typical for this time of | |
| | tly disturbed? Are "Normal Circumstances" present? Yes X No |
| Are Vegetation, Soil, or Hydrology No naturally p | |
| | ng sampling point locations, transects, important features, etc. |
| Hydrophytic Vegetation Present? Yes No X | Is the Sampled Area |
| Hydric Soil Present? Yes No X | within a Wetland? Yes No X |
| Wetland Hydrology Present? Yes No _x | If yes, optional Wetland Site ID: |
| Remarks: (Explain alternative procedures here or in a separate rep | oort.) |
| Does not meet any of the three criteria | |
| | |
| | |
| | |
| | |
| HYDROLOGY | |
| Wetland Hydrology Indicators: | Secondary Indicators (minimum of two required) |
| Primary Indicators (minimum of one is required; check all that apply | y) Surface Soil Cracks (B6) |
| Surface Water (A1) Water-Staine | d Leaves (B9) Drainage Patterns (B10) |
| High Water Table (A2) Aquatic Faun | na (B13) Moss Trim Lines (B16) |
| Saturation (A3) Marl Deposits | s (B15) Dry-Season Water Table (C2) |
| Water Marks (B1) Hydrogen Su | ılfide Odor (C1) Crayfish Burrows (C8) |
| 1 | zospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) |
| | Reduced Iron (C4) Stunted or Stressed Plants (D1) |
| Algal Mat or Crust (B4) Recent Iron F | Reduction in Tilled Soils (C6) Geomorphic Position (D2) |
| Iron Deposits (B5) Thin Muck St | |
| Inundation Visible on Aerial Imagery (B7) Other (Explai | in in Remarks) Microtopographic Relief (D4) |
| Sparsely Vegetated Concave Surface (B8) | FAC-Neutral Test (D5) |
| Field Observations: | |
| Surface Water Present? Yes No X Depth (inche | əs): |
| Water Table Present? Yes No _x Depth (inche | |
| Saturation Present? Yes No _X Depth (inche | es): Wetland Hydrology Present? Yes No X |
| (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial pho | otos, previous inspections), if available: |
| 1 | |
| google maps | |
| Remarks: | · |
| No evidence of water table at or near the surf | face for 12.5% of the growing season measured in |
| consecutive days | |
| , | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

| • | A I 1 4 - | 5 | T. D. T. | |
|---|------------------|-------------------|----------|--|
| Tree Stratum (Plot size: 30' dia) | Absolute % Cover | Dominant Species? | Status | Dominance Test worksheet: |
| American Reach | | | | Number of Dominant Species |
| 1. American Beech | _ 30 | Yes | FACU | That Are OBL, FACW, or FAC: 0 (A) |
| 2. Red Maple | _ <u>30</u> | Yes | FACU | Total Number of Dominant |
| 3. Black Cherry | 15 | Yes | FACU | Species Across All Strata: 5 (B) |
| 4 | | | | Demonst of Deminent Species |
| | | | | Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B) |
| 5 | | | | |
| 6 | - | | | Prevalence Index worksheet: |
| 7 | | | | Total % Cover of: Multiply by: |
| | 75 | = Total Cov | er | OBL species 0 x 1 = 0 |
| Sapling/Shrub Stratum (Plot size: 15' dia) | | | | FACW species $0 \times 2 = 0$ |
| 1. American Beech Sapling | 15 | Yes | FACU | FAC species $0 \times 3 = 0$ |
| · · · | | | | FACU species 90 x 4 = 360 |
| 2, | | | | UPL species $\frac{10}{x}$ $x = 50$ |
| 3 | | | | |
| 4 | | | | Column Totals: 100 (A) 410 (B) |
| 5. | | | | Prevalence Index = B/A = 4.10 |
| | | | | Hydrophytic Vegetation Indicators: |
| 6 | | | | Rapid Test for Hydrophytic Vegetation |
| 7 | | | | |
| | 15 | = Total Cov | er er | Dominance Test is >50% |
| Herb Stratum (Plot size: 5' dia) | | | | Prevalence Index is ≤3.0¹ |
| 1. Green Briar | 10 | Yes | UPL | Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) |
| 2 | | | | Problematic Hydrophytic Vegetation¹ (Explain) |
| 3. | | | | |
| | | | | ¹ Indicators of hydric soil and wetland hydrology must |
| 4 | | | | be present, unless disturbed or problematic. |
| 5 | | | | Definitions of Vegetation Strata: |
| 6 | | | | Tree – Woody plants 3 in. (7.6 cm) or more in diameter |
| 7 | | | | at breast height (DBH), regardless of height. |
| 8 | | | | Sapling/shrub – Woody plants less than 3 in, DBH |
| 9. | | | | and greater than 3.28 ft (1 m) tall. |
| | | | | |
| 10 | | | | Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. |
| 11. | | | | |
| 12. | _ | | | Woody vines – All woody vines greater than 3.28 ft in |
| | 10 | = Total Cov | er er | height. |
| Woody Vine Stratum (Plot size: 30' dia) | | | | |
| 1. none | 0 | | | |
| | | | | |
| 2 | | | | |
| 3 | | | | Hydrophytic |
| 4. | | | | Vegetation Present? Yes No X |
| | 0 | = Total Cov | ver | Present? res No |
| Remarks: (Include photo numbers here or on a separate | sheet.) | | | |
| | | | | |
| Dans not most the rapid deminance of | r proval | anna tar | sto | |
| Does not meet the rapid, dominance, o | ii preval | ence tes | 010 | |
| | • | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

| Sampling Pol | _{int} . TP4 | |
|--------------|----------------------|--|
| Campang i o | | |

SOIL

| Profile Desc | ription: (Describe | to the dep | th needed to docum | ent the ir | ndicator o | or confirm | n the absence | of indicators.) | |
|--|------------------------|----------------|--|--|-----------------------|-------------|---|-----------------------------|-------|
| Depth | Matrix | | | K Features | - 1 | | | | |
| (inches) 0-2 | Color (moist) 10YR 3/2 | <u>%</u> 85 | Color (moist) | % | _Type ¹ | Loc² | mod. very fine and fine s | Remarks 15% Coarse Fragme | ents |
| 2-5 | 10YR 4/3 | 85 | | | | | weak very fine subangul | 15% Coarse Fragme | |
| 5-9 | 10YR 4/3 | 85 | | *************************************** | | | mod, fine subangular bit | 15% Coarse Fragme | |
| 9-12 | 2.5Y 4/4 | 80 | | | | | weak fine subangutar bk | 20% Coarse Fragme | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | - | | | | | | | |
| ¹Type: C=C | oncentration. D=Dep | letion, RM | =Reduced Matrix, CS | =Covered | or Coate | d Sand G | rains. ² Loc | cation: PL=Pore Lining, M=N | |
| Hydric Soil | | | | ······ | | | | for Problematic Hydric Soi | |
| Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149) | | | Polyvalue Belov MLRA 149B) Thin Dark Surfa Loamy Mucky N Loamy Gleyed I Depleted Matrix Redox Dark Su Depleted Dark Su Redox Depress | ce (S9) (L dineral (F1 Matrix (F2 (F3) face (F6) Surface (F | .RR R, MI) (LRR K | -RA 149B | 2 cm Muck (A10) (LRR K, L, MLRA 1498 Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, Dark Surface (S7) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L Piedmont Floodplain Soils (F19) (MLRA 1 Mesic Spodic (TA6) (MLRA 144A, 145, 1 Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) | | |
| | | | etland hydrology mus | t be prese | ent, unless | disturbed | d or problematio |). - | |
| | Layer (if observed) | : | | | | | | · · | |
| Type: <u>no</u> Depth (in | | | | | | | Hydric Soil | Present? Yes I | No _X |
| Remarks: | | | | | | | | | |
| С | hroma of mat | rix is >2 | 2; no mottles o | r gleyi | ng imn | nediate | ely below t | he surface | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | * | | | | |
| | | | | | | | | | |



| Legend | Project Boundary Soils Pa. State Roads Parcels Local Roads | 0 | 300 | 600 | NORTH | Wetland Delineation Figure 4: Soils Map 218 Twin Rocks Road Sterling Township Wayne County Newfoundland Quad |
|--------|--|---|-----|---------|-------|---|
| | Streams | | | | | Townsaira adda |