# Appendix C

# USACE Wetland Delineation Forms & Photographs

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Chatham, Pittsylvania ... **Sampling Date:** 2018-June-13

**Applicant/Owner:** NextEra **State:** Virginia **Sampling Point:** W-F18-07_PEM-1

**Investigator(s):** Jacob Fleckenstein, AJW, EN **Section, Township, Range:**

**Landform (hillslope, terrace, etc.):** Swale **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 3

**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.8290398 **Long:** -79.3445633 **Datum:** WGS84

**Soil Map Unit Name:** 23C **NWI classification:** None

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PEM. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

_✓_ Surface Water (A1)
_✓_ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes _✓_ No ____ | Depth (inches): | 0 |
| Water Table Present? | Yes _✓_ No ____ | Depth (inches): | 4 |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 0 |

**Wetland Hydrology Present?** Yes _✓_ No ____

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

**Remarks:**

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

Sampling Point: W-F18-07_PEM-1

| Tree Stratum (Plot size: 8x4) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |
| **Sapling/Shrub Stratum (Plot size: 8x4)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |
| **Herb Stratum (Plot size: 6x4)** | | | |
| 1. *Microstegium vimineum* | 95 | Yes | FAC |
| 2. *Microstegium vimineum* | | No | FAC |
| 3. *Impatiens capensis* | 35 | Yes | FACW |
| 4. *Parathelypteris noveboracensis* | 15 | No | FAC |
| 5. *Euthamia graminifolia* | 15 | No | FAC |
| 6. *Boehmeria cylindrica* | 3 | No | FACW |
| 7. *Ligustrum sinense* | 2 | No | FACU |
| 8. *Amphicarpaea bracteata* | 1 | No | FAC |
| 9. *Parthenocissus quinquefolia* | 1 | No | FACU |
| 10. *Solanum carolinense* | 1 | No | FACU |
| 11. | | | |
| | 168 = Total Cover | | |
| 50% of total cover: 84 | 20% of total cover: 33.6 | | |
| **Woody Vine Stratum (Plot size: 30)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 2 | (A) |
| Total Number of Dominant Species Across All Strata: | 2 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 100 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 38 | x 2 = | 76 |
| FAC species | | x 3 = | |
| FACU species | 4 | x 4 = | 16 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | | (A) | (B) |
| Prevalence Index = B/A = | | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-07_PEM-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 6 | 10YR 3/1 | 100 | | | | | Silt Loam | |
| 6 - 12 | 2.5Y 4/1 | 99 | 2.5YR 3/3 | 1 | C | M | Silt Loam | |
| 12 - 14 | 10YR 3/2 | 96 | 2.5YR 4/6 | 4 | C | M | Gravelly Silt Loam | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Dark Surface (S7)
__ Histic Epipedon (A2)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Black Histic (A3)
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Hydrogen Sulfide (A4)
__ Loamy Gleyed Matrix (F2)
__ Stratified Layers (A5)
_✓_ Depleted Matrix (F3)
__ 2 cm Muck (A10) **(LRR N)**
__ Redox Dark Surface (F6)
__ Depleted Below Dark Surface (A11)
__ Depleted Dark Surface (F7)
__ Thick Dark Surface (A12)
__ Redox Depressions (F8)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Sandy Gleyed Matrix (S4)
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Sandy Redox (S5)
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Stripped Matrix (S6)
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Unconsolidated gravel at 14 inches
Depth (inches): 14

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-13
**Applicant/Owner:** NextEra **State:** VA **Sampling Point:** W-F18-07_UPL-1
**Investigator(s):** Beth Clements, AW, EN,JF **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Hillslope **Local relief (concave, convex, none):** Convex **Slope (%):** 2 to 5
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.8291247 **Long:** -79.3449089 **Datum:** WGS84
**Soil Map Unit Name:** 23C **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ No ✓ | | |
| Hydric Soil Present? | Yes ____ No ✓ | | |
| Wetland Hydrology Present? | Yes ____ No ✓ | **Is the Sampled Area within a Wetland?** | **Yes ____ No ✓** |

**Remarks:**

Covertype is UPL. Area is upland, not all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No ✓ | Depth (inches): | |
| Water Table Present? | Yes ____ No ✓ | Depth (inches): | **Wetland Hydrology Present?** Yes ____ No ✓ |
| Saturation Present? (includes capillary fringe) | Yes ____ No ✓ | Depth (inches): | |

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

**Remarks:**

The criterion for wetland hydrology is not met.

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

Sampling Point: W-F18-07_UPL-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Broussonetia papyrifera* | 35 | Yes | UPL |
| 2. *Carya glabra* | 15 | Yes | FACU |
| 3. *Ailanthus altissima* | 10 | No | FACU |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 60 | = Total Cover | |
| 50% of total cover: 30 | 20% of total cover: | 12 | |
| **Sapling/Shrub Stratum (Plot size: 15)** | | | |
| 1. *Carpinus caroliniana* | 5 | Yes | FAC |
| 2. *Prunus serotina* | 5 | Yes | FACU |
| 3. *Acer rubrum* | 1 | No | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 11 | = Total Cover | |
| 50% of total cover: 5.5 | 20% of total cover: | 2.2 | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Microstegium vimineum* | 75 | Yes | FAC |
| 2. *Lonicera japonica* | 20 | No | FACU |
| 3. *Polystichum acrostichoides* | 10 | No | FACU |
| 4. *Onoclea sensibilis* | 5 | No | FACW |
| 5. *Carpinus caroliniana* | 3 | No | FAC |
| 6. *Podophyllum peltatum* | 2 | No | FACU |
| 7. *Geum canadense* | 2 | No | FACU |
| 8. *Rubus argutus* | 2 | No | FACU |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 119 | = Total Cover | |
| 50% of total cover: 59.5 | 20% of total cover: | 23.8 | |
| **Woody Vine Stratum (Plot size: 30)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 2 | (A) |
| Total Number of Dominant Species Across All Strata: | 5 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 40 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 5 | x 2 = | 10 |
| FAC species | 84 | x 3 = | 252 |
| FACU species | 66 | x 4 = | 264 |
| UPL species | 35 | x 5 = | 175 |
| Column Totals | 190 | (A) | 701 (B) |

Prevalence Index = B/A = 3.7

**Hydrophytic Vegetation Indicators:**

_____ 1- Rapid Test for Hydrophytic Vegetation

_____ 2 - Dominance Test is > 50%

_____ 3 - Prevalence Index is ≤ 3.0[1]

_____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☐ No ☑

**Remarks: (Include photo numbers here or on a separate sheet.)**

No positive indication of hydrophytic vegetation was observed (≥50% of dominant species indexed as FAC− or drier).

SOIL

Sampling Point: W-F18-07_UPL-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 4 | 2.5Y 5/3 | 100 | | | | | Silt Loam | |
| 4 - 10 | 2.5Y 5/4 | 100 | | | | | Silt Loam | |
| 10 - 18 | 2.5Y 6/4 | 100 | | | | | Silt Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☐ No ☑

**Remarks:**

No positive indication of hydric soils was observed.

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-14
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-F18-11_PEM-3
**Investigator(s):** Beth Clements, MS **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Foot slope **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 3
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.8253321 **Long:** -79.3448884 **Datum:** WGS84
**Soil Map Unit Name:** 23C **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PEM. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
_✓_ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
_✓_ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | |
| Water Table Present? | Yes ____ No _✓_ | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 0 |

**Wetland Hydrology Present?** Yes _✓_ No ____

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

**Remarks:**

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

Sampling Point: W-F18-11_PEM-3

| Tree Stratum (Plot size: 20x10) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |
| **Sapling/Shrub Stratum (Plot size: 10x5)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |
| **Herb Stratum (Plot size: 5')** | | | |
| 1. *Solidago gigantea* | 90 | Yes | FACW |
| 2. *Carex lurida* | 25 | No | OBL |
| 3. *Alopecurus pratensis* | 10 | No | FACW |
| 4. *Scirpus atrovirens* | 10 | No | OBL |
| 5. *Carex comosa* | 5 | No | OBL |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 140 = Total Cover | | |
| 50% of total cover: 70 | 20% of total cover: 28 | | |
| **Woody Vine Stratum (Plot size: 10'x20')** | | | |
| 1. *Lonicera japonica* | 5 | Yes | FACU |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 5 = Total Cover | | |
| 50% of total cover: 2.5 | 20% of total cover: 1 | | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 1 | (A) |
| Total Number of Dominant Species Across All Strata: | 2 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 50 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 40 | x 1 = | 40 |
| FACW species | 100 | x 2 = | 200 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 5 | x 4 = | 20 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 145 | (A) | 260 (B) |

Prevalence Index = B/A = 1.8

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-11_PEM-3

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 10 | 10YR 5/2 | 90 | 10YR 4/6 | 10 | C | M/PL | Silty Clay Loam | |
| 10 - 18 | 10YR 5/1 | 90 | 10YR 4/6 | 10 | C | M | Clay Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-14
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-F18-11_PFO-1
**Investigator(s):** Beth Clements, MS **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Intermittent Stream **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 3
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.8256548 **Long:** -79.3446699 **Datum:** WGS84
**Soil Map Unit Name:** 23C **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PFO. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
_✓_ Sediment Deposits (B2)
_✓_ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
_✓_ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | |
| Water Table Present? | Yes ____ No _✓_ | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 0 |

**Wetland Hydrology Present?** Yes _✓_ No ____

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

**Remarks:**

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

Sampling Point: W-F18-11_PFO-1

| Tree Stratum (Plot size: 20x10) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer rubrum* | 90 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 90 | = Total Cover | |
| 50% of total cover: 45 | 20% of total cover: | 18 | |
| **Sapling/Shrub Stratum (Plot size: 10x5)** | | | |
| 1. *Carpinus caroliniana* | 60 | Yes | FAC |
| 2. *Liquidambar styraciflua* | 25 | Yes | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 85 | = Total Cover | |
| 50% of total cover: 42.5 | 20% of total cover: | 17 | |
| **Herb Stratum (Plot size: 5')** | | | |
| 1. *Glyceria striata* | 15 | Yes | OBL |
| 2. *Cinna arundinacea* | 10 | Yes | FACW |
| 3. *Sambucus nigra* | 5 | No | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 30 | = Total Cover | |
| 50% of total cover: 15 | 20% of total cover: | 6 | |
| **Woody Vine Stratum (Plot size: 10'x20')** | | | |
| 1. *Smilax rotundifolia* | 10 | Yes | FAC |
| 2. *Lonicera japonica* | 5 | Yes | FACU |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 15 | = Total Cover | |
| 50% of total cover: 7.5 | 20% of total cover: | 3 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 6 | (A) |
| Total Number of Dominant Species Across All Strata: | 7 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 85.7 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 15 | x 1 = | 15 |
| FACW species | 10 | x 2 = | 20 |
| FAC species | 190 | x 3 = | 570 |
| FACU species | 5 | x 4 = | 20 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 220 | (A) | 625 (B) |

Prevalence Index = B/A = 2.8

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-11_PFO-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 1 | 10YR 5/4 | 100 | | | | | Sandy Loam | |
| 1 - 12 | 10YR 4/2 | 90 | 7.5YR 3/4 | 10 | C | M/PL | Silty Clay Loam | |
| 12 - 18 | 10YR 4/2 | 95 | 10YR 5/6 | 5 | C | M | Sandy Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-14
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-F18-11_UPL-2
**Investigator(s):** Beth Clements, MS **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Foot slope **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 10
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.8254634 **Long:** -79.3446854 **Datum:** WGS84
**Soil Map Unit Name:** 23C **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ No ✓ | | |
| Hydric Soil Present? | Yes ____ No ✓ | | |
| Wetland Hydrology Present? | Yes ____ No ✓ | **Is the Sampled Area within a Wetland?** | **Yes ____ No ✓** |

**Remarks:**

Covertype is UPL. Area is upland, not all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No ✓ | Depth (inches): | |
| Water Table Present? | Yes ____ No ✓ | Depth (inches): | **Wetland Hydrology Present?** Yes ____ No ✓ |
| Saturation Present? (includes capillary fringe) | Yes ____ No ✓ | Depth (inches): | |

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

**Remarks:**

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

Sampling Point: W-F18-11_UPL-2

| Tree Stratum (Plot size: 20x10) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Liquidambar styraciflua* | 70 | Yes | FAC |
| 2. *Ulmus americana* | 60 | Yes | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 130 | = Total Cover | |
| 50% of total cover: 65 | 20% of total cover: | 26 | |
| **Sapling/Shrub Stratum (Plot size: 10x5)** | | | |
| 1. *Nyssa sylvatica* | 15 | Yes | FAC |
| 2. *Fagus grandifolia* | 10 | Yes | FACU |
| 3. *Viburnum prunifolium* | 5 | No | FACU |
| 4. *Prunus avium* | 5 | No | UPL |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 35 | = Total Cover | |
| 50% of total cover: 17.5 | 20% of total cover: | 7 | |
| **Herb Stratum (Plot size: 5')** | | | |
| 1. *Polystichum acrostichoides* | 10 | Yes | FACU |
| 2. *Viburnum prunifolium* | 5 | Yes | FACU |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 15 | = Total Cover | |
| 50% of total cover: 7.5 | 20% of total cover: | 3 | |
| **Woody Vine Stratum (Plot size: 20'X10')** | | | |
| 1. *Lonicera japonica* | 20 | Yes | FACU |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 20 | = Total Cover | |
| 50% of total cover: 10 | 20% of total cover: | 4 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 3 | (A) |
| Total Number of Dominant Species Across All Strata: | 7 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 42.9 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 60 | x 2 = | 120 |
| FAC species | 85 | x 3 = | 255 |
| FACU species | 50 | x 4 = | 200 |
| UPL species | 5 | x 5 = | 25 |
| Column Totals | 200 | (A) | 600 (B) |

Prevalence Index = B/A = 3

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

__✓__ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☐ No ☑

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-11_UPL-2

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 1 | 10YR 3/3 | 100 | | | | | Silt Loam | |
| 1 - 18 | 10YR 4/3 | 100 | | | | | Silt Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☐ No ☑

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-Aug-03
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-F18-66_PEM-1
**Investigator(s):** Beth Clements, SS JF **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Flood Plain **Local relief (concave, convex, none):** Concave **Slope (%):** 2 to 5
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.822908 **Long:** -79.3471947 **Datum:** WGS84
**Soil Map Unit Name:** **NWI classification:**
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PEM. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
_✓_ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
_✓_ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | | |
| Water Table Present? | Yes _✓_ No ____ | Depth (inches): | 4 | **Wetland Hydrology Present?** Yes _✓_ No ____ |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 2 | |

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

**Remarks:**

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

Sampling Point: W-F18-66_PEM-1

| Tree Stratum (Plot size: 10x20) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |
| **Sapling/Shrub Stratum (Plot size: 10x5)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Dichanthelium clandestinum* | 80 | Yes | FAC |
| 2. *Solidago sp.* | 30 | Yes | NI |
| 3. *Carex squarrosa* | 15 | No | FACW |
| 4. *Rubus argutus* | 5 | No | FACU |
| 5. *Dichanthelium acuminatum* | 5 | No | FAC |
| 6. *Labiatae* | 5 | No | NI |
| 7. *Murdannia keisak* | 1 | No | OBL |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 141 = Total Cover | | |
| 50% of total cover: 70.5 | 20% of total cover: 28.2 | | |
| **Woody Vine Stratum (Plot size: 20x3)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 1 | (A) |
| Total Number of Dominant Species Across All Strata: | 2 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 50 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 1 | x 1 = | 1 |
| FACW species | 15 | x 2 = | 30 |
| FAC species | 85 | x 3 = | 255 |
| FACU species | 5 | x 4 = | 20 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 106 | (A) | 306 (B) |
| Prevalence Index = B/A = | 2.9 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

__✓__ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-66_PEM-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 14 | 10YR 5/2 | 70 | 7.5YR 5/4 | 30 | C | M/PL | Silty Clay | |
| 14 - 18 | 10YR 5/1 | 55 | 5YR 5/6 | 40 | C | M | Silty Clay | |
| 14 - 18 | | | 5YR 4/4 | 5 | C | M | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-Aug-03
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-F18-66_PFO-1
**Investigator(s):** Beth Clements, SS JF **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Flood Plain **Local relief (concave, convex, none):** Concave **Slope (%):** 2 to 5
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.8227568 **Long:** -79.3469924 **Datum:** WGS84
**Soil Map Unit Name:** 8A **NWI classification:** PFO
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PFO. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
_✓_ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | | |
| Water Table Present? | Yes _✓_ No ____ | Depth (inches): | 2 | **Wetland Hydrology Present?** Yes _✓_ No ____ |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 0 | |

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

**Remarks:**

Sampling Point: W-F18-66_PFO-1

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

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Liriodendron tulipifera* | 30 | Yes | FACU |
| 2. *Acer rubrum* | 30 | Yes | FAC |
| 3. *Betula nigra* | 30 | Yes | FACW |
| 4. *Quercus montana* | | No | UPL |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 90 | = Total Cover | |
| 50% of total cover: 45 | 20% of total cover: | 18 | |
| **Sapling/Shrub Stratum (Plot size: 10x5)** | | | |
| 1. *Asimina triloba* | 20 | Yes | FAC |
| 2. *Liriodendron tulipifera* | 10 | Yes | FACU |
| 3. *Ligustrum sinense* | 10 | Yes | FACU |
| 4. *Prunus serotina* | 5 | No | FACU |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 45 | = Total Cover | |
| 50% of total cover: 22.5 | 20% of total cover: | 9 | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Microstegium vimineum* | 50 | Yes | FAC |
| 2. *Ligustrum sinense* | 25 | Yes | FACU |
| 3. *Boehmeria cylindrica* | 10 | No | FACW |
| 4. *Cinna arundinacea* | 10 | No | FACW |
| 5. *Lonicera japonica* | 5 | No | FACU |
| 6. *Asteracae* | | No | NI |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 100 | = Total Cover | |
| 50% of total cover: 50 | 20% of total cover: | 20 | |
| **Woody Vine Stratum (Plot size: 30)** | | | |
| 1. *Smilax rotundifolia* | 10 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 10 | = Total Cover | |
| 50% of total cover: 5 | 20% of total cover: | 2 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 5 | (A) |
| Total Number of Dominant Species Across All Strata: | 9 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 55.6 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 50 | x 2 = | 100 |
| FAC species | 110 | x 3 = | 330 |
| FACU species | 85 | x 4 = | 340 |
| UPL species | | x 5 = | |
| Column Totals | | (A) | (B) |
| Prevalence Index = B/A = | | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

__✓__ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-66_PFO-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 6 | 10YR 5/2 | 100 | | | | | Silty Clay | |
| 6 - 18 | 10YR 6/2 | 80 | 7.5YR 4/6 | 20 | C | M | Silty Clay | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-Aug-03
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-F18-66_UPL-1
**Investigator(s):** Beth Clements, JF SS **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Flood Plain **Local relief (concave, convex, none):** None **Slope (%):** 2 to 5
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.8229631 **Long:** -79.3474198 **Datum:** WGS84
**Soil Map Unit Name:** **NWI classification:**
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes ____ No _✓_ | **Is the Sampled Area within a Wetland?** | **Yes ____ No _✓_** |

**Remarks:**

Covertype is UPL. Area is upland, not all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | |
| Water Table Present? | Yes ____ No _✓_ | Depth (inches): | **Wetland Hydrology Present?** Yes ____ No _✓_ |
| Saturation Present? (includes capillary fringe) | Yes ____ No _✓_ | Depth (inches): | |

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

**Remarks:**

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

Sampling Point: W-F18-66_UPL-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Liriodendron tulipifera* | 55 | Yes | FACU |
| 2. *Acer rubrum* | 30 | Yes | FAC |
| 3. *Juniperus virginiana* | 10 | No | FACU |
| 4. *Prunus serotina* | 5 | No | FACU |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 100 | = Total Cover | |
| 50% of total cover: 50 | 20% of total cover: 20 | | |
| **Sapling/Shrub Stratum (Plot size: 15)** | | | |
| 1. *Asimina triloba* | 35 | Yes | FAC |
| 2. *Ligustrum sinense* | 30 | Yes | FACU |
| 3. *Liriodendron tulipifera* | 10 | No | FACU |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 75 | = Total Cover | |
| 50% of total cover: 37.5 | 20% of total cover: 15 | | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Microstegium vimineum* | 65 | Yes | FAC |
| 2. *Ligustrum sinense* | 25 | No | FACU |
| 3. *Lonicera japonica* | 20 | No | FACU |
| 4. *Dichanthelium clandestinum* | 10 | No | FAC |
| 5. *Asimina triloba* | 5 | No | FAC |
| 6. *Parthenocissus quinquefolia* | 1 | No | FACU |
| 7. *Toxicodendron radicans* | 1 | No | FAC |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 127 | = Total Cover | |
| 50% of total cover: 63.5 | 20% of total cover: 25.4 | | |
| **Woody Vine Stratum (Plot size: 20x3)** | | | |
| 1. *Toxicodendron radicans* | 30 | Yes | FAC |
| 2. *Smilax rotundifolia* | 20 | Yes | FAC |
| 3. *Vitis rotundifolia* | 10 | No | FAC |
| 4. | | | |
| 5. | | | |
| | 60 | = Total Cover | |
| 50% of total cover: 30 | 20% of total cover: 12 | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: **5** (A)

Total Number of Dominant Species Across All Strata: **7** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **71.4** (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 206 | x 3 = | 618 |
| FACU species | 156 | x 4 = | 624 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 362 | (A) | 1242 (B) |

Prevalence Index = B/A = 3.4

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-66_UPL-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 14 | 10YR 5/2 | 100 | | | | | Sand | |
| 14 - 18 | 7.5YR 4/6 | 100 | | | | | Sandy Clay | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-Aug-03
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-F18-64_PEM-1
**Investigator(s):** Beth Clements, SES JDF **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Flat **Local relief (concave, convex, none):** None **Slope (%):** 2 to 5
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.821037 **Long:** -79.3495737 **Datum:** WGS84
**Soil Map Unit Name:** 9C **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PEM. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

_✓_ Surface Water (A1)
_✓_ High Water Table (A2)
_✓_ Saturation (A3)
____ Water Marks (B1)
____ Sediment Deposits (B2)
____ Drift Deposits (B3)
____ Algal Mat or Crust (B4)
____ Iron Deposits (B5)
____ Inundation Visible on Aerial Imagery (B7)
____ Water-Stained Leaves (B9)
____ Aquatic Fauna (B13)
____ True Aquatic Plants (B14)
____ Hydrogen Sulfide Odor (C1)
____ Oxidized Rhizospheres on Living Roots (C3)
____ Presence of Reduced Iron (C4)
____ Recent Iron Reduction in Tilled Soils (C6)
____ Thin Muck Surface (C7)
____ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes _✓_ No ____ | Depth (inches): | 1 |
| Water Table Present? | Yes _✓_ No ____ | Depth (inches): | 0 |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 0 |

**Wetland Hydrology Present?** Yes _✓_ No ____

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

**Remarks:**

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

Sampling Point: W-F18-64_PEM-1

| Tree Stratum (Plot size: 10x20) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |
| **Sapling/Shrub Stratum (Plot size: 10x5)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Leersia oryzoides* | 70 | Yes | OBL |
| 2. *Sagittaria latifolia* | 35 | Yes | OBL |
| 3. *Typha angustifolia* | 30 | Yes | OBL |
| 4. *Rubus argutus* | 20 | No | FACU |
| 5. *Bidens aristosa* | 20 | No | FACW |
| 6. *Solidago canadensis* | 15 | No | FACU |
| 7. *Arthraxon hispidus* | 10 | No | FAC |
| 8. *Juncus effusus* | | No | FACW |
| 9. *Cinna arundinacea* | 10 | No | FACW |
| 10. *Carex lupulina* | 5 | No | OBL |
| 11. *Murdannia keisak* | 1 | No | OBL |
| | 216 = Total Cover | | |
| 50% of total cover: 108 | 20% of total cover: 43.2 | | |
| **Woody Vine Stratum (Plot size: 20x3)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 3 | (A) |
| Total Number of Dominant Species Across All Strata: | 3 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 100 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 141 | x 1 = | 141 |
| FACW species | | x 2 = | |
| FAC species | 10 | x 3 = | 30 |
| FACU species | 35 | x 4 = | 140 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | | (A) | (B) |
| Prevalence Index = B/A = | | | |

**Hydrophytic Vegetation Indicators:**

✓ 1- Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-64_PEM-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 8 | 10GY 4/1 | 95 | 5G 5/2 | 5 | C | M | Sandy Loam | |
| | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock fragments
Depth (inches): 8

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-Aug-03
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-F18-64_PFO-1
**Investigator(s):** Beth Clements, JDF SES **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Depression **Local relief (concave, convex, none):** Convex **Slope (%):** 0 to 1
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.8212582 **Long:** -79.3484404 **Datum:** WGS84
**Soil Map Unit Name:** 9C **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PFO. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
_✓_ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | | |
| Water Table Present? | Yes _✓_ No ____ | Depth (inches): | 0 | **Wetland Hydrology Present?** Yes _✓_ No ____ |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 0 | |

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

**Remarks:**

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

Sampling Point: W-F18-64_PFO-1

| Tree Stratum (Plot size: 15x10) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Liriodendron tulipifera* | 60 | Yes | FACU |
| 2. *Acer rubrum* | 30 | Yes | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 90 | = Total Cover | |
| 50% of total cover: 45 | 20% of total cover: | 18 | |
| **Sapling/Shrub Stratum (Plot size: 5x10)** | | | |
| 1. *Carpinus caroliniana* | 5 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 5 | = Total Cover | |
| 50% of total cover: 2.5 | 20% of total cover: | 1 | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Microstegium vimineum* | 60 | Yes | FAC |
| 2. *Ligustrum sinense* | 15 | No | FACU |
| 3. *Persicaria longiseta* | 10 | No | FAC |
| 4. *Dichanthelium clandestinum* | 10 | No | FAC |
| 5. *Verbesina alternifolia* | 10 | No | FAC |
| 6. *Boehmeria cylindrica* | 5 | No | FACW |
| 7. *Lonicera japonica* | 1 | No | FACU |
| 8. *Carex crinita* | 1 | No | OBL |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 112 | = Total Cover | |
| 50% of total cover: 56 | 20% of total cover: | 22.4 | |
| **Woody Vine Stratum (Plot size: 15x10)** | | | |
| 1. *Toxicodendron radicans* | 5 | Yes | FAC |
| 2. *Vitis rotundifolia* | 5 | Yes | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 10 | = Total Cover | |
| 50% of total cover: 5 | 20% of total cover: | 2 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 5 | (A) |
| Total Number of Dominant Species Across All Strata: | 6 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 83.3 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 1 | x 1 = | 1 |
| FACW species | 5 | x 2 = | 10 |
| FAC species | 135 | x 3 = | 405 |
| FACU species | 76 | x 4 = | 304 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 217 | (A) | 720 (B) |

Prevalence Index = B/A = 3.3

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

__✓__ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-64_PFO-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 3 | 10YR 4/2 | 70 | 2.5YR 4/6 | 20 | C | M | Sandy Loam | |
| 0 - 3 | | | 10YR 2/1 | 10 | D | M | | |
| 3 - 12 | 10YR 6/1 | 85 | 2.5YR 4/6 | 15 | C | M | Sandy Loam | |
| 12 - 18 | 10YR 5/1 | 95 | 2.5YR 3/6 | 5 | C | M | Sandy Loam | |
| | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Chatham, Pittsylvania ... **Sampling Date:** 2018-Aug-03
**Applicant/Owner:** NextEra **State:** Virginia **Sampling Point:** W-F18-64_UPL-1
**Investigator(s):** Beth Clements, SES, **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Flat **Local relief (concave, convex, none):** None **Slope (%):** 2 to 5
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.8212621 **Long:** -79.3485587 **Datum:** WGS84
**Soil Map Unit Name:** 9C **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ No ✓ | | |
| Hydric Soil Present? | Yes ✓ No ____ | | |
| Wetland Hydrology Present? | Yes ____ No ✓ | **Is the Sampled Area within a Wetland?** | **Yes ____ No ✓** |

**Remarks:**

Covertype is UPL. Area is upland, not all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No ✓ | Depth (inches): | |
| Water Table Present? | Yes ____ No ✓ | Depth (inches): | **Wetland Hydrology Present?** Yes ____ No ✓ |
| Saturation Present? (includes capillary fringe) | Yes ____ No ✓ | Depth (inches): | |

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

**Remarks:**

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

Sampling Point: W-F18-64_UPL-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Liriodendron tulipifera* | 40 | Yes | FACU |
| 2. *Acer rubrum* | 30 | Yes | FAC |
| 3. *Platanus occidentalis* | 15 | No | FACW |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 85 | = Total Cover | |
| 50% of total cover: 42.5 | 20% of total cover: | 17 | |
| **Sapling/Shrub Stratum (Plot size: 15)** | | | |
| 1. *Quercus alba* | 5 | Yes | FACU |
| 2. *Ligustrum sinense* | 5 | Yes | FACU |
| 3. *Carpinus caroliniana* | 1 | No | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 11 | = Total Cover | |
| 50% of total cover: 5.5 | 20% of total cover: | 2.2 | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Microstegium vimineum* | 60 | Yes | FAC |
| 2. *Ligustrum sinense* | 25 | Yes | FACU |
| 3. *Persicaria longiseta* | 10 | No | FAC |
| 4. *Onoclea sensibilis* | 5 | No | FACW |
| 5. *Parthenocissus quinquefolia* | 2 | No | FACU |
| 6. *Amphicarpaea bracteata* | 1 | No | FAC |
| 7. *Lonicera japonica* | 1 | No | FACU |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 104 | = Total Cover | |
| 50% of total cover: 52 | 20% of total cover: | 20.8 | |
| **Woody Vine Stratum (Plot size: 30)** | | | |
| 1. *Smilax rotundifolia* | 35 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 35 | = Total Cover | |
| 50% of total cover: 17.5 | 20% of total cover: | 7 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 3 | (A) |
| Total Number of Dominant Species Across All Strata: | 7 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 42.9 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 20 | x 2 = | 40 |
| FAC species | 137 | x 3 = | 411 |
| FACU species | 78 | x 4 = | 312 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 235 | (A) | 763 (B) |
| Prevalence Index = B/A = | 3.2 | | |

**Hydrophytic Vegetation Indicators:**

_____ 1- Rapid Test for Hydrophytic Vegetation

_____ 2 - Dominance Test is > 50%

_____ 3 - Prevalence Index is ≤ 3.0[1]

_____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☐ No ☑

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-64_UPL-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 6 | 10YR 5/2 | 100 | | | | | Sandy Loam | |
| 6 - 18 | 7.5YR 5/4 | 89 | 10YR 5/2 | 10 | D | M | Sandy Loam | |
| 6 - 18 | | | 5YR 5/6 | 1 | C | M | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Chatham, Pittsylvania ... **Sampling Date:** 2018-July-24
**Applicant/Owner:** NextEra **State:** Virginia **Sampling Point:** W-G18-02_PEM-1
**Investigator(s):** Alexi Weber, Alexi Weber, Mike Smith **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Flat **Local relief (concave, convex, none):** None **Slope (%):** 0 to 1
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.8162647 **Long:** -79.3542702 **Datum:** WGS84
**Soil Map Unit Name:** 9B **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PEM. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
_✓_ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
_✓_ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | |
| Water Table Present? | Yes ____ No _✓_ | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 16 |

**Wetland Hydrology Present?** Yes _✓_ No ____

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

**Remarks:**

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

Sampling Point: W-G18-02_PEM-1

| Tree Stratum (Plot size: 30') | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |
| **Sapling/Shrub Stratum (Plot size: 15')** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |
| **Herb Stratum (Plot size: 5')** | | | |
| 1. *Juncus effusus* | 80 | Yes | FACW |
| 2. *Juncus tenuis* | 50 | Yes | FAC |
| 3. *Lespedeza cuneata* | 15 | No | FACU |
| 4. *Solidago sp.* | 15 | No | NI |
| 5. *Juncus canadensis* | 10 | No | OBL |
| 6. *Carex lurida* | 8 | No | OBL |
| 7. *Panicum virgatum* | 2 | No | FAC |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 180 = Total Cover | | |
| 50% of total cover: 90 | 20% of total cover: 36 | | |
| **Woody Vine Stratum (Plot size: 2x15)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 2 | (A) |
| Total Number of Dominant Species Across All Strata: | 2 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 100 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 18 | x 1 = | 18 |
| FACW species | 80 | x 2 = | 160 |
| FAC species | 52 | x 3 = | 156 |
| FACU species | 15 | x 4 = | 60 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 165 | (A) | 394 (B) |
| Prevalence Index = B/A = | 2.4 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-G18-02_PEM-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 6 | 10YR 5/2 | 87 | 7.5YR 5/8 | 5 | C | M/PL | Sandy Loam | |
| 0 - 6 | | | 10YR 6/8 | 7 | C | M | | |
| 0 - 6 | | | 7.5YR 4/6 | 1 | C | M | | |
| 6 - 13 | 10YR 5/2 | 60 | 7.5YR 5/8 | 1 | C | M | Sandy Clay Loam | |
| 6 - 13 | | | 10YR 6/6 | 14 | C | M | | |
| 6 - 13 | | | 10YR 6/8 | 25 | C | M | | |
| 13 - 18 | 10YR 6/2 | 72 | 7.5YR 5/8 | 8 | C | M | Clay Loam | |
| 13 - 18 | | | 7.5YR 4/4 | 5 | C | M/PL | | |
| 13 - 18 | | | 5Y 6/2 | 15 | C | M | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-16
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-G18-02_PFO-1
**Investigator(s):** Jen Feese, EN, SS, MS **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Swale **Local relief (concave, convex, none):** Concave **Slope (%):** 2 to 5
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.8162344 **Long:** -79.3540726 **Datum:** WGS84
**Soil Map Unit Name:** 9b **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PFO. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- _✓_ Drift Deposits (B3)
- _✓_ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

- _✓_ Surface Soil Cracks (B6)
- _✓_ Sparsely Vegetated Concave Surface (B8)
- _✓_ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- _✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | |
| Water Table Present? | Yes ____ No _✓_ | Depth (inches): | **Wetland Hydrology Present?** Yes _✓_ No ____ |
| Saturation Present? (includes capillary fringe) | Yes ____ No _✓_ | Depth (inches): | |

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

**Remarks:**

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

Sampling Point: W-G18-02_PFO-1

| Tree Stratum (Plot size: 5' × 40') | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |
| **Sapling/Shrub Stratum (Plot size: 5' x 40')** | | | |
| 1. *Fraxinus pennsylvanica* | 5 | Yes | FACW |
| 2. *Viburnum dentatum* | 5 | Yes | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 10 = Total Cover | | |
| 50% of total cover: 5 | 20% of total cover: 2 | | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Smilax rotundifolia* | 30 | Yes | FAC |
| 2. *Campsis radicans* | 6 | No | FAC |
| 3. *Lonicera japonica* | 3 | No | FACU |
| 4. *Dulichium arundinaceum* | 2 | No | OBL |
| 5. *Solidago canadensis* | 2 | No | FACU |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 43 = Total Cover | | |
| 50% of total cover: 21.5 | 20% of total cover: 8.6 | | |
| **Woody Vine Stratum (Plot size: 5' x 40')** | | | |
| 1. *Smilax rotundifolia* | 5 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 5 = Total Cover | | |
| 50% of total cover: 2.5 | 20% of total cover: 1 | | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 4 | (A) |
| Total Number of Dominant Species Across All Strata: | 4 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 100 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 2 | x 1 = | 2 |
| FACW species | 5 | x 2 = | 10 |
| FAC species | 46 | x 3 = | 138 |
| FACU species | 5 | x 4 = | 20 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 58 | (A) | 170 (B) |
| Prevalence Index = B/A = | 2.9 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

__✓__ 2 - Dominance Test is >50%

__✓__ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

All tree species present within the vicinity of the wetland boundary were rooted in upland areas experiencing different soil and/or hydrologic conditions.

SOIL

Sampling Point: W-G18-02_PFO-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 4 | 10YR 4/3 | 97 | 10YR 3/6 | 3 | C | M | Silt Loam | |
| 4 - 14 | 10YR 5/2 | 93 | 5YR 3/4 | 7 | C | M/PL | Silt Loam | |
| 14 - 18 | 2.5Y 5/2 | 65 | 7.5YR 4/6 | 35 | C | M/PL | Clay | with manganese inclusions |
| | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-16
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-G18-02_UPL-1
**Investigator(s):** Jen Feese, EN, SS, MS **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Swale **Local relief (concave, convex, none):** Concave **Slope (%):** 2 to 5
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.8161562 **Long:** -79.3538333 **Datum:** WGS84
**Soil Map Unit Name:** 9b **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes ____ No _✓_ | | |
| Wetland Hydrology Present? | Yes ____ No _✓_ | **Is the Sampled Area within a Wetland?** | **Yes ____ No _✓_** |

**Remarks:**

Covertype is UPL. Area is upland, not all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | |
| Water Table Present? | Yes ____ No _✓_ | Depth (inches): | **Wetland Hydrology Present?** Yes ____ No _✓_ |
| Saturation Present? (includes capillary fringe) | Yes ____ No _✓_ | Depth (inches): | |

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

**Remarks:**

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

Sampling Point: W-G18-02_UPL-1

| Tree Stratum (Plot size: 5' × 40') | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Quercus phellos* | 50 | Yes | FAC |
| 2. *Ulmus americana* | 20 | Yes | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 70 | = Total Cover | |
| 50% of total cover: 35 | 20% of total cover: | 14 | |
| **Sapling/Shrub Stratum (Plot size: 5' x 40')** | | | |
| 1. *Fraxinus pennsylvanica* | 20 | Yes | FACW |
| 2. *Viburnum prunifolium* | 7 | Yes | FACU |
| 3. *Juniperus virginiana* | 3 | No | FACU |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 30 | = Total Cover | |
| 50% of total cover: 15 | 20% of total cover: | 6 | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Campsis radicans* | 55 | Yes | FAC |
| 2. *Elymus virginicus* | 20 | Yes | FACW |
| 3. *Smilax rotundifolia* | 3 | No | FAC |
| 4. *Lonicera japonica* | 2 | No | FACU |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 80 | = Total Cover | |
| 50% of total cover: 40 | 20% of total cover: | 16 | |
| **Woody Vine Stratum (Plot size: 5' x 40')** | | | |
| 1. *Smilax rotundifolia* | 20 | Yes | FAC |
| 2. *Campsis radicans* | 10 | Yes | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 30 | = Total Cover | |
| 50% of total cover: 15 | 20% of total cover: | 6 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 7 | (A) |
| Total Number of Dominant Species Across All Strata: | 8 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 87.5 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 60 | x 2 = | 120 |
| FAC species | 138 | x 3 = | 414 |
| FACU species | 12 | x 4 = | 48 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 210 | (A) | 582 (B) |
| Prevalence Index = B/A = | 2.8 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-G18-02_UPL-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 6 | 2.5Y 5/3 | 80 | 10YR 3/6 | 20 | C | M | Silt Loam | |
| 6 - 16 | 2.5Y 5/4 | 80 | 7.5YR 4/6 | 5 | C | M | Silt | |
| 6 - 16 | 2.5Y 5/4 | 80 | 2.5Y 6/6 | 15 | C | M | | |
| | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☐ No ☑

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Chatham, Pittsylvania ... **Sampling Date:** 2018-July-24
**Applicant/Owner:** NextEra **State:** Virginia **Sampling Point:** W-F18-57_PEM-1
**Investigator(s):** Alexi Weber, Alexi Weber, Mcs **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Perennial Stream **Local relief (concave, convex, none):** Concave **Slope (%):** 20 to 25
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.8150205 **Long:** -79.3555492 **Datum:** WGS84
**Soil Map Unit Name:** 9c **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PEM. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
_✓_ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
_✓_ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | | |
| Water Table Present? | Yes _✓_ No ____ | Depth (inches): | 2 | **Wetland Hydrology Present?** Yes _✓_ No ____ |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 0 | |

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

**Remarks:**

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

Sampling Point: W-F18-57_PEM-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |
| **Sapling/Shrub Stratum (Plot size: 15)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |
| **Herb Stratum (Plot size: 3x2)** | | | |
| 1. *Carex comosa* | 65 | Yes | OBL |
| 2. *Boehmeria cylindrica* | 30 | Yes | FACW |
| 3. *Carex intumescens* | 15 | No | FACW |
| 4. *Persicaria hydropiperoides* | 2 | No | OBL |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 112 = Total Cover | | |
| 50% of total cover: 56 | 20% of total cover: 22.4 | | |
| **Woody Vine Stratum (Plot size: 2x15)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 2 | (A) |
| Total Number of Dominant Species Across All Strata: | 2 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 100 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 67 | x 1 = | 67 |
| FACW species | 45 | x 2 = | 90 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 112 (A) | | 157 (B) |
| Prevalence Index = B/A = | 1.4 | | |

**Hydrophytic Vegetation Indicators:**

✓ 1- Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-57_PEM-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 1 | 10YR 5/3 | 95 | 10YR 5/1 | 5 | D | M | Sandy Loam | |
| 1 - 10 | 10YR 4/1 | 80 | 10YR 5/1 | 10 | D | M | Sandy Loam | |
| 1 - 10 | 10YR 4/1 | 80 | 10YR 5/8 | 10 | C | M/PL | Sandy Loam | |
| 10 - 18 | 10YR 4/1 | 90 | 10YR 5/1 | 10 | D | M | Gravelly | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Chatham, Pittsylvania ... **Sampling Date:** 2018-July-24
**Applicant/Owner:** NextEra **State:** Virginia **Sampling Point:** W-F18-57_UPL-1
**Investigator(s):** Alexi Weber, Alexi Weber, Mike Smith **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Flat **Local relief (concave, convex, none):** None **Slope (%):** 0 to 1
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.8150827 **Long:** -79.3555199 **Datum:** WGS84
**Soil Map Unit Name:** 9C **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes ____ No _✓_ | **Is the Sampled Area within a Wetland?** | **Yes ____ No _✓_** |

**Remarks:**

Covertype is UPL. Area is upland, not all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | |
| Water Table Present? | Yes ____ No _✓_ | Depth (inches): | **Wetland Hydrology Present?** Yes ____ No _✓_ |
| Saturation Present? (includes capillary fringe) | Yes ____ No _✓_ | Depth (inches): | |

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

**Remarks:**

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

Sampling Point: W-F18-57_UPL-1

| Tree Stratum (Plot size: 30') | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |
| **Sapling/Shrub Stratum (Plot size: 15')** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |
| **Herb Stratum (Plot size: 5')** | | | |
| 1. *Digitaria serotina* | 98 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 98 = Total Cover | | |
| 50% of total cover: 49 | 20% of total cover: 19.6 | | |
| **Woody Vine Stratum (Plot size: 2x15)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 1 | (A) |
| Total Number of Dominant Species Across All Strata: | 1 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 100 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 98 | x 3 = | 294 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 98 | (A) | 294 (B) |
| Prevalence Index = B/A = | 3 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-57_UPL-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 12 | 10YR 4/2 | 95 | 10YR 4/6 | 1 | C | M | Sandy Loam | |
| 0 - 12 | | | 10YR 3/1 | 1 | D | M | | |
| 0 - 12 | | | 10YR 6/6 | 3 | C | M | | |
| 12 - 18 | 2.5Y 6/2 | 98 | 7.5YR 4/6 | 1 | C | M | Sandy Loam | |
| 12 - 18 | | | 10YR 6/6 | 1 | C | M | | |
| | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-06
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-D18-04_PFO-1
**Investigator(s):** Jen Feese, AW,JF,SS **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Flood Plain **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 3
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7873294 **Long:** -79.3800572 **Datum:** WGS84
**Soil Map Unit Name:** 5C3 **NWI classification:**
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PFO.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
_✓_ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | |
| Water Table Present? | Yes ____ No _✓_ | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 0 |

**Wetland Hydrology Present?** Yes _✓_ No ____

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

**Remarks:**

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

Sampling Point: W-D18-04_PFO-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer rubrum* | 70 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 70 | = Total Cover | |
| 50% of total cover: 35 | 20% of total cover: | 14 | |
| **Sapling/Shrub Stratum (Plot size: 15)** | | | |
| 1. *Carpinus caroliniana* | 25 | Yes | FAC |
| 2. *Acer rubrum* | 10 | Yes | FAC |
| 3. *Nyssa sylvatica* | 5 | No | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 40 | = Total Cover | |
| 50% of total cover: 20 | 20% of total cover: | 8 | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Impatiens capensis* | 35 | Yes | FACW |
| 2. *Microstegium vimineum* | 20 | Yes | FAC |
| 3. *Ligustrum sinense* | 3 | No | FACU |
| 4. *Lonicera japonica* | 2 | No | FACU |
| 5. *Toxicodendron radicans* | 2 | No | FAC |
| 6. *Carex lurida* | 1 | No | OBL |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 63 | = Total Cover | |
| 50% of total cover: 31.5 | 20% of total cover: | 12.6 | |
| **Woody Vine Stratum (Plot size: 30)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 5 | (A) |
| Total Number of Dominant Species Across All Strata: | 5 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 100 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 1 | x 1 = | 1 |
| FACW species | 35 | x 2 = | 70 |
| FAC species | 132 | x 3 = | 396 |
| FACU species | 5 | x 4 = | 20 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 173 | (A) | 487 (B) |
| Prevalence Index = B/A = | 2.8 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

__✓__ 2 - Dominance Test is >50%

__✓__ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-D18-04_PFO-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 1 | 7.5YR 5/8 | 100 | | | | | Silt | |
| 1 - 8 | 7.5YR 3/3 | 90 | 5YR 5/8 | 8 | C | M | Sand | |
| 1 - 8 | 10YR 5/1 | 2 | | 2 | D | M | | |
| 8 - 18 | 10YR 5/1 | 93 | 5YR 3/4 | 7 | D | M/PL | Sandy Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-06
**Applicant/Owner:** NextEra **State:** VA **Sampling Point:** W-D18-04_UPL-1
**Investigator(s):** Jen Feese, AW,JF,SS **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Flat **Local relief (concave, convex, none):** None **Slope (%):** 0 to 1
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7871959 **Long:** -79.380067 **Datum:** WGS84
**Soil Map Unit Name:** 5C3 **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ No ✓ | | |
| Hydric Soil Present? | Yes ____ No ✓ | | |
| Wetland Hydrology Present? | Yes ____ No ✓ | **Is the Sampled Area within a Wetland?** | **Yes ____ No ✓** |

**Remarks:**

Covertype is UPL. Area is upland, not all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No ✓ | Depth (inches): | |
| Water Table Present? | Yes ____ No ✓ | Depth (inches): | **Wetland Hydrology Present?** Yes ____ No ✓ |
| Saturation Present? (includes capillary fringe) | Yes ____ No ✓ | Depth (inches): | |

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

**Remarks:**

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

Sampling Point: W-D18-04_UPL-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer rubrum* | 45 | Yes | FAC |
| 2. *Liriodendron tulipifera* | 15 | Yes | FACU |
| 3. *Carpinus caroliniana* | 10 | No | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 70 | = Total Cover | |
| 50% of total cover: 35 | 20% of total cover: | 14 | |
| **Sapling/Shrub Stratum (Plot size: 15)** | | | |
| 1. *Carpinus caroliniana* | 5 | Yes | FAC |
| 2. *Juglans nigra* | 3 | Yes | FACU |
| 3. *Juniperus virginiana* | 2 | Yes | FACU |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 10 | = Total Cover | |
| 50% of total cover: 5 | 20% of total cover: | 2 | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Microstegium vimineum* | 40 | Yes | FAC |
| 2. *Toxicodendron radicans* | 20 | Yes | FAC |
| 3. *Hedera helix* | 10 | No | FACU |
| 4. *Elymus virginicus* | 5 | No | FACW |
| 5. *Parthenocissus quinquefolia* | 5 | No | FACU |
| 6. *Impatiens capensis* | 3 | No | FACW |
| 7. *Rosa multiflora* | 2 | No | FACU |
| 8. *Dichanthelium clandestinum* | 1 | No | FAC |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 86 | = Total Cover | |
| 50% of total cover: 43 | 20% of total cover: | 17.2 | |
| **Woody Vine Stratum (Plot size: 30)** | | | |
| 1. *Vitis labrusca* | 15 | Yes | FACU |
| 2. *Hedera helix* | 10 | Yes | FACU |
| 3. *Campsis radicans* | 5 | No | FAC |
| 4. *Toxicodendron radicans* | 5 | No | FAC |
| 5. *Parthenocissus quinquefolia* | 2 | No | FACU |
| | 37 | = Total Cover | |
| 50% of total cover: 18.5 | 20% of total cover: | 7.4 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 4 | (A) |
| Total Number of Dominant Species Across All Strata: | 9 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 44.4 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 8 | x 2 = | 16 |
| FAC species | 131 | x 3 = | 393 |
| FACU species | 64 | x 4 = | 256 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 203 | (A) | 665 (B) |
| Prevalence Index = B/A = | 3.3 | | |

**Hydrophytic Vegetation Indicators:**

_____ 1- Rapid Test for Hydrophytic Vegetation

_____ 2 - Dominance Test is > 50%

_____ 3 - Prevalence Index is ≤ 3.0[1]

_____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☐ No ☑

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-D18-04_UPL-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 12 | 7.5YR 4/4 | 94 | 5YR 4/6 | 5 | C | M | Loam | |
| 0 - 12 | 7.5YR 4/4 | 94 | 10YR 4/1 | 1 | D | M | Loam | |
| 12 - 18 | 10YR 5/1 | 90 | 7.5YR 4/6 | 10 | C | M/PL | Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☐ No ☑

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-06
**Applicant/Owner:** NextEra **State:** VA **Sampling Point:** W-D18-05_PFO-1
**Investigator(s):** Jen Feese, AW,JF,SS **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Flood Plain **Local relief (concave, convex, none):** Concave **Slope (%):** 0 to 1
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7879359 **Long:** -79.3841044 **Datum:** WGS84
**Soil Map Unit Name:** 5C3 **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PFO. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
_✓_ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | |
| Water Table Present? | Yes ____ No _✓_ | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 0 |

**Wetland Hydrology Present?** Yes _✓_ No ____

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

**Remarks:**

The criterion for wetland hydrology is met.

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

Sampling Point: W-D18-05_PFO-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer rubrum* | 98 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 98 | = Total Cover | |
| 50% of total cover: 49 | 20% of total cover: | 19.6 | |
| **Sapling/Shrub Stratum (Plot size: 15)** | | | |
| 1. *Liquidambar styraciflua* | 2 | No | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 2 | = Total Cover | |
| 50% of total cover: 1 | 20% of total cover: | 0.4 | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Microstegium vimineum* | 50 | Yes | FAC |
| 2. *Boehmeria cylindrica* | 25 | Yes | FACW |
| 3. *Arisaema triphyllum* | 20 | No | FACW |
| 4. *Glyceria striata* | 15 | No | OBL |
| 5. *Lonicera japonica* | 8 | No | FACU |
| 6. *Impatiens capensis* | 8 | No | FACW |
| 7. *Rubus pensilvanicus* | 3 | No | FAC |
| 8. *Smilax rotundifolia* | 3 | No | FAC |
| 9. *Fragaria virginiana* | 2 | No | FACU |
| 10. *Elymus virginicus* | 2 | No | FACW |
| 11. *Onoclea sensibilis* | 1 | No | FACW |
| | 137 | = Total Cover | |
| 50% of total cover: 68.5 | 20% of total cover: | 27.400000000000006 | |
| **Woody Vine Stratum (Plot size: 30)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 3 | (A) |
| Total Number of Dominant Species Across All Strata: | 3 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 100 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 15 | x 1 = | 15 |
| FACW species | 56 | x 2 = | 112 |
| FAC species | 156 | x 3 = | 468 |
| FACU species | 10 | x 4 = | 40 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 237 | (A) | 635 (B) |
| Prevalence Index = B/A = | 2.7 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

__✓__ 2 - Dominance Test is >50%

__✓__ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC). A positive indication of hydrophytic vegetation was observed (Prevalence Index is ≤ 3.00).

SOIL

Sampling Point: W-D18-05_PFO-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 11 | 10YR 4/1 | 80 | 7.5YR 3/4 | 20 | C | M | Silt Loam | |
| 11 - 16 | 10YR 4/1 | 100 | | | | | Silt Loam | |
| 16 - 20 | 10YR 4/6 | 100 | | | | | Silt Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

A positive indication of hydric soil was observed.

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-06
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-D18-05_UPL-1
**Investigator(s):** Jen Feese, AW,JF,SS **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Hillslope **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 3
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7880869 **Long:** -79.3839675 **Datum:** WGS84
**Soil Map Unit Name:** 5C3 **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ No ✓ | | |
| Hydric Soil Present? | Yes ____ No ✓ | | |
| Wetland Hydrology Present? | Yes ____ No ✓ | **Is the Sampled Area within a Wetland?** | **Yes ____ No ✓** |

**Remarks:**

Covertype is UPL.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No ✓ | Depth (inches): | |
| Water Table Present? | Yes ____ No ✓ | Depth (inches): | **Wetland Hydrology Present?** Yes ____ No ✓ |
| Saturation Present? (includes capillary fringe) | Yes ____ No ✓ | Depth (inches): | |

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

**Remarks:**

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

Sampling Point: W-D18-05_UPL-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Quercus alba* | 40 | Yes | FACU |
| 2. *Fagus grandifolia* | 40 | Yes | FACU |
| 3. *Liriodendron tulipifera* | 10 | No | FACU |
| 4. *Acer rubrum* | 5 | No | FAC |
| 5. *Carya glabra* | 1 | No | FACU |
| 6. | | | |
| 7. | | | |
| | 96 | = Total Cover | |
| 50% of total cover: 48 | 20% of total cover: | 19.2 | |

| Sapling/Shrub Stratum (Plot size: 15) | | | |
|---|---|---|---|
| 1. *Nyssa sylvatica* | 8 | Yes | FAC |
| 2. *Prunus serotina* | 2 | Yes | FACU |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 10 | = Total Cover | |
| 50% of total cover: 5 | 20% of total cover: | 2 | |

| Herb Stratum (Plot size: 5) | | | |
|---|---|---|---|
| 1. *Smilax rotundifolia* | 15 | Yes | FAC |
| 2. *Prunus serotina* | 8 | Yes | FACU |
| 3. *Vaccinium corymbosum* | 5 | No | FACW |
| 4. *Phytolacca americana* | 2 | No | FACU |
| 5. *Rubus pensilvanicus* | 2 | No | FAC |
| 6. *Carpinus caroliniana* | 2 | No | FAC |
| 7. *Acer rubrum* | 1 | No | FAC |
| 8. *Quercus falcata* | 1 | No | FACU |
| 9. *Quercus alba* | 1 | No | FACU |
| 10. *Quercus bicolor* | 1 | No | FACW |
| 11. | | | |
| | 38 | = Total Cover | |
| 50% of total cover: 19 | 20% of total cover: | 7.6 | |

| Woody Vine Stratum (Plot size: 30) | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 2 | (A) |
| Total Number of Dominant Species Across All Strata: | 6 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 33.3 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 6 | x 2 = | 12 |
| FAC species | 33 | x 3 = | 99 |
| FACU species | 105 | x 4 = | 420 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 144 | (A) | 531 (B) |
| Prevalence Index = B/A = | 3.7 | | |

**Hydrophytic Vegetation Indicators:**

_____ 1- Rapid Test for Hydrophytic Vegetation

_____ 2 - Dominance Test is > 50%

_____ 3 - Prevalence Index is ≤ 3.0[1]

_____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☐ No ☑

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-D18-05_UPL-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 14 | 10YR 4/6 | 98 | 10YR 2/2 | 2 | D | M | Loam | |
| 14 - 18 | 10YR 4/6 | 100 | | | | | Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☐ No ☑

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-Aug-06
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-F18-68_PFO-1
**Investigator(s):** Beth Clements, SES, **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Depression **Local relief (concave, convex, none):** Concave **Slope (%):** 2 to 5
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7835435 **Long:** -79.3874477 **Datum:** WGS84
**Soil Map Unit Name:** 5C3 **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PFO. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
_✓_ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
_✓_ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | | |
| Water Table Present? | Yes _✓_ No ____ | Depth (inches): | 0 | **Wetland Hydrology Present?** Yes _✓_ No ____ |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 0 | |

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

**Remarks:**

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

Sampling Point: W-F18-68_PFO-1

| Tree Stratum (Plot size: 20x5) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Liriodendron tulipifera* | 85 | Yes | FACU |
| 2. *Liquidambar styraciflua* | 5 | No | FAC |
| 3. *Quercus alba* | 5 | No | FACU |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 95 | = Total Cover | |
| 50% of total cover: 47.5 | 20% of total cover: | 19 | |

| Sapling/Shrub Stratum (Plot size: 10x2) | | | |
|---|---|---|---|
| 1. *Fraxinus pennsylvanica* | 20 | Yes | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 20 | = Total Cover | |
| 50% of total cover: 10 | 20% of total cover: | 4 | |

| Herb Stratum (Plot size: 3x2) | | | |
|---|---|---|---|
| 1. *Onoclea sensibilis* | 35 | Yes | FACW |
| 2. *Carpinus caroliniana* | 1 | No | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 36 | = Total Cover | |
| 50% of total cover: 18 | 20% of total cover: | 7.2 | |

| Woody Vine Stratum (Plot size: 20x5) | | | |
|---|---|---|---|
| 1. *Smilax rotundifolia* | | No | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 2 | (A) |
| Total Number of Dominant Species Across All Strata: | 3 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 66.7 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 55 | x 2 = | 110 |
| FAC species | | x 3 = | |
| FACU species | 90 | x 4 = | 360 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | | (A) | (B) |
| Prevalence Index = B/A = | | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

__✓__ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-68_PFO-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 10 | 10YR 4/1 | 80 | 7.5YR 5/8 | 20 | C | M | Sandy Loam | |
| | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock and roots
Depth (inches): 10

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-Aug-06
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-F18-68_UPL-1
**Investigator(s):** Beth Clements, SES, MCS **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Hillslope **Local relief (concave, convex, none):** Convex **Slope (%):** 10 to 15
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7835351 **Long:** -79.3874232 **Datum:** WGS84
**Soil Map Unit Name:** 5C3 **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ No _✓_ | | |
| Hydric Soil Present? | Yes ____ No _✓_ | | |
| Wetland Hydrology Present? | Yes ____ No _✓_ | **Is the Sampled Area within a Wetland?** | **Yes ____ No _✓_** |

**Remarks:**

Covertype is UPL. Area is upland, not all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | |
| Water Table Present? | Yes ____ No _✓_ | Depth (inches): | **Wetland Hydrology Present?** Yes ____ No _✓_ |
| Saturation Present? (includes capillary fringe) | Yes ____ No _✓_ | Depth (inches): | |

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

**Remarks:**

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

Sampling Point: W-F18-68_UPL-1

| Tree Stratum (Plot size: 20x10) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Liriodendron tulipifera* | 65 | Yes | FACU |
| 2. *Fraxinus pennsylvanica* | 20 | No | FACW |
| 3. *Quercus alba* | 15 | No | FACU |
| 4. *Liquidambar styraciflua* | 10 | No | FAC |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 110 | = Total Cover | |
| 50% of total cover: 55 | 20% of total cover: | 22 | |
| **Sapling/Shrub Stratum (Plot size: 10x5)** | | | |
| 1. *Carpinus caroliniana* | 45 | Yes | FAC |
| 2. *Ligustrum sinense* | 5 | No | FACU |
| 3. *Prunus serotina* | 5 | No | FACU |
| 4. *Viburnum dentatum* | 1 | No | FAC |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 56 | = Total Cover | |
| 50% of total cover: 28 | 20% of total cover: | 11.2 | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Lonicera japonica* | 5 | Yes | FACU |
| 2. *Fraxinus pennsylvanica* | 1 | No | FACW |
| 3. *Carpinus caroliniana* | 1 | No | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 7 | = Total Cover | |
| 50% of total cover: 3.5 | 20% of total cover: | 1.4 | |
| **Woody Vine Stratum (Plot size: 20x10)** | | | |
| 1. *Smilax rotundifolia* | 45 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 45 | = Total Cover | |
| 50% of total cover: 22.5 | 20% of total cover: | 9 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 2 | (A) |
| Total Number of Dominant Species Across All Strata: | 4 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 50 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 21 | x 2 = | 42 |
| FAC species | 102 | x 3 = | 306 |
| FACU species | 95 | x 4 = | 380 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 218 | (A) | 728 (B) |
| Prevalence Index = B/A = | 3.3 | | |

**Hydrophytic Vegetation Indicators:**

_____ 1- Rapid Test for Hydrophytic Vegetation

_____ 2 - Dominance Test is > 50%

_____ 3 - Prevalence Index is ≤ 3.0[1]

_____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☐ No ☑

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-68_UPL-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 4 | 7.5YR 3/3 | 100 | | | | | Loam | |
| 4 - 18 | 7.5YR 5/4 | 100 | | | | | Clay Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☐ No ☑

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-08
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-D18-11_PFO-1
**Investigator(s):** Alexi Weber **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Flood Plain **Local relief (concave, convex, none):** None **Slope (%):** 1 to 3
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7831091 **Long:** -79.3889952 **Datum:** WGS84
**Soil Map Unit Name:** 5C3: Cecil Sandy clay loam **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PFO. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
_✓_ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
_✓_ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
_✓_ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | | |
| Water Table Present? | Yes _✓_ No ____ | Depth (inches): | 6 | **Wetland Hydrology Present?** Yes _✓_ No ____ |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 4 | |

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

**Remarks:**

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

Sampling Point: W-D18-11_PFO-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Liriodendron tulipifera* | 60 | Yes | FACU |
| 2. *Diospyros virginiana* | 40 | Yes | FAC |
| 3. *Carpinus caroliniana* | 25 | No | FAC |
| 4. *Acer rubrum* | 20 | No | FAC |
| 5. *Asimina triloba* | 10 | No | FAC |
| 6. *Platanus occidentalis* | 5 | No | FACW |
| 7. | | | |
| | 160 | = Total Cover | |
| 50% of total cover: 80 | 20% of total cover: | 32 | |
| **Sapling/Shrub Stratum (Plot size: )** | | | |
| 1. *Carpinus caroliniana* | 30 | Yes | FAC |
| 2. *Smilax rotundifolia* | 20 | Yes | FAC |
| 3. *Liquidambar styraciflua* | 10 | No | FAC |
| 4. *Acer rubrum* | 6 | No | FAC |
| 5. *Juniperus virginiana* | 2 | No | FACU |
| 6. *Salix nigra* | 2 | No | OBL |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 70 | = Total Cover | |
| 50% of total cover: 35 | 20% of total cover: | 14 | |
| **Herb Stratum (Plot size: )** | | | |
| 1. *Leersia virginica* | 60 | Yes | FACW |
| 2. *Carex lupulina* | 5 | No | OBL |
| 3. *Boehmeria cylindrica* | 5 | No | FACW |
| 4. *Solidago canadensis* | 2 | No | FACU |
| 5. *Polystichum acrostichoides* | 2 | No | FACU |
| 6. *Dichanthelium latifolium* | 2 | No | FACU |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 76 | = Total Cover | |
| 50% of total cover: 38 | 20% of total cover: | 15.2 | |
| **Woody Vine Stratum (Plot size: )** | | | |
| 1. *Smilax rotundifolia* | 60 | Yes | FAC |
| 2. *Parthenocissus quinquefolia* | 2 | No | FACU |
| 3. *Viburnum dentatum* | 2 | No | FAC |
| 4. | | | |
| 5. | | | |
| | 64 | = Total Cover | |
| 50% of total cover: 32 | 20% of total cover: | 12.8 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 5 | (A) |
| Total Number of Dominant Species Across All Strata: | 6 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 83.3 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 7 | x 1 = | 7 |
| FACW species | 70 | x 2 = | 140 |
| FAC species | 223 | x 3 = | 669 |
| FACU species | 70 | x 4 = | 280 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 370 | (A) | 1096 (B) |

Prevalence Index = B/A = 3

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-D18-11_PFO-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 5 | 10YR 4/2 | 97 | 7.5YR 5/8 | 3 | C | M/PL | Silt Loam | |
| 5 - 8 | 2.5Y 3/2 | 97 | 10YR 3/6 | 3 | C | M | Silt Loam | |
| 8 - 18 | 10YR 4/2 | 98 | 10YR 4/6 | 2 | C | M | Silt Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-08
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-D18-11_UPL-1
**Investigator(s):** Alexi Weber, JF,SS **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Hillslope **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 3
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7830408 **Long:** -79.3888643 **Datum:** WGS84
**Soil Map Unit Name:** 5C3: Cecil Sandy loam, 7-15% slope, severely eroded **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ✓ No ____ | | |
| Hydric Soil Present? | Yes ____ No ✓ | | |
| Wetland Hydrology Present? | Yes ____ No ✓ | **Is the Sampled Area within a Wetland?** | **Yes ____ No ✓** |

**Remarks:**

Covertype is UPL. Area is upland, not all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No ✓ | Depth (inches): | |
| Water Table Present? | Yes ____ No ✓ | Depth (inches): | **Wetland Hydrology Present?** Yes ____ No ✓ |
| Saturation Present? (includes capillary fringe) | Yes ____ No ✓ | Depth (inches): | |

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

**Remarks:**

The criterion for wetland hydrology is not met.

Sampling Point: W-D18-11_UPL-1

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

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Diospyros virginiana* | 60 | Yes | FAC |
| 2. *Salix nigra* | 60 | Yes | OBL |
| 3. *Platanus occidentalis* | 15 | No | FACW |
| 4. *Carpinus caroliniana* | 8 | No | FAC |
| 5. *Acer rubrum* | 8 | No | FAC |
| 6. *Liriodendron tulipifera* | 8 | No | FACU |
| 7. | | | |
| | 159 | = Total Cover | |
| 50% of total cover: 79.5 | 20% of total cover: | 31.8 | |

| Sapling/Shrub Stratum (Plot size: 15) | | | |
|---|---|---|---|
| 1. *Carpinus caroliniana* | 80 | Yes | FAC |
| 2. *Prunus serotina* | 5 | No | FACU |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 85 | = Total Cover | |
| 50% of total cover: 42.5 | 20% of total cover: | 17 | |

| Herb Stratum (Plot size: 5) | | | |
|---|---|---|---|
| 1. *Prunus serotina* | 5 | Yes | FACU |
| 2. *Lycopodiella margueritae* | 3 | Yes | FACW |
| 3. *Lonicera japonica* | 3 | Yes | FACU |
| 4. *Carya cordiformis* | 2 | No | FACU |
| 5. *Viburnum dentatum* | 1 | No | FAC |
| 6. *Smilax rotundifolia* | 1 | No | FAC |
| 7. *Celastrus orbiculatus* | 1 | No | FACU |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 16 | = Total Cover | |
| 50% of total cover: 8 | 20% of total cover: | 3.2 | |

| Woody Vine Stratum (Plot size: 30) | | | |
|---|---|---|---|
| 1. *Smilax rotundifolia* | 10 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 10 | = Total Cover | |
| 50% of total cover: 5 | 20% of total cover: | 2 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 5 | (A) |
| Total Number of Dominant Species Across All Strata: | 7 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 71.4 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 60 | x 1 = | 60 |
| FACW species | 18 | x 2 = | 36 |
| FAC species | 168 | x 3 = | 504 |
| FACU species | 24 | x 4 = | 96 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 270 | (A) | 696 (B) |
| Prevalence Index = B/A = | 2.6 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

__✓__ 2 - Dominance Test is >50%

__✓__ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC). A positive indication of hydrophytic vegetation was observed (Prevalence Index is ≤ 3.00).

SOIL

Sampling Point: W-D18-11_UPL-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 4 | 7.5YR 3/4 | 100 | | | | | Silt Loam | |
| 4 - 18 | 7.5YR 4/6 | 100 | | | | | Silt Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☐ No ☑

**Remarks:**

No positive indication of hydric soils was observed.

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-07
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-D18-07_PEM-1
**Investigator(s):** Jenn Favela, Troy Savage,Mike Smith, Eileen Nakahata **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Foot slope **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 3
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7752594 **Long:** -79.398816 **Datum:** WGS84
**Soil Map Unit Name:** 8A **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PEM. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
_✓_ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
_✓_ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
_✓_ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | | |
| Water Table Present? | Yes _✓_ No ____ | Depth (inches): | 8 | **Wetland Hydrology Present?** Yes _✓_ No ____ |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 0 | |

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

**Remarks:**

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

Sampling Point: W-D18-07_PEM-1

| Tree Stratum (Plot size: _____) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |
| **Sapling/Shrub Stratum (Plot size: 15')** | | | |
| 1. *Liquidambar styraciflua* | 5 | Yes | FAC |
| 2. *Fraxinus pennsylvanica* | 4 | Yes | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 9 = Total Cover | | |
| 50% of total cover: 4.5 | 20% of total cover: 1.8 | | |
| **Herb Stratum (Plot size: 5')** | | | |
| 1. *Solidago canadensis* | 23 | Yes | FACU |
| 2. *Hibiscus moscheutos* | 20 | Yes | OBL |
| 3. *Carex lurida* | 15 | Yes | OBL |
| 4. *Microstegium vimineum* | 10 | No | FAC |
| 5. *Pluchea odorata* | 5 | No | FACW |
| 6. *Dichanthelium clandestinum* | 5 | No | FAC |
| 7. *Impatiens capensis* | 5 | No | FACW |
| 8. *Impatiens capensis* | 5 | No | FACW |
| 9. *Juncus effusus* | 4 | No | FACW |
| 10. *Boehmeria cylindrica* | 3 | No | FACW |
| 11. | | | |
| | 95 = Total Cover | | |
| 50% of total cover: 47.5 | 20% of total cover: 19 | | |
| **Woody Vine Stratum (Plot size: )** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 4 | (A) |
| Total Number of Dominant Species Across All Strata: | 5 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 80 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 35 | x 1 = | 35 |
| FACW species | 26 | x 2 = | 52 |
| FAC species | 20 | x 3 = | 60 |
| FACU species | 23 | x 4 = | 92 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 104 | (A) | 239 (B) |
| Prevalence Index = B/A = | 2.3 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-D18-07_PEM-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 5 | 10YR 4/3 | 70 | 10YR 5/1 | 25 | D | M | Silty Clay Loam | |
| 0 - 5 | | | 7.5YR 4/6 | 5 | C | M/PL | | |
| 5 - 18 | 7.5YR 4/2 | 80 | 5GY 5/1 | 15 | D | M | Silty Clay | |
| 5 - 18 | | | 2.5Y 5/6 | 5 | C | M/PL | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Chatham-Blairs, Pittsy... **Sampling Date:** 2018-June-07
**Applicant/Owner:** NextEra **State:** Virginia **Sampling Point:** W-D18-07_PFO-1
**Investigator(s):** Beth Clements, JF, SS, AW **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Flood Plain **Local relief (concave, convex, none):** Concave **Slope (%):** 0 to 1
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7744513 **Long:** -79.3984392 **Datum:** WGS84
**Soil Map Unit Name:** 8A **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PFO. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- _✓_ Saturation (A3)
- ___ Water Marks (B1)
- _✓_ Sediment Deposits (B2)
- _✓_ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- _✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | | |
| Water Table Present? | Yes _✓_ No ____ | Depth (inches): | 8 | **Wetland Hydrology Present?** Yes _✓_ No ____ |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 8 | |

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

**Remarks:**

The criterion for wetland hydrology is met.

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

Sampling Point: W-D18-07_PFO-1

| Tree Stratum (Plot size: 20x10) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer rubrum* | 40 | Yes | FAC |
| 2. *Ulmus americana* | 20 | Yes | FACW |
| 3. *Acer negundo* | 15 | No | FAC |
| 4. *Liquidambar styraciflua* | 10 | No | FAC |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 85 | = Total Cover | |
| 50% of total cover: 42.5 | 20% of total cover: | 17 | |
| **Sapling/Shrub Stratum (Plot size: 10x5)** | | | |
| 1. *Ligustrum japonicum* | 20 | Yes | UPL |
| 2. *Carpinus caroliniana* | 15 | Yes | FAC |
| 3. *Acer negundo* | 8 | No | FAC |
| 4. *Liquidambar styraciflua* | 2 | No | FAC |
| 5. *Fraxinus pennsylvanica* | 2 | No | FACW |
| 6. *Asimina triloba* | 2 | No | FAC |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 49 | = Total Cover | |
| 50% of total cover: 24.5 | 20% of total cover: | 9.8 | |
| **Herb Stratum (Plot size: )** | | | |
| 1. *Euthamia graminifolia* | 60 | Yes | FAC |
| 2. *Lysimachia nummularia* | 20 | No | FACW |
| 3. *Carex squarrosa* | 10 | No | FACW |
| 4. *Lindera benzoin* | 4 | No | FAC |
| 5. *Smilax rotundifolia* | 4 | No | FAC |
| 6. *Carex vulpinoidea* | 3 | No | OBL |
| 7. *Toxicodendron radicans* | 3 | No | FAC |
| 8. *Lonicera japonica* | 3 | No | FACU |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 107 | = Total Cover | |
| 50% of total cover: 53.5 | 20% of total cover: | 21.4 | |
| **Woody Vine Stratum (Plot size: )** | | | |
| 1. *Toxicodendron radicans* | 15 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 15 | = Total Cover | |
| 50% of total cover: 7.5 | 20% of total cover: | 3 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 5 | (A) |
| Total Number of Dominant Species Across All Strata: | 6 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 83.3 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 3 | x 1 = | 3 |
| FACW species | 52 | x 2 = | 104 |
| FAC species | 178 | x 3 = | 534 |
| FACU species | 3 | x 4 = | 12 |
| UPL species | 20 | x 5 = | 100 |
| Column Totals | 256 | (A) | 753 (B) |

Prevalence Index = B/A = 2.9

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC). A positive indication of hydrophytic vegetation was observed (Prevalence Index is ≤ 3.00).

SOIL

Sampling Point: W-D18-07_PFO-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 8 | 10YR 4/2 | 90 | 10YR 4/6 | 10 | C | M | Loam | |
| 8 - 12 | 10YR 5/3 | 60 | 7.5YR 4/6 | 40 | C | M | Loam | |
| 12 - 18 | 2.5YR 4/6 | 90 | 10YR 5/1 | 10 | D | M | Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
_✓ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
__✓__ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

A positive indication of hydric soil was observed.

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-07
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-D18-07_UPL-1
**Investigator(s):** Beth Clements, JF, SS, AW **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Flood Plain **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 3
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7742057 **Long:** -79.3983036 **Datum:** WGS84
**Soil Map Unit Name:** 8A **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes ____ No _✓_ | | |
| Wetland Hydrology Present? | Yes ____ No _✓_ | **Is the Sampled Area within a Wetland?** | **Yes ____ No _✓_** |

**Remarks:**

Covertype is UPL. Area is upland, not all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | |
| Water Table Present? | Yes ____ No _✓_ | Depth (inches): | **Wetland Hydrology Present?** Yes ____ No _✓_ |
| Saturation Present? (includes capillary fringe) | Yes ____ No _✓_ | Depth (inches): | |

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

**Remarks:**

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

Sampling Point: W-D18-07_UPL-1

| Tree Stratum (Plot size: 20x10) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer negundo* | 50 | Yes | FAC |
| 2. *Liquidambar styraciflua* | 20 | Yes | FAC |
| 3. *Acer rubrum* | 15 | No | FAC |
| 4. *Asimina triloba* | 10 | No | FAC |
| 5. *Ulmus americana* | 5 | No | FACW |
| 6. *Liriodendron tulipifera* | 5 | No | FACU |
| 7. | | | |
| | 105 | = Total Cover | |
| 50% of total cover: 52.5 | 20% of total cover: | 21 | |

| Sapling/Shrub Stratum (Plot size: 10x5) | | | |
|---|---|---|---|
| 1. *Lindera benzoin* | 35 | Yes | FAC |
| 2. *Carpinus caroliniana* | 5 | No | FAC |
| 3. *Asimina triloba* | 2 | No | FAC |
| 4. *Ligustrum japonicum* | 1 | No | UPL |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 43 | = Total Cover | |
| 50% of total cover: 21.5 | 20% of total cover: | 8.6 | |

| Herb Stratum (Plot size: ) | | | |
|---|---|---|---|
| 1. *Dichanthelium latifolium* | 35 | Yes | FACU |
| 2. *Solidago canadensis* | 20 | Yes | FACU |
| 3. *Carpinus caroliniana* | 6 | No | FAC |
| 4. *Boehmeria cylindrica* | 5 | No | FACW |
| 5. *Toxicodendron radicans* | 3 | No | FAC |
| 6. *Carex intumescens* | 2 | No | FACW |
| 7. *Smilax rotundifolia* | 2 | No | FAC |
| 8. *Rosa multiflora* | 2 | No | FACU |
| 9. *Verbesina alternifolia* | 2 | No | FAC |
| 10. | | | |
| 11. | | | |
| | 77 | = Total Cover | |
| 50% of total cover: 38.5 | 20% of total cover: | 15.4 | |

| Woody Vine Stratum (Plot size: ) | | | |
|---|---|---|---|
| 1. *Toxicodendron radicans* | 30 | Yes | FAC |
| 2. *Parthenocissus quinquefolia* | 5 | No | FACU |
| 3. *Smilax rotundifolia* | 5 | No | FAC |
| 4. | | | |
| 5. | | | |
| | 40 | = Total Cover | |
| 50% of total cover: 20 | 20% of total cover: | 8 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 4 | (A) |
| Total Number of Dominant Species Across All Strata: | 6 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 66.7 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 12 | x 2 = | 24 |
| FAC species | 185 | x 3 = | 555 |
| FACU species | 67 | x 4 = | 268 |
| UPL species | 1 | x 5 = | 5 |
| Column Totals | 265 | (A) | 852 (B) |
| Prevalence Index = B/A = | 3.2 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

__✓__ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC).

SOIL

Sampling Point: W-D18-07_UPL-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 2 | 10YR 4/3 | 98 | 10YR 4/2 | 1 | D | M | Silt Loam | |
| 0 - 2 | 10YR 4/1 | 1 | | | D | M | Silt Loam | |
| 2 - 14 | 10YR 5/4 | 100 | | | | | Silt Loam | |
| 14 - 18 | 10YR 5/6 | 80 | 7.5YR 5/8 | 20 | C | M/PL | | |
| | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☐ No ☑

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-01
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-D18-01_PFO-1
**Investigator(s):** Jen Feese, Troy Savage **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Flood Plain **Local relief (concave, convex, none):** Convex **Slope (%):** 1 to 3
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7716267 **Long:** -79.4003373 **Datum:** WGS84
**Soil Map Unit Name:** **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PFO. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
_✓_ Saturation (A3)
_✓_ Water Marks (B1)
_✓_ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
_✓_ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
_✓_ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | |
| Water Table Present? | Yes ____ No _✓_ | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 2 |

**Wetland Hydrology Present?** Yes _✓_ No ____

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

**Remarks:**

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

Sampling Point: W-D18-01_PFO-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer negundo* | 35 | Yes | FAC |
| 2. *Ulmus rubra* | 5 | No | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 40 | = Total Cover | |
| 50% of total cover: 20 | 20% of total cover: | 8 | |

| Sapling/Shrub Stratum (Plot size: 15) | | | |
|---|---|---|---|
| 1. *Ulmus rubra* | 12 | Yes | FAC |
| 2. *Fraxinus pennsylvanica* | 6 | Yes | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 18 | = Total Cover | |
| 50% of total cover: 9 | 20% of total cover: | 3.6 | |

| Herb Stratum (Plot size: 5) | | | |
|---|---|---|---|
| 1. *Elymus virginicus* | 40 | Yes | FACW |
| 2. *Carex comosa* | 15 | Yes | OBL |
| 3. *Fraxinus pennsylvanica* | 5 | No | FACW |
| 4. *Commelina virginica* | 3 | No | FACW |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 63 | = Total Cover | |
| 50% of total cover: 31.5 | 20% of total cover: | 12.6 | |

| Woody Vine Stratum (Plot size: 30) | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 5 | (A) |
| Total Number of Dominant Species Across All Strata: | 5 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 100 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 15 | x 1 = | 15 |
| FACW species | 54 | x 2 = | 108 |
| FAC species | 52 | x 3 = | 156 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 121 | (A) | 279 (B) |

Prevalence Index = B/A = 2.3

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-D18-01_PFO-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 5 | 10YR 4/3 | 90 | 10YR 3/2 | 10 | D | M | Silty Clay | |
| 5 - 18 | 10YR 4/3 | 80 | 10YR 4/1 | 20 | D | M | Silty Clay | |
| | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
__✓__ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Chatham-Blairs, Pittsy... **Sampling Date:** 2018-June-01
**Applicant/Owner:** NextEra **State:** Virginia **Sampling Point:** W-D18-01_UPL-1
**Investigator(s):** Jen Feese, Troy Savage **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Flood Plain **Local relief (concave, convex, none):** Convex **Slope (%):** 2 to 5
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.771557 **Long:** -79.4004382 **Datum:** WGS84
**Soil Map Unit Name:** 5B3 **NWI classification:**
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ✓ No ____ | | |
| Hydric Soil Present? | Yes ____ No ✓ | | |
| Wetland Hydrology Present? | Yes ____ No ✓ | **Is the Sampled Area within a Wetland?** | **Yes ____ No ✓** |

**Remarks:**

Covertype is UPL. Area is upland, not all three wetland parameters are present. heavy rainfall last 24hrs.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
✓ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No ✓ | Depth (inches): | |
| Water Table Present? | Yes ____ No ✓ | Depth (inches): | **Wetland Hydrology Present?** Yes ____ No ✓ |
| Saturation Present? (includes capillary fringe) | Yes ____ No ✓ | Depth (inches): | |

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

**Remarks:**

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

Sampling Point: W-D18-01_UPL-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Nyssa sylvatica* | 35 | Yes | FAC |
| 2. *Quercus michauxii* | 30 | Yes | FACW |
| 3. *Ulmus rubra* | 15 | No | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 80 | = Total Cover | |
| 50% of total cover: 40 | 20% of total cover: | 16 | |
| **Sapling/Shrub Stratum (Plot size: 15)** | | | |
| 1. *Ulmus rubra* | 15 | Yes | FAC |
| 2. *Ilex glabra* | 5 | Yes | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 20 | = Total Cover | |
| 50% of total cover: 10 | 20% of total cover: | 4 | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Ulmus rubra* | 15 | Yes | FAC |
| 2. *Microstegium vimineum* | 10 | Yes | FAC |
| 3. *Verbesina virginica* | 5 | No | UPL |
| 4. *Rosa multiflora* | 5 | No | FACU |
| 5. *Rubus pensilvanicus* | 5 | No | FAC |
| 6. *Parthenocissus quinquefolia* | 3 | No | FACU |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 43 | = Total Cover | |
| 50% of total cover: 21.5 | 20% of total cover: | 8.6 | |
| **Woody Vine Stratum (Plot size: 30)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 6 | (A) |
| Total Number of Dominant Species Across All Strata: | 6 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 100 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 30 | x 2 = | 60 |
| FAC species | 100 | x 3 = | 300 |
| FACU species | 8 | x 4 = | 32 |
| UPL species | 5 | x 5 = | 25 |
| Column Totals | 143 | (A) | 417 (B) |
| Prevalence Index = B/A = | 2.9 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-D18-01_UPL-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 18 | 2.5YR 4/6 | 100 | | | | | Sandy Clay Loam | Mixed |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☐ No ☑

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-04
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-F18-01_PSS-1
**Investigator(s):** Alexi Weber, Troy Savage **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Depression **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 3
**Subregion (LRR or MLRA):** **Lat:** 36.7665064 **Long:** -79.4002073 **Datum:** WGS84
**Soil Map Unit Name:** 5c3 **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PSS. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
_✓_ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
_✓_ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
_✓_ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | | |
| Water Table Present? | Yes _✓_ No ____ | Depth (inches): | 15 | **Wetland Hydrology Present?** Yes _✓_ No ____ |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 12 | |

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

**Remarks:**

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

Sampling Point: W-F18-01_PSS-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Salix alba* | 8 | Yes | FACW |
| 2. *Pinus taeda* | 5 | Yes | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 13 | = Total Cover | |
| 50% of total cover: 6.5 | 20% of total cover: | 2.6 | |

| Sapling/Shrub Stratum (Plot size: ) | | | |
|---|---|---|---|
| 1. *Fraxinus pennsylvanica* | 10 | Yes | FACW |
| 2. *Sambucus nigra* | 6 | Yes | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 16 | = Total Cover | |
| 50% of total cover: 8 | 20% of total cover: | 3.2 | |

| Herb Stratum (Plot size: ) | | | |
|---|---|---|---|
| 1. *Carex comosa* | 25 | Yes | OBL |
| 2. *Carex vulpinoidea* | 12 | Yes | OBL |
| 3. *Dichanthelium latifolium* | 8 | No | FACU |
| 4. *Impatiens capensis* | 6 | No | FACW |
| 5. *Onoclea sensibilis* | 6 | No | FACW |
| 6. *Juncus effusus* | 4 | No | FACW |
| 7. *Rubus pensilvanicus* | 4 | No | FAC |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 65 | = Total Cover | |
| 50% of total cover: 32.5 | 20% of total cover: | 13 | |

| Woody Vine Stratum (Plot size: ) | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 6 | (A) |
| Total Number of Dominant Species Across All Strata: | 6 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 100 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 37 | x 1 = | 37 |
| FACW species | 34 | x 2 = | 68 |
| FAC species | 15 | x 3 = | 45 |
| FACU species | 8 | x 4 = | 32 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 94 | (A) | 182 (B) |
| Prevalence Index = B/A = | 1.9 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-01_PSS-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 6 | 10YR 3/2 | 95 | 5YR 4/6 | 5 | C | PL | Silt Loam | |
| 6 - 10 | 10YR 3/2 | 90 | 7.5YR 4/6 | 10 | C | M | | |
| 10 - 18 | 10YR 6/8 | 60 | 10YR 5/2 | 40 | D | M | Silty Clay | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Chatham-Blairs, Pittsy... **Sampling Date:** 2018-June-04
**Applicant/Owner:** NextEra **State:** Virginia **Sampling Point:** W-F18-01_UPL-1
**Investigator(s):** Beth Clements, ESN, AW, SS **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Low Hill **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 3
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7662884 **Long:** -79.4002165 **Datum:** WGS84
**Soil Map Unit Name:** 8A **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ✓ No ____ | | |
| Hydric Soil Present? | Yes ____ No ✓ | | |
| Wetland Hydrology Present? | Yes ____ No ✓ | **Is the Sampled Area within a Wetland?** | **Yes ____ No ✓** |

**Remarks:**

Covertype is UPL. Area is upland, not all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No ✓ | Depth (inches): | |
| Water Table Present? | Yes ____ No ✓ | Depth (inches): | **Wetland Hydrology Present?** Yes ____ No ✓ |
| Saturation Present? (includes capillary fringe) | Yes ____ No ✓ | Depth (inches): | |

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

**Remarks:**

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

Sampling Point: W-F18-01_UPL-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Pinus taeda* | | No | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |
| **Sapling/Shrub Stratum (Plot size: 15 ft radius)** | | | |
| 1. *Rubus pensilvanicus* | 45 | Yes | FAC |
| 2. *Sambucus nigra* | 15 | Yes | FAC |
| 3. *Rosa multiflora* | 10 | No | FACU |
| 4. *Liquidambar styraciflua* | 2 | No | FAC |
| 5. *Liriodendron tulipifera* | 1 | No | FACU |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 73 | = Total Cover | |
| 50% of total cover: 36.5 | 20% of total cover: | 14.6 | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Solidago canadensis* | 40 | Yes | FACU |
| 2. *Juncus effusus* | 25 | Yes | FACW |
| 3. *Juncus tenuis* | 15 | No | FAC |
| 4. *Carex comosa* | 15 | No | OBL |
| 5. *Dichanthelium latifolium* | 10 | No | FACU |
| 6. *Carex vulpinoidea* | 10 | No | OBL |
| 7. *Potentilla simplex* | | No | FACU |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 115 | = Total Cover | |
| 50% of total cover: 57.5 | 20% of total cover: | 23 | |
| **Woody Vine Stratum (Plot size: )** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 3 | (A) |
| Total Number of Dominant Species Across All Strata: | 4 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 75 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 25 | x 1 = | 25 |
| FACW species | 25 | x 2 = | 50 |
| FAC species | | x 3 = | |
| FACU species | | x 4 = | |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | | (A) | (B) |
| Prevalence Index = B/A = | | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

__✓__ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-01_UPL-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 3 | 5YR 4/6 | 99 | 10YR 3/2 | 1 | C | M | Silt Loam | |
| 3 - 18 | 5YR 4/6 | 100 | | | | | Silt Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☐ No ☑

**Remarks:**

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Chatham-Blairs, Pittsy... **Sampling Date:** 2018-June-05
**Applicant/Owner:** NextEra **State:** Virginia **Sampling Point:** W-F18-02_PFO-1
**Investigator(s):** Beth Clements, ESN, JF, SS, AW **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Foot slope **Local relief (concave, convex, none):** Convex **Slope (%):** 1 to 3
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7692813 **Long:** -79.4000398 **Datum:** WGS84
**Soil Map Unit Name:** 8A **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PFO. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

- _✓_ Surface Water (A1)
- _✓_ High Water Table (A2)
- _✓_ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ True Aquatic Plants (B14)
- ____ Hydrogen Sulfide Odor (C1)
- _✓_ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- _✓_ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- _✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes _✓_ No ____ | Depth (inches): | 1 | |
| Water Table Present? | Yes _✓_ No ____ | Depth (inches): | 0 | **Wetland Hydrology Present?** Yes _✓_ No ____ |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 0 | |

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

**Remarks:**

The criterion for wetland hydrology is met.

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

Sampling Point: W-F18-02_PFO-1

| Tree Stratum (Plot size: 20x10) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer rubrum* | 25 | Yes | FAC |
| 2. *Nyssa sylvatica* | 20 | Yes | FAC |
| 3. *Betula nigra* | 10 | No | FACW |
| 4. *Carpinus caroliniana* | 2 | No | FAC |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 57 | = Total Cover | |
| 50% of total cover: 28.5 | 20% of total cover: | 11.4 | |
| Sapling/Shrub Stratum (Plot size: 10x5) | | | |
| 1. *Fraxinus pennsylvanica* | 25 | Yes | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 25 | = Total Cover | |
| 50% of total cover: 12.5 | 20% of total cover: | 5 | |
| Herb Stratum (Plot size: 5) | | | |
| 1. *Rubus pensilvanicus* | 75 | Yes | FAC |
| 2. *Parathelypteris noveboracensis* | 5 | No | FAC |
| 3. *Smilax rotundifolia* | 5 | No | FAC |
| 4. *Impatiens capensis* | 3 | No | FACW |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 88 | = Total Cover | |
| 50% of total cover: 44 | 20% of total cover: | 17.6 | |
| Woody Vine Stratum (Plot size: 30) | | | |
| 1. *Smilax rotundifolia* | 30 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 30 | = Total Cover | |
| 50% of total cover: 15 | 20% of total cover: | 6 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 5 | (A) |
| Total Number of Dominant Species Across All Strata: | 5 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 100 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 38 | x 2 = | 76 |
| FAC species | 162 | x 3 = | 486 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 200 | (A) | 562 (B) |
| Prevalence Index = B/A = | 2.8 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC). A positive indication of hydrophytic vegetation was observed (Prevalence Index is ≤ 3.00).

SOIL

Sampling Point: W-F18-02_PFO-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 6 | 10YR 4/1 | 90 | 7.5YR 4/6 | 10 | C | M/PL | Silt Loam | |
| 6 - 10 | 10YR 4/1 | 97 | 10YR 4/6 | 3 | C | M/PL | Silt Loam | |
| 10 - 18 | 10YR 3/1 | 100 | | | | | Silt Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

A positive indication of hydric soil was observed.

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Chatham-Blairs, Pittsy... **Sampling Date:** 2018-June-05
**Applicant/Owner:** NextEra **State:** Virginia **Sampling Point:** W-F18-02_UPL-1
**Investigator(s):** Jen Feese, AW,JF,SS **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Hillslope **Local relief (concave, convex, none):** Convex **Slope (%):** 1 to 3
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7694037 **Long:** -79.3999269 **Datum:** WGS84
**Soil Map Unit Name:** 8A **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes ____ No _✓_ | | |
| Wetland Hydrology Present? | Yes ____ No _✓_ | **Is the Sampled Area within a Wetland?** | **Yes ____ No _✓_** |

**Remarks:**

Covertype is UPL. Area is upland, not all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | |
| Water Table Present? | Yes ____ No _✓_ | Depth (inches): | **Wetland Hydrology Present?** Yes ____ No _✓_ |
| Saturation Present? (includes capillary fringe) | Yes ____ No _✓_ | Depth (inches): | |

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

**Remarks:**

The criterion for wetland hydrology is not met.

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

Sampling Point: W-F18-02_UPL-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Carpinus caroliniana* | 40 | Yes | FAC |
| 2. *Liriodendron tulipifera* | 10 | No | FACU |
| 3. *Acer rubrum* | 5 | No | FAC |
| 4. *Pinus taeda* | 5 | No | FAC |
| 5. *Liquidambar styraciflua* | 2 | No | FAC |
| 6. *Quercus rubra* | 1 | No | FACU |
| 7. | | | |
| | 63 | = Total Cover | |
| 50% of total cover: 31.5 | 20% of total cover: | 12.6 | |
| **Sapling/Shrub Stratum (Plot size: 15)** | | | |
| 1. *Liquidambar styraciflua* | 20 | Yes | FAC |
| 2. *Alnus serrulata* | 20 | Yes | OBL |
| 3. *Rubus pensilvanicus* | 15 | Yes | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 55 | = Total Cover | |
| 50% of total cover: 27.5 | 20% of total cover: | 11 | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Parathelypteris noveboracensis* | 80 | Yes | FAC |
| 2. *Rubus pensilvanicus* | 50 | Yes | FAC |
| 3. *Smilax rotundifolia* | 15 | No | FAC |
| 4. *Dichanthelium latifolium* | 15 | No | FACU |
| 5. *Solidago canadensis* | 5 | No | FACU |
| 6. *Impatiens capensis* | 2 | No | FACW |
| 7. *Parthenocissus quinquefolia* | 1 | No | FACU |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 168 | = Total Cover | |
| 50% of total cover: 84 | 20% of total cover: | 33.6 | |
| **Woody Vine Stratum (Plot size: 30)** | | | |
| 1. *Smilax rotundifolia* | 20 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 20 | = Total Cover | |
| 50% of total cover: 10 | 20% of total cover: | 4 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 7 | (A) |
| Total Number of Dominant Species Across All Strata: | 7 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 100 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 20 | x 1 = | 20 |
| FACW species | 2 | x 2 = | 4 |
| FAC species | 252 | x 3 = | 756 |
| FACU species | 32 | x 4 = | 128 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 306 | (A) | 908 (B) |
| Prevalence Index = B/A = | 3 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

__✓__ 2 - Dominance Test is >50%

__✓__ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-02_UPL-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 12 | 7.5YR 4/4 | 100 | | | | | Loam | |
| 12 - 18 | 7.5YR 4/6 | 95 | 7.5YR 4/4 | 5 | D | M | Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☐ No ☑

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Dry Fork, Pittsylvania … **Sampling Date:** 2018-July-25
**Applicant/Owner:** NextEra **State:** Virginia **Sampling Point:** W-D18-10_PEM-1
**Investigator(s):** Beth Clements, SS JDF AJW **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Hillslope **Local relief (concave, convex, none):** Concave **Slope (%):** 2 to 5
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7578448 **Long:** -79.4189641 **Datum:** WGS84
**Soil Map Unit Name:** 5C3 **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil _✓_, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No _✓_
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PEM. Area is wetland, all three wetland parameters are present. Soil disturbed in easement .

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
_✓_ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | |
| Water Table Present? | Yes ____ No _✓_ | Depth (inches): | **Wetland Hydrology Present?** Yes _✓_ No ____ |
| Saturation Present? (includes capillary fringe) | Yes ____ No _✓_ | Depth (inches): | |

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

**Remarks:**

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

Sampling Point: W-D18-10_PEM-1

| Tree Stratum (Plot size: 30') | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |
| **Sapling/Shrub Stratum (Plot size: 15')** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |
| **Herb Stratum (Plot size: 5')** | | | |
| 1. *Juncus effusus* | 50 | Yes | FACW |
| 2. *Juncus canadensis* | 15 | Yes | OBL |
| 3. *Microstegium vimineum* | 15 | Yes | FAC |
| 4. *Carex lurida* | 10 | No | OBL |
| 5. *Arthraxon hispidus* | 10 | No | FAC |
| 6. *Dichanthelium clandestinum* | 10 | No | FAC |
| 7. *Juncus tenuis* | 5 | No | FAC |
| 8. *Fraxinus pennsylvanica* | 5 | No | FACW |
| 9. *Persicaria sagittata* | 5 | No | OBL |
| 10. *Bidens aristosa* | 5 | No | FACW |
| 11. *Lespedeza cuneata* | 5 | No | FACU |
| | 135 = Total Cover | | |
| 50% of total cover: 67.5 | 20% of total cover: 27 | | |
| **Woody Vine Stratum (Plot size: 30')** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 3 | (A) |
| Total Number of Dominant Species Across All Strata: | 3 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 100 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 30 | x 1 = | 30 |
| FACW species | 60 | x 2 = | 120 |
| FAC species | 40 | x 3 = | 120 |
| FACU species | 5 | x 4 = | 20 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 135 | (A) | 290 (B) |
| Prevalence Index = B/A = | 2.1 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-D18-10_PEM-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 3 | 10YR 5/2 | 70 | 2.5YR 4/8 | 2 | C | M/PL | Loam | |
| 0 - 3 | | | 7.5YR 5/8 | 28 | C | M | | |
| 3 - 7 | 2.5Y 6/3 | 60 | 7.5YR 5/8 | 30 | C | M | Clay Loam | |
| 3 - 7 | | | 5YR 5/8 | 10 | C | M/PL | | |
| 7 - 15 | 10YR 5/3 | 55 | 2.5YR 4/8 | 40 | C | M | Clay Loam | |
| 7 - 15 | | | 10YR 6/8 | 5 | C | M | | |
| 15 - 18 | 2.5Y 6/1 | 60 | 10YR 6/8 | 30 | C | M | Clay Loam | |
| 15 - 18 | | | 2.5YR 4/8 | 10 | C | M | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-09
**Applicant/Owner:** NextEra **State:** VA **Sampling Point:** W-D18-10_PFO-1
**Investigator(s):** Jen Feese, BC,SS,MS,JF **Section, Township, Range:** Chatham,VA
**Landform (hillslope, terrace, etc.):** Hillslope **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 3
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7569092 **Long:** -79.4186637 **Datum:** WGS84
**Soil Map Unit Name:** 53C **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PFO. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
_✓_ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | |
| Water Table Present? | Yes ____ No _✓_ | Depth (inches): | **Wetland Hydrology Present?** Yes _✓_ No ____ |
| Saturation Present? (includes capillary fringe) | Yes ____ No _✓_ | Depth (inches): | |

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

**Remarks:**

The criterion for wetland hydrology is met.

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

Sampling Point: W-D18-10_PFO-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer rubrum* | 95 | Yes | FAC |
| 2. *Carya glabra* | 5 | No | FACU |
| 3. *Liriodendron tulipifera* | 5 | No | FACU |
| 4. *Liquidambar styraciflua* | 2 | No | FAC |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 107 | = Total Cover | |
| 50% of total cover: 53.5 | 20% of total cover: | 21.4 | |
| **Sapling/Shrub Stratum (Plot size: 15)** | | | |
| 1. *Lindera benzoin* | 90 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 90 | = Total Cover | |
| 50% of total cover: 45 | 20% of total cover: | 18 | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Symplocarpus foetidus* | 60 | Yes | OBL |
| 2. *Viola sagittata* | 6 | No | FAC |
| 3. *Lonicera japonica* | 5 | No | FACU |
| 4. *Microstegium vimineum* | 2 | No | FAC |
| 5. *Lindera benzoin* | 2 | No | FAC |
| 6. *Carex lupulina* | 1 | No | OBL |
| 7. *Smilax rotundifolia* | 1 | No | FAC |
| 8. *Acer rubrum* | 1 | No | FAC |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 78 | = Total Cover | |
| 50% of total cover: 39 | 20% of total cover: | 15.6 | |
| **Woody Vine Stratum (Plot size: 30)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 3 | (A) |
| Total Number of Dominant Species Across All Strata: | 3 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 100 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 61 | x 1 = | 61 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 199 | x 3 = | 597 |
| FACU species | 15 | x 4 = | 60 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 275 | (A) | 718 (B) |
| Prevalence Index = B/A = | 2.6 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC). A positive indication of hydrophytic vegetation was observed (Prevalence Index is ≤ 3.00).

SOIL

Sampling Point: W-D18-10_PFO-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 10 | 7.5YR 4/2 | 97 | 7.5YR 4/6 | 3 | C | PL | Silt Loam | |
| 10 - 18 | 2.5Y 5/2 | 90 | 7.5YR 6/8 | 10 | C | M | Clay Loam | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

A positive indication of hydric soil was observed.

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-09
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-D18-10_UPL-1
**Investigator(s):** Jen Feese, BC,SS,MS,JF **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Hillslope **Local relief (concave, convex, none):** None **Slope (%):** 1 to 3
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7568099 **Long:** -79.4187518 **Datum:** WGS84
**Soil Map Unit Name:** 5C3: Cecil Sandy clay loam 7-15% slope,severely eroded **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ✓ No ____ | | |
| Hydric Soil Present? | Yes ____ No ✓ | | |
| Wetland Hydrology Present? | Yes ____ No ✓ | **Is the Sampled Area within a Wetland?** | **Yes ____ No ✓** |

**Remarks:**

Covertype is UPL. Area is upland, not all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No ✓ | Depth (inches): | |
| Water Table Present? | Yes ____ No ✓ | Depth (inches): | **Wetland Hydrology Present?** Yes ____ No ✓ |
| Saturation Present? (includes capillary fringe) | Yes ____ No ✓ | Depth (inches): | |

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

**Remarks:**

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

Sampling Point: W-D18-10_UPL-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer rubrum* | 40 | Yes | FAC |
| 2. *Prunus serotina* | 30 | Yes | FACU |
| 3. *Betula nigra* | 10 | No | FACW |
| 4. *Morus rubra* | 5 | No | FACU |
| 5. *Liquidambar styraciflua* | 5 | No | FAC |
| 6. | | | |
| 7. | | | |
| | 90 | = Total Cover | |
| 50% of total cover: 45 | 20% of total cover: | 18 | |

| Sapling/Shrub Stratum (Plot size: 15) | | | |
|---|---|---|---|
| 1. *Lindera benzoin* | 95 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 95 | = Total Cover | |
| 50% of total cover: 47.5 | 20% of total cover: | 19 | |

| Herb Stratum (Plot size: 5) | | | |
|---|---|---|---|
| 1. *Symplocarpus foetidus* | 20 | Yes | OBL |
| 2. *Lonicera japonica* | 10 | Yes | FACU |
| 3. *Microstegium vimineum* | 5 | No | FAC |
| 4. *Lindera benzoin* | 1 | No | FAC |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 36 | = Total Cover | |
| 50% of total cover: 18 | 20% of total cover: | 7.2 | |

| Woody Vine Stratum (Plot size: 30) | | | |
|---|---|---|---|
| 1. *Toxicodendron radicans* | 15 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 15 | = Total Cover | |
| 50% of total cover: 7.5 | 20% of total cover: | 3 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 4 | (A) |
| Total Number of Dominant Species Across All Strata: | 6 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 66.7 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 20 | x 1 = | 20 |
| FACW species | 10 | x 2 = | 20 |
| FAC species | 161 | x 3 = | 483 |
| FACU species | 45 | x 4 = | 180 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 236 | (A) | 703 (B) |
| Prevalence Index = B/A = | 3 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

__✓__ 2 - Dominance Test is >50%

__✓__ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-D18-10_UPL-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 5 | 7.5YR 5/4 | 100 | | | | | Loam | |
| 5 - 18 | 7.5YR 4/4 | 97 | 7.5YR 5/4 | 3 | C | M | Loam | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☐ No ☑

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-July-26
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-D18-14_PEM-1
**Investigator(s):** Troy Savage, BAC, JC **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Swale **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 10
**Subregion (LRR or MLRA):** **Lat:** 36.7463186 **Long:** -79.4299519 **Datum:** WGS84
**Soil Map Unit Name:** **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PEM. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
_✓_ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
_✓_ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | | |
| Water Table Present? | Yes _✓_ No ____ | Depth (inches): | 10 | **Wetland Hydrology Present?** Yes _✓_ No ____ |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 0 | |

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

**Remarks:**

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

Sampling Point: W-D18-14_PEM-1

| Tree Stratum (Plot size: 10) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |
| **Sapling/Shrub Stratum (Plot size: 10)** | | | |
| 1. *Salix nigra* | 10 | Yes | OBL |
| 2. *Alnus serrulata* | 5 | Yes | OBL |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 15 = Total Cover | | |
| 50% of total cover: 7.5 | 20% of total cover: 3 | | |
| **Herb Stratum (Plot size: 2x3)** | | | |
| 1. *Juncus effusus* | 25 | Yes | FACW |
| 2. *Sabatia angularis* | 20 | Yes | FAC |
| 3. *Peltandra virginica* | 10 | Yes | OBL |
| 4. *Elymus virginicus* | 10 | Yes | FACW |
| 5. *Eupatorium perfoliatum* | 10 | Yes | FACW |
| 6. *Dichanthelium acuminatum* | 10 | Yes | FAC |
| 7. *Microstegium vimineum* | 10 | Yes | FAC |
| 8. *Leersia oryzoides* | 10 | Yes | OBL |
| 9. *Mimulus ringens* | 5 | No | OBL |
| 10. *Carex lurida* | 5 | No | OBL |
| 11. | | | |
| | 115 = Total Cover | | |
| 50% of total cover: 57.5 | 20% of total cover: 23 | | |
| **Woody Vine Stratum (Plot size: 10)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 10 | (A) |
| Total Number of Dominant Species Across All Strata: | 10 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 100 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 45 | x 1 = | 45 |
| FACW species | 45 | x 2 = | 90 |
| FAC species | 40 | x 3 = | 120 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 130 (A) | | 255 (B) |

Prevalence Index = B/A = 2

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-D18-14_PEM-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 8 | 10YR 4/2 | 90 | 7.5YR 4/4 | 10 | C | M/PL | Silt Loam | |
| 8 - 16 | 10YR 5/2 | 90 | 7.5YR 4/4 | 10 | C | M/PL | Sandy Clay Loam | |
| 16 - 21 | 2.5Y 5/1 | 90 | 7.5YR 4/4 | 10 | C | M | Sandy Clay Loam | |
| | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-10
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-D18-14_PFO-1
**Investigator(s):** Jacob Fleckenstein, JSF, BAC, SES, MCS **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Hillslope **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 10
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.745998 **Long:** -79.4299492 **Datum:** WGS84
**Soil Map Unit Name:** 21E **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PFO. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

- _✓_ Surface Water (A1)
- _✓_ High Water Table (A2)
- _✓_ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ True Aquatic Plants (B14)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | | |
| Water Table Present? | Yes _✓_ No ____ | Depth (inches): | 1 | **Wetland Hydrology Present?** Yes _✓_ No ____ |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 1 | |

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

**Remarks:**

The criterion for wetland hydrology is met.

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

Sampling Point: W-D18-14_PFO-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Carya glabra* | 15 | Yes | FACU |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 15 = Total Cover | | |
| 50% of total cover: 7.5 | 20% of total cover: 3 | | |
| **Sapling/Shrub Stratum (Plot size: 15)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Carex stricta* | 80 | Yes | OBL |
| 2. *Parathelypteris noveboracensis* | 20 | No | FAC |
| 3. *Microstegium vimineum* | 7 | No | FAC |
| 4. *Smilax rotundifolia* | 1 | No | FAC |
| 5. *Lonicera japonica* | 1 | No | FACU |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 109 = Total Cover | | |
| 50% of total cover: 54.5 | 20% of total cover: 21.8 | | |
| **Woody Vine Stratum (Plot size: 30)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 1 | (A) |
| Total Number of Dominant Species Across All Strata: | 2 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 50 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 80 | x 1 = | 80 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 28 | x 3 = | 84 |
| FACU species | 16 | x 4 = | 64 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 124 | (A) | 228 (B) |
| Prevalence Index = B/A = | 1.8 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

__✓__ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

A positive indication of hydrophytic vegetation was observed (Prevalence Index is ≤ 3.00).

SOIL

Sampling Point: W-D18-14_PFO-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 5 | 10YR 5/2 | 98 | 10YR 4/2 | 2 | D | M | Sandy Loam | |
| 5 - 15 | 2.5Y 4/2 | 100 | | | | | Sandy Loam | |
| 15 - 18 | 2.5Y 4/1 | 85 | 7.5YR 3/4 | 15 | C | M | Sandy Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

A positive indication of hydric soil was observed.

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-10
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-D18-14_UPL-1
**Investigator(s):** Jacob Fleckenstein, JSF, BAC, SES, MCS **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Hillslope **Local relief (concave, convex, none):** Convex **Slope (%):** 10 to 20
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.745866 **Long:** -79.429884 **Datum:** WGS84
**Soil Map Unit Name:** 21E: Madison Fine Sandy loam **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ No ✓ | | |
| Hydric Soil Present? | Yes ____ No ✓ | | |
| Wetland Hydrology Present? | Yes ____ No ✓ | **Is the Sampled Area within a Wetland?** | **Yes ____ No ✓** |

**Remarks:**

Covertype is UPL. Area is upland, not all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No ✓ | Depth (inches): | |
| Water Table Present? | Yes ____ No ✓ | Depth (inches): | **Wetland Hydrology Present?** Yes ____ No ✓ |
| Saturation Present? (includes capillary fringe) | Yes ____ No ✓ | Depth (inches): | |

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

**Remarks:**

The criterion for wetland hydrology is not met.

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

Sampling Point: W-D18-14_UPL-1

| Tree Stratum (Plot size: _____) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer rubrum* | 30 | Yes | FAC |
| 2. *Carya glabra* | 20 | Yes | FACU |
| 3. *Magnolia acuminata* | 10 | No | FACU |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 60 | = Total Cover | |
| 50% of total cover: 30 | 20% of total cover: | 12 | |

| Sapling/Shrub Stratum (Plot size: ___) | | | |
|---|---|---|---|
| 1. *Quercus montana* | 30 | Yes | UPL |
| 2. *Carya glabra* | 20 | Yes | FACU |
| 3. *Acer rubrum* | 5 | No | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 55 | = Total Cover | |
| 50% of total cover: 27.5 | 20% of total cover: | 11 | |

| Herb Stratum (Plot size: ___) | | | |
|---|---|---|---|
| 1. *Parathelypteris noveboracensis* | 80 | Yes | FAC |
| 2. *Smilax rotundifolia* | 2 | No | FAC |
| 3. *Carya glabra* | 1 | No | FACU |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 83 | = Total Cover | |
| 50% of total cover: 41.5 | 20% of total cover: | 16.6 | |

| Woody Vine Stratum (Plot size: ___) | | | |
|---|---|---|---|
| 1. *Smilax rotundifolia* | 15 | Yes | FAC |
| 2. *Lonicera japonica* | 2 | No | FACU |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 17 | = Total Cover | |
| 50% of total cover: 8.5 | 20% of total cover: | 3.4 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 3 | (A) |
| Total Number of Dominant Species Across All Strata: | 6 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 50 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 132 | x 3 = | 396 |
| FACU species | 53 | x 4 = | 212 |
| UPL species | 30 | x 5 = | 150 |
| Column Totals | 215 | (A) | 758 (B) |
| Prevalence Index = B/A = | 3.5 | | |

**Hydrophytic Vegetation Indicators:**

_____ 1- Rapid Test for Hydrophytic Vegetation

_____ 2 - Dominance Test is > 50%

_____ 3 - Prevalence Index is ≤ 3.0[1]

_____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☐ No ☑

**Remarks: (Include photo numbers here or on a separate sheet.)**

No positive indication of hydrophytic vegetation was observed (≥50% of dominant species indexed as FAC− or drier).

SOIL

Sampling Point: W-D18-14_UPL-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 2 | 2.5YR 4/8 | 98 | 10YR 4/1 | 2 | D | M | Silt Loam | |
| 2 - 8 | 7.5YR 4/4 | 98 | 5YR 4/6 | 2 | C | M | Silt Loam | |
| 8 - 18 | 7.5YR 4/4 | 99 | 2.5YR 4/6 | 1 | C | M | Silt Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☐ No ☑

**Remarks:**

No positive indication of hydric soils was observed.

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot
West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-15
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-F18-14_PEM-1
**Investigator(s):** Jen Feese, EN, AW **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Flood Plain **Local relief (concave, convex, none):** None **Slope (%):** 0 to 1
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7411167 **Long:** -79.4334739 **Datum:** WGS84
**Soil Map Unit Name:** 21D **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PEM. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
_✓_ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | | |
| Water Table Present? | Yes _✓_ No ____ | Depth (inches): | 4 | **Wetland Hydrology Present?** Yes _✓_ No ____ |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 0 | |

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

**Remarks:**

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

Sampling Point: W-F18-14_PEM-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer rubrum* | 5 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 5 | = Total Cover | |
| 50% of total cover: 2.5 | 20% of total cover: | 1 | |
| **Sapling/Shrub Stratum (Plot size: 15)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Impatiens capensis* | 60 | Yes | FACW |
| 2. *Elymus virginicus* | 35 | Yes | FACW |
| 3. *Carex comosa* | 6 | No | OBL |
| 4. *Cicuta maculata* | 5 | No | OBL |
| 5. *Persicaria arifolia* | 4 | No | OBL |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 110 | = Total Cover | |
| 50% of total cover: 55 | 20% of total cover: | 22 | |
| **Woody Vine Stratum (Plot size: 30)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 3 | (A) |
| Total Number of Dominant Species Across All Strata: | 3 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 100 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 15 | x 1 = | 15 |
| FACW species | 95 | x 2 = | 190 |
| FAC species | 5 | x 3 = | 15 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 115 | (A) | 220 (B) |
| Prevalence Index = B/A = | 1.9 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-14_PEM-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 14 | 10YR 3/2 | 100 | | | | | Silt Loam | |
| 14 - 18 | 10YR 4/2 | 100 | | | | | Sandy Silt Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Dry Fork, Pittsylvania … **Sampling Date:** 2018-July-27
**Applicant/Owner:** NextEra **State:** VA **Sampling Point:** W-F18-14_PEM-2
**Investigator(s):** Troy Savage, Alexi Weber, Jenn Feese **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Swale **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 10
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7416629 **Long:** -79.4342615 **Datum:** WGS84
**Soil Map Unit Name:** 21D **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PEM. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
_✓_ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
_✓_ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | | |
| Water Table Present? | Yes _✓_ No ____ | Depth (inches): | 1 | **Wetland Hydrology Present?** Yes _✓_ No ____ |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 0 | |

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

**Remarks:**

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

Sampling Point: W-F18-14_PEM-2

| Tree Stratum (Plot size: 10x20) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |
| **Sapling/Shrub Stratum (Plot size: 10x5)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Leersia oryzoides* | 60 | Yes | OBL |
| 2. *Murdannia keisak* | 30 | Yes | OBL |
| 3. *Juncus effusus* | 25 | No | FACW |
| 4. *Carex lurida* | 20 | No | OBL |
| 5. *Eupatorium perfoliatum* | 15 | No | FACW |
| 6. *Persicaria hydropiper* | 15 | No | OBL |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 165 = Total Cover | | |
| 50% of total cover: 82.5 | 20% of total cover: 33 | | |
| **Woody Vine Stratum (Plot size: 10x20)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 2 | (A) |
| Total Number of Dominant Species Across All Strata: | 2 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 100 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 125 | x 1 = | 125 |
| FACW species | 40 | x 2 = | 80 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 165 (A) | | 205 (B) |
| Prevalence Index = B/A = | 1.2 | | |

**Hydrophytic Vegetation Indicators:**

✓ 1- Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-14_PEM-2

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 7 | 10YR 4/2 | 60 | 7.5YR 4/6 | 40 | C | M/PL | Sandy Clay Loam | |
| 7 - 14 | 7.5YR 4/3 | 70 | 7.5YR 4/6 | 30 | C | M/PL | Sandy Clay Loam | |
| 14 - 18 | 7.5YR 4/2 | 80 | 7.5YR 4/4 | 20 | C | M | Sandy Clay Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Dry Fork, Pittsylvania … **Sampling Date:** 2018-June-15
**Applicant/Owner:** NextEra **State:** Virginia **Sampling Point:** W-F18-14_PFO-1
**Investigator(s):** Jen Feese, EN, AW **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Flood Plain **Local relief (concave, convex, none):** None **Slope (%):** 0 to 1
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7411842 **Long:** -79.4336121 **Datum:** WGS84
**Soil Map Unit Name:** 21D **NWI classification:** PFO
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PFO. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

_✓_ Surface Water (A1)
_✓_ High Water Table (A2)
_✓_ Saturation (A3)
____ Water Marks (B1)
____ Sediment Deposits (B2)
____ Drift Deposits (B3)
____ Algal Mat or Crust (B4)
____ Iron Deposits (B5)
____ Inundation Visible on Aerial Imagery (B7)
____ Water-Stained Leaves (B9)
____ Aquatic Fauna (B13)
____ True Aquatic Plants (B14)
____ Hydrogen Sulfide Odor (C1)
____ Oxidized Rhizospheres on Living Roots (C3)
____ Presence of Reduced Iron (C4)
____ Recent Iron Reduction in Tilled Soils (C6)
____ Thin Muck Surface (C7)
____ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes _✓_ No ____ | Depth (inches): | 1 |
| Water Table Present? | Yes _✓_ No ____ | Depth (inches): | 4 |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 0 |

**Wetland Hydrology Present?** Yes _✓_ No ____

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

**Remarks:**

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

Sampling Point: W-F18-14_PFO-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer rubrum* | 60 | Yes | FAC |
| 2. *Fraxinus pennsylvanica* | 25 | Yes | FACW |
| 3. *Liriodendron tulipifera* | 10 | No | FACU |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 95 | = Total Cover | |
| 50% of total cover: 47.5 | 20% of total cover: | 19 | |
| **Sapling/Shrub Stratum (Plot size: 15)** | | | |
| 1. *Fraxinus americana* | 5 | Yes | FACU |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 5 | = Total Cover | |
| 50% of total cover: 2.5 | 20% of total cover: | 1 | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Impatiens capensis* | 90 | Yes | FACW |
| 2. *Elymus virginicus* | 7 | No | FACW |
| 3. *Carex comosa* | | No | OBL |
| 4. *Cicuta maculata* | | No | OBL |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 97 | = Total Cover | |
| 50% of total cover: 48.5 | 20% of total cover: | 19.4 | |
| **Woody Vine Stratum (Plot size: 30)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 3 | (A) |
| Total Number of Dominant Species Across All Strata: | 4 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 75 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | | x 1 = | |
| FACW species | 122 | x 2 = | 244 |
| FAC species | 60 | x 3 = | 180 |
| FACU species | 15 | x 4 = | 60 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

__✓__ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-14_PFO-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 1 - 14 | 10YR 3/2 | 100 | | | | | Silt Loam | |
| 14 - 18 | 10YR 4/2 | 100 | | | | | Sandy Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-15
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-F18-14_UPL-1
**Investigator(s):** Jen Feese, EN, AW **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Hillslope **Local relief (concave, convex, none):** Concave **Slope (%):** 2 to 5
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7412387 **Long:** -79.4334625 **Datum:** WGS84
**Soil Map Unit Name:** 21D **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes ____ No _✓_ | | |
| Wetland Hydrology Present? | Yes ____ No _✓_ | **Is the Sampled Area within a Wetland?** | **Yes ____ No _✓_** |

**Remarks:**

Covertype is UPL. Area is upland, not all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | |
| Water Table Present? | Yes ____ No _✓_ | Depth (inches): | **Wetland Hydrology Present?** Yes ____ No _✓_ |
| Saturation Present? (includes capillary fringe) | Yes ____ No _✓_ | Depth (inches): | |

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

**Remarks:**

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

Sampling Point: W-F18-14_UPL-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer rubrum* | 55 | Yes | FAC |
| 2. *Oxydendrum arboreum* | 20 | Yes | UPL |
| 3. *Liriodendron tulipifera* | 6 | No | FACU |
| 4. *Diospyros virginiana* | 4 | No | FAC |
| 5. *Juniperus virginiana* | 4 | No | FACU |
| 6. | | | |
| 7. | | | |
| | 89 | = Total Cover | |
| 50% of total cover: 44.5 | 20% of total cover: | 17.8 | |

| Sapling/Shrub Stratum (Plot size: 15) | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |

| Herb Stratum (Plot size: 5) | | | |
|---|---|---|---|
| 1. *Smilax rotundifolia* | 55 | Yes | FAC |
| 2. *Prunus serotina* | 5 | No | FACU |
| 3. *Lonicera japonica* | 2 | No | FACU |
| 4. *Parthenocissus quinquefolia* | 2 | No | FACU |
| 5. *Parathelypteris noveboracensis* | 2 | No | FAC |
| 6. *Quercus rubra* | 2 | No | FACU |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 68 | = Total Cover | |
| 50% of total cover: 34 | 20% of total cover: | 13.6 | |

| Woody Vine Stratum (Plot size: 30) | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 2 | (A) |
| Total Number of Dominant Species Across All Strata: | 3 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 66.7 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 116 | x 3 = | 348 |
| FACU species | 21 | x 4 = | 84 |
| UPL species | 20 | x 5 = | 100 |
| Column Totals | 157 | (A) | 532 (B) |
| Prevalence Index = B/A = | 3.4 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

__✓__ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-14_UPL-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 6 | 7.5YR 3/3 | 100 | | | | | Loam | |
| 6 - 14 | 7.5YR 4/4 | 100 | | | | | Clay Loam | |
| 14 - 18 | 10YR 5/4 | 95 | 7.5YR 4/4 | 5 | C | M | Loam | |
| | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☐ No ☑

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-12
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-E18-17_PEM-1
**Investigator(s):** Janelle Bernosky, EN, TS, SS **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Depression **Local relief (concave, convex, none):** Concave **Slope (%):** 2 to 5
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7363911 **Long:** -79.4388445 **Datum:** WGS84
**Soil Map Unit Name:** 5C3 **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PEM. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
_✓_ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
_✓_ Geomorphic Position (D2)
_✓_ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | | |
| Water Table Present? | Yes _✓_ No ____ | Depth (inches): | 12 | **Wetland Hydrology Present?** Yes _✓_ No ____ |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 6 | |

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

**Remarks:**

The criterion for wetland hydrology is met.

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

Sampling Point: W-E18-17_PEM-1

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |

| Sapling/Shrub Stratum (Plot size: 15) | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |

| Herb Stratum (Plot size: 5) | | | |
|---|---|---|---|
| 1. *Juncus effusus* | 50 | Yes | FACW |
| 2. *Carex lupulina* | 23 | Yes | OBL |
| 3. *Peltandra virginica* | 7 | No | OBL |
| 4. *Arthraxon hispidus* | 5 | No | FAC |
| 5. *Carex annectens* | 4 | No | FACW |
| 6. *Persicaria hydropiperoides* | 4 | No | OBL |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 93 = Total Cover | | |
| 50% of total cover: 46.5 | 20% of total cover: 18.6 | | |

| Woody Vine Stratum (Plot size: ) | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 2 | (A) |
| Total Number of Dominant Species Across All Strata: | 2 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 100 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 34 | x 1 = | 34 |
| FACW species | 54 | x 2 = | 108 |
| FAC species | 5 | x 3 = | 15 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 93 | (A) | 157 (B) |
| Prevalence Index = B/A = | 1.7 | | |

**Hydrophytic Vegetation Indicators:**

✓ 1- Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC). A positive indication of hydrophytic vegetation was observed (Prevalence Index is ≤ 3.00). A positive indication of hydrophytic vegetation was observed (Rapid Test for Hydrophytic Vegetation).

SOIL

Sampling Point: W-E18-17_PEM-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 6 | 7.5YR 4/2 | 85 | 5YR 5/4 | 15 | C | PL | Silt Loam | |
| 6 - 12 | 7.5YR 6/4 | 70 | 7.5YR 4/1 | 30 | D | M | Silt Loam | Acer refusal |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
__✓__ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

A positive indication of hydric soil was observed.

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-12

**Applicant/Owner:** NextEra **State:** VA **Sampling Point:** W-E18-17_UPL-1

**Investigator(s):** Alexi Weber, Troy Savage, Eileen Nakahata, Sara Sanderlin **Section, Township, Range:**

**Landform (hillslope, terrace, etc.):** Hillslope **Local relief (concave, convex, none):** Concave **Slope (%):** 2 to 5

**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7360023 **Long:** -79.4389605 **Datum:** WGS84

**Soil Map Unit Name:** 8A **NWI classification:** None

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ✓ No ____ | | |
| Hydric Soil Present? | Yes ____ No ✓ | | |
| Wetland Hydrology Present? | Yes ____ No ✓ | **Is the Sampled Area within a Wetland?** | **Yes ____ No ✓** |

**Remarks:**

Covertype is UPL. Area is upland, not all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No ✓ | Depth (inches): | |
| Water Table Present? | Yes ____ No ✓ | Depth (inches): | **Wetland Hydrology Present?** Yes ____ No ✓ |
| Saturation Present? (includes capillary fringe) | Yes ____ No ✓ | Depth (inches): | |

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

**Remarks:**

The criterion for wetland hydrology is not met.

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

Sampling Point: W-E18-17_UPL-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Pinus taeda* | 35 | Yes | FAC |
| 2. *Acer rubrum* | 15 | Yes | FAC |
| 3. *Prunus serotina* | 10 | No | FACU |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 60 | = Total Cover | |
| 50% of total cover: 30 | 20% of total cover: | 12 | |
| **Sapling/Shrub Stratum (Plot size: 15)** | | | |
| 1. *Ligustrum sinense* | 10 | Yes | FACU |
| 2. *Juniperus virginiana* | 2 | No | FACU |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 12 | = Total Cover | |
| 50% of total cover: 6 | 20% of total cover: | 2.4 | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Microstegium vimineum* | 60 | Yes | FAC |
| 2. *Smilax rotundifolia* | 5 | No | FAC |
| 3. *Potentilla indica* | 3 | No | FACU |
| 4. *Juncus tenuis* | 3 | No | FAC |
| 5. *Symplocarpus foetidus* | 2 | No | OBL |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 73 | = Total Cover | |
| 50% of total cover: 36.5 | 20% of total cover: | 14.6 | |
| **Woody Vine Stratum (Plot size: 30)** | | | |
| 1. *Campsis radicans* | 15 | Yes | FAC |
| 2. *Smilax rotundifolia* | 7 | Yes | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 22 | = Total Cover | |
| 50% of total cover: 11 | 20% of total cover: | 4.4 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 5 | (A) |
| Total Number of Dominant Species Across All Strata: | 6 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 83.3 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 2 | x 1 = | 2 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 140 | x 3 = | 420 |
| FACU species | 25 | x 4 = | 100 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 167 | (A) | 522 (B) |

Prevalence Index = B/A = 3.1

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC).

SOIL

Sampling Point: W-E18-17_UPL-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 5 | 7.5YR 4/3 | 98 | 5YR 4/6 | 2 | C | M | Loam | |
| 5 - 12 | 7.5YR 4/4 | 95 | 7.5YR 4/6 | 5 | C | M | Loam | |
| 12 - 18 | 7.5YR 5/4 | 98 | 5YR 5/8 | 2 | C | M | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☐ No ☑

**Remarks:**

No positive indication of hydric soils was observed.

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-July-27
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-E18-13_PEM-1
**Investigator(s):** Beth Clements, SS MS **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Depression **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 3
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7346639 **Long:** -79.4407059 **Datum:** WGS84
**Soil Map Unit Name:** 8A **NWI classification:** PEM
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PEM. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
_✓_ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | |
| Water Table Present? | Yes ____ No _✓_ | Depth (inches): | **Wetland Hydrology Present?** Yes _✓_ No ____ |
| Saturation Present? (includes capillary fringe) | Yes ____ No _✓_ | Depth (inches): | |

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

**Remarks:**

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

Sampling Point: W-E18-13_PEM-1

| Tree Stratum (Plot size: 20x3) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |
| **Sapling/Shrub Stratum (Plot size: 10x3)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Murdannia keisak* | 35 | Yes | OBL |
| 2. *Rosa palustris* | 25 | Yes | OBL |
| 3. *Arthraxon hispidus* | 15 | No | FAC |
| 4. *Juncus effusus* | 10 | No | FACW |
| 5. *Microstegium vimineum* | 10 | No | FAC |
| 6. *Vernonia noveboracensis* | 5 | No | FACW |
| 7. *Persicaria maculosa* | 5 | No | FACW |
| 8. *Eupatorium perfoliatum* | | No | FACW |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 105 = Total Cover | | |
| 50% of total cover: 52.5 | 20% of total cover: 21 | | |
| **Woody Vine Stratum (Plot size: 20x3)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 2 | (A) |
| Total Number of Dominant Species Across All Strata: | 2 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 100 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 60 | x 1 = | 60 |
| FACW species | | x 2 = | |
| FAC species | 25 | x 3 = | 75 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | | (A) | (B) |
| Prevalence Index = B/A = | | | |

**Hydrophytic Vegetation Indicators:**

✓ 1- Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-E18-13_PEM-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 8 | 10YR 4/2 | 85 | 7.5YR 5/8 | 10 | C | M/PL | Silty Clay Loam | |
| 0 - 8 | | | 10YR 5/2 | 5 | D | M | | |
| 8 - 18 | 10YR 5/3 | 80 | 10YR 5/8 | 20 | C | M | Silty Clay Loam | |
| | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-12
**Applicant/Owner:** NextEra **State:** VA **Sampling Point:** W-E18-13_PFO-1
**Investigator(s):** Janelle Bernosky, EN, TS **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Flood Plain **Local relief (concave, convex, none):** Convex **Slope (%):** 0 to 1
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.734413 **Long:** -79.4397732 **Datum:** WGS84
**Soil Map Unit Name:** 8A **NWI classification:** PFO
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PFO. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

_✓_ Surface Water (A1)
_✓_ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
_✓_ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
_✓_ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
_✓_ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes _✓_ No ____ | Depth (inches): | 1 |
| Water Table Present? | Yes _✓_ No ____ | Depth (inches): | 0 |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 0 |

**Wetland Hydrology Present?** Yes _✓_ No ____

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

**Remarks:**

The criterion for wetland hydrology is met.

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

Sampling Point: W-E18-13_PFO-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer rubrum* | 35 | Yes | FAC |
| 2. *Alnus serrulata* | 25 | Yes | OBL |
| 3. *Liriodendron tulipifera* | 15 | Yes | FACU |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 75 | = Total Cover | |
| 50% of total cover: 37.5 | 20% of total cover: | 15 | |

| Sapling/Shrub Stratum (Plot size: 15) | | | |
|---|---|---|---|
| 1. *Ligustrum sinense* | 20 | Yes | FACU |
| 2. *Alnus serrulata* | 15 | Yes | OBL |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 35 | = Total Cover | |
| 50% of total cover: 17.5 | 20% of total cover: | 7 | |

| Herb Stratum (Plot size: 5) | | | |
|---|---|---|---|
| 1. *Murdannia keisak* | 75 | Yes | OBL |
| 2. *Impatiens capensis* | 10 | No | FACW |
| 3. *Juncus effusus* | 5 | No | FACW |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 90 | = Total Cover | |
| 50% of total cover: 45 | 20% of total cover: | 18 | |

| Woody Vine Stratum (Plot size: 30) | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 4 | (A) |
| Total Number of Dominant Species Across All Strata: | 6 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 66.7 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 115 | x 1 = | 115 |
| FACW species | 15 | x 2 = | 30 |
| FAC species | 35 | x 3 = | 105 |
| FACU species | 35 | x 4 = | 140 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 200 | (A) | 390 (B) |
| Prevalence Index = B/A = | 2 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC). A positive indication of hydrophytic vegetation was observed (Prevalence Index is ≤ 3.00).

SOIL

Sampling Point: W-E18-13_PFO-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 12 | 10YR 4/2 | 80 | 7.5YR 5/6 | 20 | C | M/PL | Silty Clay Loam | |
| 12 - 18 | 10YR 4/1 | 100 | | | | | Silty Clay | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
_✓ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

A positive indication of hydric soil was observed.

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Dry Fork, Pittsylvania … **Sampling Date:** 2018-June-12
**Applicant/Owner:** NextEra **State:** Virginia **Sampling Point:** W-E18-13_UPL-1
**Investigator(s):** Janelle Bernosky, EN, TS, SS **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Flood Plain **Local relief (concave, convex, none):** Concave **Slope (%):** 0 to 1
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7348148 **Long:** -79.4396948 **Datum:** WGS84
**Soil Map Unit Name:** 3A **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ✓ No ____ | | |
| Hydric Soil Present? | Yes ____ No ✓ | | |
| Wetland Hydrology Present? | Yes ✓ No ____ | **Is the Sampled Area within a Wetland?** | **Yes ____ No ✓** |

**Remarks:**

Covertype is UPL. Area is upland, not all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ True Aquatic Plants (B14)
- ✓ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ✓ No ____ | Depth (inches): | 1 |
| Water Table Present? | Yes ✓ No ____ | Depth (inches): | 4 |
| Saturation Present? (includes capillary fringe) | Yes ✓ No ____ | Depth (inches): | 0 |

**Wetland Hydrology Present?** Yes ✓ No ____

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

**Remarks:**

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

Sampling Point: W-E18-13_UPL-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer rubrum* | 35 | Yes | FAC |
| 2. *Diospyros virginiana* | 25 | Yes | FAC |
| 3. *Liriodendron tulipifera* | 15 | Yes | FACU |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 75 | = Total Cover | |
| 50% of total cover: 37.5 | 20% of total cover: | 15 | |

| Sapling/Shrub Stratum (Plot size: 15) | | | |
|---|---|---|---|
| 1. *Acer rubrum* | | Bad | FAC |
| 2. | 15 | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 15 | = Total Cover | |
| 50% of total cover: 7.5 | 20% of total cover: | 3 | |

| Herb Stratum (Plot size: 5) | | | |
|---|---|---|---|
| 1. *Microstegium vimineum* | 50 | Yes | FAC |
| 2. *Ligustrum sinense* | 20 | Yes | FACU |
| 3. *Polygonum aviculare* | 5 | No | FACU |
| 4. *Lonicera japonica* | 5 | No | FACU |
| 5. *Parthenocissus quinquefolia* | 3 | No | FACU |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 83 | = Total Cover | |
| 50% of total cover: 41.5 | 20% of total cover: | 16.6 | |

| Woody Vine Stratum (Plot size: 30) | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 3 | (A) |
| Total Number of Dominant Species Across All Strata: | 5 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 60 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | | x 3 = | |
| FACU species | 48 | x 4 = | 192 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | | (A) | (B) |
| Prevalence Index = B/A = | | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

__✓__ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-E18-13_UPL-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 8 | 7.5YR 4/4 | 100 | | | | | Loam | |
| 8 - 18 | 7.5YR 4/6 | 100 | | | | | Loam | |
| | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☐ No ☑

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Dry Fork, Pittsylvania … **Sampling Date:** 2018-July-26
**Applicant/Owner:** NextEra **State:** VA **Sampling Point:** W-F18-58_PEM-1
**Investigator(s):** Beth Clements, SS AJW **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Swale **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 3
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7232444 **Long:** -79.4534768 **Datum:** WGS84
**Soil Map Unit Name:** 5C3 **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PEM. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
_✓_ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
_✓_ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
_✓_ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
_✓_ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | | | |
| Water Table Present? | Yes _✓_ No ____ | Depth (inches): | 2 | **Wetland Hydrology Present?** | Yes _✓_ No ____ |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 6 | | |

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

**Remarks:**

water table present within wetland at 2". Water table not observed in soil pit..

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

Sampling Point: W-F18-58_PEM-1

| Tree Stratum (Plot size: 25x5) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |
| **Sapling/Shrub Stratum (Plot size: 10x5)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |
| **Herb Stratum (Plot size: 4x1)** | | | |
| 1. *Dichanthelium dichotomum* | 50 | Yes | FAC |
| 2. *Juncus tenuis* | 15 | No | FAC |
| 3. *Dichanthelium scoparium* | 10 | No | FACW |
| 4. *Dichanthelium clandestinum* | 8 | No | FAC |
| 5. *Persicaria maculosa* | 5 | No | FACW |
| 6. *Cinna arundinacea* | 5 | No | FACW |
| 7. *Cornus amomum* | 2 | No | FACW |
| 8. *Microstegium vimineum* | 2 | No | FAC |
| 9. *Carex lurida* | 2 | No | OBL |
| 10. | | | |
| 11. | | | |
| | 99 = Total Cover | | |
| 50% of total cover: 49.5 | 20% of total cover: 19.8 | | |
| **Woody Vine Stratum (Plot size: 25x5)** | | | |
| 1. *Smilax rotundifolia* | 1 | No | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 1 = Total Cover | | |
| 50% of total cover: 0.5 | 20% of total cover: 0.2 | | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 1 | (A) |
| Total Number of Dominant Species Across All Strata: | 1 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 100 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 2 | x 1 = | 2 |
| FACW species | 22 | x 2 = | 44 |
| FAC species | 76 | x 3 = | 228 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 100 (A) | | 274 (B) |
| Prevalence Index = B/A = | 2.7 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-58_PEM-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 4 | 2.5Y 5/2 | 94 | 7.5YR 5/8 | 5 | C | M/PL | Silt Loam | |
| 0 - 4 | | | 2.5YR 4/8 | 1 | C | M | | |
| 4 - 16 | 2.5Y 5/3 | 88 | 2.5YR 3/4 | 7 | C | M | Loam | |
| 4 - 16 | | | 7.5YR 4/6 | 5 | C | M/PL | | |
| 16 - 18 | 2.5Y 5/3 | 92 | 5YR 4/6 | 5 | C | M | Sandy Loam | |
| 16 - 18 | | | 10YR 5/8 | 3 | C | M | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Dry Fork, Pittsylvania … **Sampling Date:** 2018-July-26
**Applicant/Owner:** NextEra **State:** VA **Sampling Point:** W-F18-58_UPL-1
**Investigator(s):** Beth Clements, SS AJW **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Depression **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 3
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7232161 **Long:** -79.4535018 **Datum:** WGS84
**Soil Map Unit Name:** 5C3 **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes ____ No _✓_ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes ____ No _✓_** |

**Remarks:**

Covertype is UPL. Area is upland, not all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
_✓_ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | | |
| Water Table Present? | Yes _✓_ No ____ | Depth (inches): | 12 | **Wetland Hydrology Present?** Yes _✓_ No ____ |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 6 | |

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

**Remarks:**

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

Sampling Point: W-F18-58_UPL-1

| Tree Stratum (Plot size: 10x20) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer rubrum* | 90 | Yes | FAC |
| 2. *Quercus alba* | 10 | No | FACU |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 100 | = Total Cover | |
| 50% of total cover: 50 | 20% of total cover: | 20 | |

| Sapling/Shrub Stratum (Plot size: 10x5) | | | |
|---|---|---|---|
| 1. *Acer rubrum* | 5 | Yes | FAC |
| 2. *Juniperus virginiana* | 1 | No | FACU |
| 3. *Fraxinus pennsylvanica* | 1 | No | FACW |
| 4. *Quercus rubra* | 1 | No | FACU |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 8 | = Total Cover | |
| 50% of total cover: 4 | 20% of total cover: | 1.6 | |

| Herb Stratum (Plot size: 5) | | | |
|---|---|---|---|
| 1. *Onoclea sensibilis* | 10 | Yes | FACW |
| 2. *Dichanthelium clandestinum* | 5 | Yes | FAC |
| 3. *Parthenocissus quinquefolia* | 5 | Yes | FACU |
| 4. *Lonicera japonica* | 5 | Yes | FACU |
| 5. *Microstegium vimineum* | 5 | Yes | FAC |
| 6. *Carex sp.* | 5 | Yes | NI |
| 7. *Leersia virginica* | 5 | Yes | FACW |
| 8. *Eupatorium perfoliatum* | 1 | No | FACW |
| 9. *Boehmeria cylindrica* | 1 | No | FACW |
| 10. *Potentilla indica* | 1 | No | FACU |
| 11. *Cinna arundinacea* | 1 | No | FACW |
| | 44 | = Total Cover | |
| 50% of total cover: 22 | 20% of total cover: | 8.8 | |

| Woody Vine Stratum (Plot size: 20x3) | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 6 | (A) |
| Total Number of Dominant Species Across All Strata: | 9 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 66.7 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 19 | x 2 = | 38 |
| FAC species | 105 | x 3 = | 315 |
| FACU species | 23 | x 4 = | 92 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 147 | (A) | 445 (B) |
| Prevalence Index = B/A = | 3 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-58_UPL-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 2 | 10YR 5/3 | 100 | | | | | Loam | |
| 2 - 14 | 10YR 5/3 | 95 | 7.5YR 5/3 | 5 | C | M | Silt Loam | |
| 14 - 18 | 10YR 5/3 | 55 | 2.5YR 5/6 | 45 | C | M | Clay Loam | |
| | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☐ No ☑

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-18
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-F18-16_PFO-1
**Investigator(s):** Jenn Favela, Eileen Nakahata **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Depression **Local relief (concave, convex, none):** Concave **Slope (%):** 0 to 1
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.721171 **Long:** -79.4549456 **Datum:** WGS84
**Soil Map Unit Name:** 11C3 **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PFO. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- _✓_ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- _✓_ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- _✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | |
| Water Table Present? | Yes ____ No _✓_ | Depth (inches): | **Wetland Hydrology Present?** Yes _✓_ No ____ |
| Saturation Present? (includes capillary fringe) | Yes ____ No _✓_ | Depth (inches): | |

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

**Remarks:**

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

Sampling Point: W-F18-16_PFO-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer rubrum* | 45 | Yes | FAC |
| 2. *Fagus grandifolia* | 15 | Yes | FACU |
| 3. *Platanus occidentalis* | 15 | Yes | FACW |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 75 | = Total Cover | |
| 50% of total cover: 37.5 | 20% of total cover: | 15 | |

| Sapling/Shrub Stratum (Plot size: 15) | | | |
|---|---|---|---|
| 1. *Quercus alba* | 5 | Yes | FACU |
| 2. *Liriodendron tulipifera* | | No | FACU |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 5 | = Total Cover | |
| 50% of total cover: 2.5 | 20% of total cover: | 1 | |

| Herb Stratum (Plot size: 5) | | | |
|---|---|---|---|
| 1. *Microstegium vimineum* | 55 | Yes | FAC |
| 2. *Onoclea sensibilis* | 15 | Yes | FACW |
| 3. *Dichanthelium scoparium* | 15 | Yes | FACW |
| 4. *Impatiens capensis* | 15 | Yes | FACW |
| 5. *Boehmeria cylindrica* | 10 | No | FACW |
| 6. *Persicaria longiseta* | 10 | No | FAC |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 120 | = Total Cover | |
| 50% of total cover: 60 | 20% of total cover: | 24 | |

| Woody Vine Stratum (Plot size: 30) | | | |
|---|---|---|---|
| 1. *Smilax glauca* | 15 | Yes | FACU |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 15 | = Total Cover | |
| 50% of total cover: 7.5 | 20% of total cover: | 3 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 6 | (A) |
| Total Number of Dominant Species Across All Strata: | 9 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 66.7 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 70 | x 2 = | 140 |
| FAC species | 110 | x 3 = | 330 |
| FACU species | | x 4 = | |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | | (A) | (B) |
| Prevalence Index = B/A = | | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

__✓__ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-16_PFO-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 8 | 10YR 2/2 | 85 | 7.5YR 2.5/3 | 15 | C | M/PL | Sandy Loam | |
| 8 - 18 | 2.5Y 3/1 | 80 | 10YR 3/4 | 20 | C | M | Sandy Clay Loam | |
| | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
_✓ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-18
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-F18-16_UPL-1
**Investigator(s):** Jenn Favela, Eileen Nakahata **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Hillslope **Local relief (concave, convex, none):** Convex **Slope (%):** 1 to 3
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7211987 **Long:** -79.4549395 **Datum:** WGS84
**Soil Map Unit Name:** 11C3 **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ No ✓ | | |
| Hydric Soil Present? | Yes ____ No ✓ | | |
| Wetland Hydrology Present? | Yes ____ No ✓ | **Is the Sampled Area within a Wetland?** | **Yes ____ No ✓** |

**Remarks:**

Covertype is UPL. Area is upland, not all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No ✓ | Depth (inches): | |
| Water Table Present? | Yes ____ No ✓ | Depth (inches): | **Wetland Hydrology Present?** Yes ____ No ✓ |
| Saturation Present? (includes capillary fringe) | Yes ____ No ✓ | Depth (inches): | |

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

**Remarks:**

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

Sampling Point: W-F18-16_UPL-1

| Tree Stratum (Plot size: _____) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Fagus grandifolia* | 20 | Yes | FACU |
| 2. *Carya glabra* | 20 | Yes | FACU |
| 3. *Liriodendron tulipifera* | 15 | No | FACU |
| 4. *Quercus rubra* | 15 | No | FACU |
| 5. *Acer rubrum* | 7 | No | FAC |
| 6. *Fagus grandifolia* | | No | FACU |
| 7. | | | |
| | 77 | = Total Cover | |
| 50% of total cover: 38.5 | 20% of total cover: | 15.4 | |
| **Sapling/Shrub Stratum (Plot size: __)** | | | |
| 1. *Quercus rubra* | 7 | Yes | FACU |
| 2. *Carya glabra* | 5 | Yes | FACU |
| 3. *Prunus serotina* | 4 | No | FACU |
| 4. *Asimina triloba* | 4 | No | FAC |
| 5. *Fagus grandifolia* | 3 | No | FACU |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 23 | = Total Cover | |
| 50% of total cover: 11.5 | 20% of total cover: | 4.6 | |
| **Herb Stratum (Plot size: __)** | | | |
| 1. *Parthenocissus quinquefolia* | 5 | Yes | FACU |
| 2. *Galium circaezans* | 4 | Yes | UPL |
| 3. *Polystichum acrostichoides* | 2 | No | FACU |
| 4. *Euonymus americanus* | 1 | No | FAC |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 12 | = Total Cover | |
| 50% of total cover: 6 | 20% of total cover: | 2.4 | |
| **Woody Vine Stratum (Plot size: 30)** | | | |
| 1. *Toxicodendron radicans* | 7 | Yes | FAC |
| 2. *Parthenocissus quinquefolia* | 2 | Yes | FACU |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 9 | = Total Cover | |
| 50% of total cover: 4.5 | 20% of total cover: | 1.8 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 1 | (A) |
| Total Number of Dominant Species Across All Strata: | 8 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 12.5 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 19 | x 3 = | 57 |
| FACU species | | x 4 = | |
| UPL species | 4 | x 5 = | 20 |
| Column Totals | | (A) | (B) |
| Prevalence Index = B/A = | | | |

**Hydrophytic Vegetation Indicators:**

_____ 1- Rapid Test for Hydrophytic Vegetation

_____ 2 - Dominance Test is > 50%

_____ 3 - Prevalence Index is ≤ 3.0[1]

_____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☐ No ☑

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-16_UPL-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 3 | 10YR 4/2 | 100 | | | | | Loam | |
| 3 - 16 | 10YR 4/3 | 100 | | | | | Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☐ No ☑

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-19
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-F18-18_PEM-1
**Investigator(s):** Jacob Fleckenstein, Eileen Nakahata, Jenn Favela **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Flood Plain **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 3
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7205879 **Long:** -79.4543784 **Datum:** WGS84
**Soil Map Unit Name:** 41AWehadkee silt loam **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PFO. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
_✓_ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
_✓_ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
_✓_ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | |
| Water Table Present? | Yes ____ No _✓_ | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 5 |

**Wetland Hydrology Present?** Yes _✓_ No ____

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

**Remarks:**

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

Sampling Point: W-F18-18_PEM-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |
| **Sapling/Shrub Stratum (Plot size: 15)** | | | |
| 1. *Alnus serrulata* | 10 | Yes | OBL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 10 = Total Cover | | |
| 50% of total cover: 5 | 20% of total cover: 2 | | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Juncus effusus* | 20 | Yes | FACW |
| 2. *Microstegium vimineum* | 15 | Yes | FAC |
| 3. *Toxicodendron radicans* | 15 | Yes | FAC |
| 4. *Panicum virgatum* | 15 | Yes | FAC |
| 5. *Clematis virginiana* | 15 | Yes | FAC |
| 6. *Dichanthelium clandestinum* | 15 | Yes | FAC |
| 7. *Smilax rotundifolia* | 7 | No | FAC |
| 8. *Lonicera japonica* | 7 | No | FACU |
| 9. *Cornus amomum* | 5 | No | FACW |
| 10. *Parthenocissus quinquefolia* | 5 | No | FACU |
| 11. | | | |
| | 119 = Total Cover | | |
| 50% of total cover: 59.5 | 20% of total cover: 23.8 | | |
| **Woody Vine Stratum (Plot size: )** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 7 | (A) |
| Total Number of Dominant Species Across All Strata: | 7 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 100 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 10 | x 1 = | 10 |
| FACW species | 25 | x 2 = | 50 |
| FAC species | 82 | x 3 = | 246 |
| FACU species | 12 | x 4 = | 48 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 129 | (A) | 354 (B) |
| Prevalence Index = B/A = | 2.7 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-18_PEM-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 4 | 2.5Y 5/3 | 97 | 10YR 4/6 | 3 | C | M/PL | Clay Loam | |
| 4 - 10 | 10YR 4/3 | 70 | 7.5YR 4/6 | 30 | C | M | Clay Loam | |
| 10 - 18 | 2.5Y 5/3 | 80 | 7.5YR 4/6 | 20 | C | M | Clay Loam | |
| | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
_✓_ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
__✓__ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-July-02
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-F18-18_UPL-1
**Investigator(s):** Jenn Favela, SES, MCS **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Flat **Local relief (concave, convex, none):** Undulating **Slope (%):** 1 to 3
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7207398 **Long:** -79.4542777 **Datum:** WGS84
**Soil Map Unit Name:** 21D **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ✓ No ____ | | |
| Hydric Soil Present? | Yes ____ No ✓ | | |
| Wetland Hydrology Present? | Yes ____ No ✓ | **Is the Sampled Area within a Wetland?** | **Yes ____ No ✓** |

**Remarks:**

Covertype is UPL. Area is upland, not all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No ✓ | Depth (inches): | |
| Water Table Present? | Yes ____ No ✓ | Depth (inches): | **Wetland Hydrology Present?** Yes ____ No ✓ |
| Saturation Present? (includes capillary fringe) | Yes ____ No ✓ | Depth (inches): | |

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

**Remarks:**

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

Sampling Point: W-F18-18_UPL-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer rubrum* | 60 | Yes | FAC |
| 2. *Fagus grandifolia* | 10 | No | FACU |
| 3. *Liriodendron tulipifera* | 5 | No | FACU |
| 4. *Pinus virginiana* | 5 | No | UPL |
| 5. *Juniperus virginiana* | 1 | No | FACU |
| 6. | | | |
| 7. | | | |
| | 81 | = Total Cover | |
| 50% of total cover: 40.5 | 20% of total cover: | 16.2 | |

| Sapling/Shrub Stratum (Plot size: 15) | | | |
|---|---|---|---|
| 1. *Fagus grandifolia* | 20 | Yes | FACU |
| 2. *Quercus phellos* | 15 | Yes | FAC |
| 3. *Cornus amomum* | 10 | No | FACW |
| 4. *Quercus rubra* | 5 | No | FACU |
| 5. *Alnus serrulata* | 1 | No | OBL |
| 6. *Quercus alba* | 1 | No | FACU |
| 7. *Acer rubrum* | 1 | No | FAC |
| 8. | | | |
| 9. | | | |
| | 53 | = Total Cover | |
| 50% of total cover: 26.5 | 20% of total cover: | 10.600000000000001 | |

| Herb Stratum (Plot size: 5) | | | |
|---|---|---|---|
| 1. *Euonymus americanus* | 5 | Yes | FAC |
| 2. *Lonicera japonica* | 5 | Yes | FACU |
| 3. *Solidago canadensis* | 3 | Yes | FACU |
| 4. *Quercus phellos* | 2 | No | FAC |
| 5. *Smilax rotundifolia* | 2 | No | FAC |
| 6. *Toxicodendron radicans* | 2 | No | FAC |
| 7. *Quercus alba* | 2 | No | FACU |
| 8. *Parthenocissus quinquefolia* | 1 | No | FACU |
| 9. *Dichanthelium acuminatum* | 1 | No | FAC |
| 10. | | | |
| 11. | | | |
| | 23 | = Total Cover | |
| 50% of total cover: 11.5 | 20% of total cover: | 4.6000000000000005 | |

| Woody Vine Stratum (Plot size: 30) | | | |
|---|---|---|---|
| 1. *Toxicodendron radicans* | 35 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 35 | = Total Cover | |
| 50% of total cover: 17.5 | 20% of total cover: | 7 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 4 | (A) |
| Total Number of Dominant Species Across All Strata: | 7 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 57.1 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 1 | x 1 = | 1 |
| FACW species | 10 | x 2 = | 20 |
| FAC species | 123 | x 3 = | 369 |
| FACU species | 53 | x 4 = | 212 |
| UPL species | 5 | x 5 = | 25 |
| Column Totals | 192 | (A) | 627 (B) |
| Prevalence Index = B/A = | 3.3 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

__✓__ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-18_UPL-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 8 | 10YR 5/3 | 100 | | | | | Silt Loam | |
| 8 - 14 | 10YR 5/6 | 70 | 10YR 5/2 | 25 | D | M | Silt Loam | |
| 8 - 14 | 10YR 5/3 | 70 | 10YR 5/8 | 5 | C | M | | |
| 14 - 18 | 10YR 5/4 | 80 | 10YR 6/3 | 10 | D | M | Silty Clay Loam | |
| 14 - 18 | 10YR 5/4 | 85 | 10YR 5/8 | 5 | C | M | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☐ No ☑

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-July-26
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-E18-24_PEM-1
**Investigator(s):** Troy Savage, BAC, JC **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Swale **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 3
**Subregion (LRR or MLRA):** **Lat:** 36.7290278 **Long:** -79.4459828 **Datum:** WGS84
**Soil Map Unit Name:** 21D **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ✓ No ____ | | |
| Hydric Soil Present? | Yes ✓ No ____ | | |
| Wetland Hydrology Present? | Yes ✓ No ____ | **Is the Sampled Area within a Wetland?** | **Yes ✓ No ____** |

**Remarks:**

Covertype is PEM.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✓ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ✓ No ____ | Depth (inches): | 2 |
| Water Table Present? | Yes ✓ No ____ | Depth (inches): | 0 |
| Saturation Present? (includes capillary fringe) | Yes ✓ No ____ | Depth (inches): | 0 |

**Wetland Hydrology Present?** Yes ✓ No ____

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

**Remarks:**

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

Sampling Point: W-E18-24_PEM-1

| Tree Stratum (Plot size: 10) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |
| **Sapling/Shrub Stratum (Plot size: 10)** | | | |
| 1. *Salix nigra* | | Bad | OBL |
| 2. | 5 | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 5 = Total Cover | | |
| 50% of total cover: 2.5 | 20% of total cover: 1 | | |
| **Herb Stratum (Plot size: 2x3)** | | | |
| 1. *Leersia oryzoides* | 90 | Yes | OBL |
| 2. *Juncus effusus* | 30 | No | FACW |
| 3. *Impatiens capensis* | 20 | No | FACW |
| 4. *Eupatorium perfoliatum* | 15 | No | FACW |
| 5. *Carex lurida* | 10 | No | OBL |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 165 = Total Cover | | |
| 50% of total cover: 82.5 | 20% of total cover: 33 | | |
| **Woody Vine Stratum (Plot size: 10)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 1 | (A) |
| Total Number of Dominant Species Across All Strata: | 1 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 100 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | | x 1 = | |
| FACW species | 65 | x 2 = | 130 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | | (A) | (B) |

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**

✓ 1- Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-E18-24_PEM-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 1 | 2.5Y 5/3 | 90 | 7.5YR 4/4 | 10 | C | M/PL | Silt Loam | |
| 1 - 10 | 10YR 4/1 | 90 | 7.5YR 4/4 | 10 | C | M/PL | Clay | |
| 10 - 18 | 10YR 4/1 | 100 | | | | | Sandy Clay Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-19
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-E18-24_PFO-1
**Investigator(s):** Alexi Weber, Troy Savage **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Depression **Local relief (concave, convex, none):** Concave **Slope (%):** 0 to 1
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7291468 **Long:** -79.4457353 **Datum:** WGS84
**Soil Map Unit Name:** 21D **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PFO. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

_✓_ Surface Water (A1)
_✓_ High Water Table (A2)
_✓_ Saturation (A3)
____ Water Marks (B1)
____ Sediment Deposits (B2)
____ Drift Deposits (B3)
____ Algal Mat or Crust (B4)
____ Iron Deposits (B5)
____ Inundation Visible on Aerial Imagery (B7)
____ Water-Stained Leaves (B9)
____ Aquatic Fauna (B13)
____ True Aquatic Plants (B14)
____ Hydrogen Sulfide Odor (C1)
____ Oxidized Rhizospheres on Living Roots (C3)
____ Presence of Reduced Iron (C4)
____ Recent Iron Reduction in Tilled Soils (C6)
____ Thin Muck Surface (C7)
____ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes _✓_ No ____ | Depth (inches): | 6 |
| Water Table Present? | Yes _✓_ No ____ | Depth (inches): | 0 |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 0 |

**Wetland Hydrology Present?** Yes _✓_ No ____

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

**Remarks:**

The criterion for wetland hydrology is met.

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

Sampling Point: W-E18-24_PFO-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer rubrum* | 25 | Yes | FAC |
| 2. *Liriodendron tulipifera* | 25 | Yes | FACU |
| 3. *Viburnum obovatum* | 15 | No | FACW |
| 4. *Nyssa biflora* | 15 | No | FACW |
| 5. *Pinus serotina* | 5 | No | OBL |
| 6. | | | |
| 7. | | | |
| | 85 | = Total Cover | |
| 50% of total cover: 42.5 | 20% of total cover: | 17 | |
| **Sapling/Shrub Stratum (Plot size: 15)** | | | |
| 1. *Liriodendron tulipifera* | 15 | Yes | FACU |
| 2. *Diospyros virginiana* | 10 | Yes | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 25 | = Total Cover | |
| 50% of total cover: 12.5 | 20% of total cover: | 5 | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Microstegium vimineum* | 40 | Yes | FAC |
| 2. *Persicaria arifolia* | 25 | Yes | OBL |
| 3. *Lycopus americanus* | 5 | No | OBL |
| 4. *Lonicera japonica* | 5 | No | FACU |
| 5. *Rubus pensilvanicus* | 4 | No | FAC |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 79 | = Total Cover | |
| 50% of total cover: 39.5 | 20% of total cover: | 15.8 | |
| **Woody Vine Stratum (Plot size: )** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 4 | (A) |
| Total Number of Dominant Species Across All Strata: | 6 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 66.7 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 35 | x 1 = | 35 |
| FACW species | 30 | x 2 = | 60 |
| FAC species | 79 | x 3 = | 237 |
| FACU species | 45 | x 4 = | 180 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 189 | (A) | 512 (B) |

Prevalence Index = B/A = 2.7

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC). A positive indication of hydrophytic vegetation was observed (Prevalence Index is ≤ 3.00).

SOIL

Sampling Point: W-E18-24_PFO-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 6 | 10YR 4/2 | 90 | 7.5YR 4/4 | 10 | C | M | Silty Clay Loam | |
| 6 - 18 | 10YR 5/1 | 80 | 10YR 6/1 | 20 | D | M | Silty Clay Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
_✓ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

A positive indication of hydric soil was observed.

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Dry Fork, Pittsylvania … **Sampling Date:** 2018-June-19

**Applicant/Owner:** NextEra **State:** Virginia **Sampling Point:** W-E18-24_UPL-1

**Investigator(s):** Alexi Weber, Troy Savage **Section, Township, Range:**

**Landform (hillslope, terrace, etc.):** Hillslope **Local relief (concave, convex, none):** Concave **Slope (%):** 2 to 5

**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7288363 **Long:** -79.4454528 **Datum:** WGS84

**Soil Map Unit Name:** **NWI classification:**

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ No ✓ | | |
| Hydric Soil Present? | Yes ____ No ✓ | | |
| Wetland Hydrology Present? | Yes ____ No ✓ | **Is the Sampled Area within a Wetland?** | **Yes ____ No ✓** |

**Remarks:**

Covertype is UPL. Area is upland, not all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No ✓ | Depth (inches): | |
| Water Table Present? | Yes ____ No ✓ | Depth (inches): | **Wetland Hydrology Present?** Yes ____ No ✓ |
| Saturation Present? (includes capillary fringe) | Yes ____ No ✓ | Depth (inches): | |

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

**Remarks:**

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

Sampling Point: W-E18-24_UPL-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Liriodendron tulipifera* | 25 | Yes | FACU |
| 2. *Quercus alba* | 20 | Yes | FACU |
| 3. *Acer rubrum* | 15 | Yes | FAC |
| 4. *Oxydendrum arboreum* | 15 | Yes | UPL |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 75 | = Total Cover | |
| 50% of total cover: 37.5 | 20% of total cover: | 15 | |
| **Sapling/Shrub Stratum (Plot size: 15)** | | | |
| 1. *Viburnum prunifolium* | 20 | Yes | FACU |
| 2. *Oxydendrum arboreum* | 10 | Yes | UPL |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 30 | = Total Cover | |
| 50% of total cover: 15 | 20% of total cover: | 6 | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Microstegium vimineum* | 25 | Yes | FAC |
| 2. *Leersia virginica* | 5 | No | FACW |
| 3. *Juncus effusus* | 5 | No | FACW |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 35 | = Total Cover | |
| 50% of total cover: 17.5 | 20% of total cover: | 7 | |
| **Woody Vine Stratum (Plot size: )** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 2 | (A) |
| Total Number of Dominant Species Across All Strata: | 7 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 28.6 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 10 | x 2 = | 20 |
| FAC species | 40 | x 3 = | 120 |
| FACU species | 65 | x 4 = | 260 |
| UPL species | 25 | x 5 = | 125 |
| Column Totals | 140 | (A) | 525 (B) |

Prevalence Index = B/A = 3.8

**Hydrophytic Vegetation Indicators:**

_____ 1- Rapid Test for Hydrophytic Vegetation

_____ 2 - Dominance Test is > 50%

_____ 3 - Prevalence Index is ≤ 3.0[1]

_____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☐ No ☑

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-E18-24_UPL-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 5 | 7.5YR 4/4 | 100 | | | | | Loam | |
| 5 - 15 | 7.5YR 4/4 | 100 | | | | | Loam | Cemented |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☐ No ☑

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-July-26
**Applicant/Owner:** NextEra **State:** VA **Sampling Point:** W-E18-23_PEM-1
**Investigator(s):** Beth Clements, SS AJW **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Toe **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 10
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7192186 **Long:** -79.4572263 **Datum:** WGS84
**Soil Map Unit Name:** 21D **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PEM. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
_✓_ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
_✓_ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | | |
| Water Table Present? | Yes _✓_ No ____ | Depth (inches): | 12 | **Wetland Hydrology Present?** Yes _✓_ No ____ |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 0 | |

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

**Remarks:**

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

Sampling Point: W-E18-23_PEM-1

| Tree Stratum (Plot size: 15x5) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |
| **Sapling/Shrub Stratum (Plot size: 10x5)** | | | |
| 1. *Alnus serrulata* | 5 | Yes | OBL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 5 = Total Cover | | |
| 50% of total cover: 2.5 | 20% of total cover: 1 | | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Leersia oryzoides* | 25 | Yes | OBL |
| 2. *Murdannia keisak* | 20 | Yes | OBL |
| 3. *Vernonia noveboracensis* | 15 | Yes | FACW |
| 4. *Amphicarpaea bracteata* | 15 | Yes | FAC |
| 5. *Carex lurida* | 10 | No | OBL |
| 6. *Solidago sp.* | 8 | No | NI |
| 7. *Microstegium vimineum* | 5 | No | FAC |
| 8. *Dichanthelium clandestinum* | 5 | No | FAC |
| 9. *Juncus canadensis* | 5 | No | OBL |
| 10. *Impatiens capensis* | 3 | No | FACW |
| 11. *Persicaria sagittata* | 2 | No | OBL |
| | 113 = Total Cover | | |
| 50% of total cover: 56.5 | 20% of total cover: 22.6 | | |
| **Woody Vine Stratum (Plot size: 15x5)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 5 | (A) |
| Total Number of Dominant Species Across All Strata: | 5 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 100 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 67 | x 1 = | 67 |
| FACW species | 18 | x 2 = | 36 |
| FAC species | 25 | x 3 = | 75 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 110 (A) | | 178 (B) |
| Prevalence Index = B/A = | 1.6 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-E18-23_PEM-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 5 | 10YR 5/1 | 95 | 7.5YR 4/6 | 5 | C | M/PL | Silt Loam | |
| 5 - 8 | 10YR 5/1 | 99 | 7.5YR 4/4 | 1 | C | PL | Silt Loam | |
| 8 - 18 | 10YR 5/2 | 55 | 2.5YR 4/6 | 45 | C | M | Clay Loam | |
| | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-19
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-E18-23_PFO-1
**Investigator(s):** Alexi Weber, Troy Savage **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Hillslope **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 3
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7190707 **Long:** -79.4571924 **Datum:** WGS84
**Soil Map Unit Name:** **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PFO. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
_✓_ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
_✓_ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | | |
| Water Table Present? | Yes _✓_ No ____ | Depth (inches): | 6 | **Wetland Hydrology Present?** Yes _✓_ No ____ |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 2 | |

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

**Remarks:**

The criterion for wetland hydrology is met.

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

Sampling Point: W-E18-23_PFO-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer rubrum* | 55 | Yes | FAC |
| 2. *Liriodendron tulipifera* | 15 | Yes | FACU |
| 3. *Alnus serrulata* | 5 | No | OBL |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 75 | = Total Cover | |
| 50% of total cover: 37.5 | 20% of total cover: | 15 | |
| **Sapling/Shrub Stratum (Plot size: 15)** | | | |
| 1. *Alnus serrulata* | 5 | Yes | OBL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 5 | = Total Cover | |
| 50% of total cover: 2.5 | 20% of total cover: | 1 | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Microstegium vimineum* | 25 | Yes | FAC |
| 2. *Leersia oryzoides* | 15 | Yes | OBL |
| 3. *Verbesina alternifolia* | 10 | No | FAC |
| 4. *Lonicera japonica* | 5 | No | FACU |
| 5. *Parthenocissus quinquefolia* | 4 | No | FACU |
| 6. *Polystichum acrostichoides* | 4 | No | FACU |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 63 | = Total Cover | |
| 50% of total cover: 31.5 | 20% of total cover: | 12.6 | |
| **Woody Vine Stratum (Plot size: 30)** | | | |
| 1. *Vitis vulpina* | 5 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 5 | = Total Cover | |
| 50% of total cover: 2.5 | 20% of total cover: | 1 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 5 | (A) |
| Total Number of Dominant Species Across All Strata: | 6 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 83.3 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 25 | x 1 = | 25 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 95 | x 3 = | 285 |
| FACU species | 28 | x 4 = | 112 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 148 | (A) | 422 (B) |
| Prevalence Index = B/A = | 2.9 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC). A positive indication of hydrophytic vegetation was observed (Prevalence Index is ≤ 3.00).

SOIL

Sampling Point: W-E18-23_PFO-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 6 | 2.5Y 4/2 | 100 | | | | | Loam | |
| 6 - 12 | 2.5Y 4/2 | 90 | 2.5Y 5/1 | 10 | D | M | Silt Loam | |
| 12 - 18 | 10YR 5/1 | 100 | 10YR 4/1 | | D | M | Silt Loam | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

A positive indication of hydric soil was observed.

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Dry Fork, Pittsylvania … **Sampling Date:** 2018-June-19

**Applicant/Owner:** NextEra **State:** Virginia **Sampling Point:** W-E18-23_UPL-1

**Investigator(s):** Alexi Weber, Troy Savage **Section, Township, Range:**

**Landform (hillslope, terrace, etc.):** Hillslope **Local relief (concave, convex, none):** Convex **Slope (%):** 10 to 20

**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.718956 **Long:** -79.4572104 **Datum:** WGS84

**Soil Map Unit Name:** **NWI classification:**

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ No ✓ | | |
| Hydric Soil Present? | Yes ____ No ✓ | | |
| Wetland Hydrology Present? | Yes ____ No ✓ | **Is the Sampled Area within a Wetland?** | **Yes ____ No ✓** |

**Remarks:**

Covertype is UPL. Area is upland, not all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No ✓ | Depth (inches): | |
| Water Table Present? | Yes ____ No ✓ | Depth (inches): | **Wetland Hydrology Present?** Yes ____ No ✓ |
| Saturation Present? (includes capillary fringe) | Yes ____ No ✓ | Depth (inches): | |

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

**Remarks:**

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

Sampling Point: W-E18-23_UPL-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Oxydendrum arboreum* | 20 | Yes | UPL |
| 2. *Carya glabra* | 20 | Yes | FACU |
| 3. *Sassafras albidum* | 20 | Yes | FACU |
| 4. *Acer rubrum* | 15 | No | FAC |
| 5. *Diospyros virginiana* | 10 | No | FAC |
| 6. | | | |
| 7. | | | |
| | 85 | = Total Cover | |
| 50% of total cover: 42.5 | 20% of total cover: | 17 | |
| **Sapling/Shrub Stratum (Plot size: 15)** | | | |
| 1. *Carya glabra* | 10 | Yes | FACU |
| 2. *Oxydendrum arboreum* | 10 | Yes | UPL |
| 3. *Quercus alba* | 5 | Yes | FACU |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 25 | = Total Cover | |
| 50% of total cover: 12.5 | 20% of total cover: | 5 | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Polystichum acrostichoides* | 25 | Yes | FACU |
| 2. *Parthenocissus quinquefolia* | 10 | Yes | FACU |
| 3. *Polygonatum biflorum* | 10 | Yes | FACU |
| 4. *Podophyllum peltatum* | 5 | No | FACU |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 50 | = Total Cover | |
| 50% of total cover: 25 | 20% of total cover: | 10 | |
| **Woody Vine Stratum (Plot size: )** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 0 | (A) |
| Total Number of Dominant Species Across All Strata: | 9 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 0 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 25 | x 3 = | 75 |
| FACU species | 105 | x 4 = | 420 |
| UPL species | 30 | x 5 = | 150 |
| Column Totals | 160 | (A) | 645 (B) |
| Prevalence Index = B/A = | 4 | | |

**Hydrophytic Vegetation Indicators:**

_____ 1- Rapid Test for Hydrophytic Vegetation

_____ 2 - Dominance Test is > 50%

_____ 3 - Prevalence Index is ≤ 3.0[1]

_____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☐ No ☑

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-E18-23_UPL-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 10 | 7.5YR 5/4 | 100 | | | | | Loam | |
| 10 - 18 | 7.5YR 5/8 | 100 | | | | | Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☐ No ☑

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-21
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-F18-21_PFO-1
**Investigator(s):** Jenn Favela, Eileen N, Stephen Bendele **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Swale **Local relief (concave, convex, none):** Concave **Slope (%):** 5 to 10
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.70759 **Long:** -79.4671286 **Datum:** WGS84
**Soil Map Unit Name:** 5C3 **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PFO. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
_✓_ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
_✓_ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | |
| Water Table Present? | Yes ____ No _✓_ | Depth (inches): | **Wetland Hydrology Present?** Yes _✓_ No ____ |
| Saturation Present? (includes capillary fringe) | Yes ____ No _✓_ | Depth (inches): | |

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

**Remarks:**

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

Sampling Point: W-F18-21_PFO-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer rubrum* | 45 | Yes | FAC |
| 2. *Oxydendrum arboreum* | 25 | Yes | UPL |
| 3. *Pinus virginiana* | 5 | No | UPL |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 75 | = Total Cover | |
| 50% of total cover: 37.5 | 20% of total cover: | 15 | |

| Sapling/Shrub Stratum (Plot size: 15) | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |

| Herb Stratum (Plot size: 5) | | | |
|---|---|---|---|
| 1. *Parathelypteris noveboracensis* | 20 | Yes | FAC |
| 2. *Microstegium vimineum* | 10 | Yes | FAC |
| 3. *Carex sp.* | 10 | Yes | NI |
| 4. *Quercus alba* | 5 | No | FACU |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 45 | = Total Cover | |
| 50% of total cover: 22.5 | 20% of total cover: | 9 | |

| Woody Vine Stratum (Plot size: 30') | | | |
|---|---|---|---|
| 1. *Smilax rotundifolia* | 10 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 10 | = Total Cover | |
| 50% of total cover: 5 | 20% of total cover: | 2 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 4 | (A) |
| Total Number of Dominant Species Across All Strata: | 6 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 66.7 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 85 | x 3 = | 255 |
| FACU species | 5 | x 4 = | 20 |
| UPL species | 30 | x 5 = | 150 |
| Column Totals | 120 | (A) | 425 (B) |
| Prevalence Index = B/A = | 3.5 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

__✓__ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-21_PFO-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 2 | 10YR 2/2 | 100 | 10YR 4/1 | | | | Clay Loam | |
| 2 - 5 | 10YR 4/1 | 90 | 10YR 2/2 | 10 | C | M | Clay Loam | |
| 5 - 18 | 2.5Y 3/3 | 95 | 7.5YR 3/4 | 5 | C | M | Silty Clay Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Dry Fork, Pittsylvania … **Sampling Date:** 2018-June-21
**Applicant/Owner:** NextEra **State:** Virginia **Sampling Point:** W-F18-21_UPL-1
**Investigator(s):** Jenn Favela, Eileen N **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Terrace **Local relief (concave, convex, none):** Convex **Slope (%):** 2 to 5
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7075633 **Long:** -79.4671323 **Datum:** WGS84
**Soil Map Unit Name:** 5C3 **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes ____ No _✓_ | | |
| Wetland Hydrology Present? | Yes ____ No _✓_ | **Is the Sampled Area within a Wetland?** | **Yes ____ No _✓_** |

**Remarks:**

Covertype is UPL. Area is upland, not all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | |
| Water Table Present? | Yes ____ No _✓_ | Depth (inches): | **Wetland Hydrology Present?** Yes ____ No _✓_ |
| Saturation Present? (includes capillary fringe) | Yes ____ No _✓_ | Depth (inches): | |

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

**Remarks:**

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

Sampling Point: W-F18-21_UPL-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Carya glabra* | 30 | Yes | FACU |
| 2. *Acer rubrum* | 30 | Yes | FAC |
| 3. *Pinus virginiana* | 15 | No | UPL |
| 4. *Quercus falcata* | 10 | No | FACU |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 85 | = Total Cover | |
| 50% of total cover: 42.5 | 20% of total cover: | | 17 |
| **Sapling/Shrub Stratum (Plot size: 15)** | | | |
| 1. *Oxydendrum arboreum* | 10 | Yes | UPL |
| 2. *Quercus falcata* | 5 | Yes | FACU |
| 3. *Quercus alba* | 1 | No | FACU |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 16 | = Total Cover | |
| 50% of total cover: 8 | 20% of total cover: | | 3.2 |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Dichanthelium acuminatum* | 10 | Yes | FAC |
| 2. *Euonymus americanus* | 5 | Yes | FAC |
| 3. *Lonicera japonica* | 5 | Yes | FACU |
| 4. *Liriodendron tulipifera* | 1 | No | FACU |
| 5. *Acer rubrum* | 1 | No | FAC |
| 6. *Vaccinium angustifolium* | 5 | Percent cover cannot be greater than a previous species | FACU |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 27 | = Total Cover | |
| 50% of total cover: 13.5 | 20% of total cover: | | 5.4 |
| **Woody Vine Stratum (Plot size: 30)** | | | |
| 1. *Vitis rotundifolia* | 10 | Yes | FAC |
| 2. *Smilax rotundifolia* | 10 | Yes | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 20 | = Total Cover | |
| 50% of total cover: 10 | 20% of total cover: | | 4 |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 5 | (A) |
| Total Number of Dominant Species Across All Strata: | 9 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 55.6 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 66 | x 3 = | 198 |
| FACU species | 57 | x 4 = | 228 |
| UPL species | 25 | x 5 = | 125 |
| Column Totals | 148 | (A) | 551 (B) |
| Prevalence Index = B/A = | 3.7 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-21_UPL-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 2 | 7.5YR 2.5/2 | 100 | | | | | Loam | |
| 2 - 18 | 7.5YR 5/6 | 100 | | | | | Silt | |
| | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☐ No ☑

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Dry Fork, Pittsylvania … **Sampling Date:** 2018-June-20
**Applicant/Owner:** NextEra **State:** Virginia **Sampling Point:** W-F18-24_PFO-1
**Investigator(s):** Beth Clements, JSF, JMF, EN **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Foot slope **Local relief (concave, convex, none):** Convex **Slope (%):** 10 to 15
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7078812 **Long:** -79.4668382 **Datum:** WGS84
**Soil Map Unit Name:** 5C3 **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PFO.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

- _✓_ Surface Water (A1)
- _✓_ High Water Table (A2)
- _✓_ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- _✓_ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- _✓_ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- _✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes _✓_ No ____ | Depth (inches): | 1 | |
| Water Table Present? | Yes _✓_ No ____ | Depth (inches): | 1 | **Wetland Hydrology Present?** Yes _✓_ No ____ |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 1 | |

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

**Remarks:**

The criterion for wetland hydrology is met.

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

Sampling Point: W-F18-24_PFO-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Liriodendron tulipifera* | 25 | Yes | FACU |
| 2. *Quercus bicolor* | 20 | Yes | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 45 | = Total Cover | |
| 50% of total cover: 22.5 | 20% of total cover: | 9 | |
| **Sapling/Shrub Stratum (Plot size: 15)** | | | |
| 1. *Alnus serrulata* | 65 | Yes | OBL |
| 2. *Quercus alba* | 5 | No | FACU |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 70 | = Total Cover | |
| 50% of total cover: 35 | 20% of total cover: | 14 | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Impatiens capensis* | 60 | Yes | FACW |
| 2. *Cicuta maculata* | 20 | Yes | OBL |
| 3. *Onoclea sensibilis* | 10 | No | FACW |
| 4. *Juncus effusus* | 5 | No | FACW |
| 5. *Carex sp.* | 5 | No | NI |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 100 | = Total Cover | |
| 50% of total cover: 50 | 20% of total cover: | 20 | |
| **Woody Vine Stratum (Plot size: 30)** | | | |
| 1. *Smilax glauca* | 15 | Yes | FACU |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 15 | = Total Cover | |
| 50% of total cover: 7.5 | 20% of total cover: | 3 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 4 | (A) |
| Total Number of Dominant Species Across All Strata: | 6 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 66.7 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 85 | x 1 = | 85 |
| FACW species | 95 | x 2 = | 190 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 45 | x 4 = | 180 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 225 | (A) | 455 (B) |
| Prevalence Index = B/A = | 2 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC). A positive indication of hydrophytic vegetation was observed (Prevalence Index is ≤ 3.00).

SOIL

Sampling Point: W-F18-24_PFO-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 2 | 10YR 2/2 | 100 | | | | | Sandy Loam | |
| 2 - 18 | 10YR 4/1 | 95 | 10YR 3/6 | 5 | C | M/PL | Sandy Loam | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
_✓ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

A positive indication of hydric soil was observed.

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Dry Fork, Pittsylvania … **Sampling Date:** 2018-June-20
**Applicant/Owner:** NextEra **State:** Virginia **Sampling Point:** W-F18-24_UPL-1
**Investigator(s):** Jenn Favela, Eileen Nakahata, Jacob Fleckenstein **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Terrace **Local relief (concave, convex, none):** Convex **Slope (%):** 2 to 5
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7078341 **Long:** -79.4669254 **Datum:** WGS84
**Soil Map Unit Name:** 21D **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ No ✓ | | |
| Hydric Soil Present? | Yes ____ No ✓ | | |
| Wetland Hydrology Present? | Yes ____ No ✓ | **Is the Sampled Area within a Wetland?** | **Yes ____ No ✓** |

**Remarks:**

Covertype is UPL. Area is upland, not all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No ✓ | Depth (inches): | |
| Water Table Present? | Yes ____ No ✓ | Depth (inches): | **Wetland Hydrology Present?** Yes ____ No ✓ |
| Saturation Present? (includes capillary fringe) | Yes ____ No ✓ | Depth (inches): | |

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

**Remarks:**

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

Sampling Point: W-F18-24_UPL-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Liriodendron tulipifera* | 20 | Yes | FACU |
| 2. *Quercus alba* | 20 | Yes | FACU |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 40 | = Total Cover | |
| 50% of total cover: 20 | 20% of total cover: | 8 | |
| **Sapling/Shrub Stratum (Plot size: 15)** | | | |
| 1. *Alnus serrulata* | 50 | Yes | OBL |
| 2. *Juniperus virginiana* | 10 | No | FACU |
| 3. *Vaccinium angustifolium* | 10 | No | FACU |
| 4. *Pinus virginiana* | 10 | No | UPL |
| 5. *Oxydendrum arboreum* | 3 | No | UPL |
| 6. *Oxydendrum arboreum* | 0 | No | UPL |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 83 | = Total Cover | |
| 50% of total cover: 41.5 | 20% of total cover: | 16.6 | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Parthenocissus quinquefolia* | 10 | Yes | FACU |
| 2. *Euonymus americanus* | 5 | Yes | FAC |
| 3. *Lonicera japonica* | 5 | Yes | FACU |
| 4. *Vaccinium angustifolium* | 5 | Yes | FACU |
| 5. *Polystichum acrostichoides* | 5 | Yes | FACU |
| 6. *Acer rubrum* | 1 | No | FAC |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 31 | = Total Cover | |
| 50% of total cover: 15.5 | 20% of total cover: | 6.2 | |
| **Woody Vine Stratum (Plot size: 30)** | | | |
| 1. *Smilax rotundifolia* | 30 | Yes | FAC |
| 2. *Vitis rotundifolia* | 10 | Yes | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 40 | = Total Cover | |
| 50% of total cover: 20 | 20% of total cover: | 8 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | **4** | (A) |
| Total Number of Dominant Species Across All Strata: | **10** | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | **40** | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 50 | x 1 = | 50 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 46 | x 3 = | 138 |
| FACU species | 85 | x 4 = | 340 |
| UPL species | 15 | x 5 = | 75 |
| Column Totals | 196 (A) | | 603 (B) |
| Prevalence Index = B/A = | 3.1 | | |

**Hydrophytic Vegetation Indicators:**

_____ 1- Rapid Test for Hydrophytic Vegetation

_____ 2 - Dominance Test is > 50%

_____ 3 - Prevalence Index is ≤ 3.0[1]

_____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☐ No ☑

**Remarks: (Include photo numbers here or on a separate sheet.)**

Pinus virginiana also present 10% cover in sapling layer.

SOIL

Sampling Point: W-F18-24_UPL-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 18 | 10YR 4/3 | 100 | | | | | Silt Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☐ No ☑

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Dry Fork, Pittsylvania … **Sampling Date:** 2018-June-22
**Applicant/Owner:** NextEra **State:** Virginia **Sampling Point:** W-F18-27_PFO-1
**Investigator(s):** Jen Feese, Stephen Bendele, Jenn Flevela **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Depression **Local relief (concave, convex, none):** Concave **Slope (%):** 0 to 1
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.703831 **Long:** -79.4702536 **Datum:** WGS84
**Soil Map Unit Name:** 21D **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PFO. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

_✓_ Surface Water (A1)
_✓_ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
_✓_ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
_✓_ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes _✓_ No ____ | Depth (inches): | 1 |
| Water Table Present? | Yes _✓_ No ____ | Depth (inches): | 2 |
| Saturation Present? (includes capillary fringe) | Yes ____ No _✓_ | Depth (inches): | |

**Wetland Hydrology Present?** Yes _✓_ No ____

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

**Remarks:**

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

Sampling Point: W-F18-27_PFO-1

| Tree Stratum (Plot size: 5' × 40') | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Betula nigra* | 50 | Yes | FACW |
| 2. *Liriodendron tulipifera* | 35 | Yes | FACU |
| 3. *Pinus taeda* | 20 | No | FAC |
| 4. *Liquidambar styraciflua* | 10 | No | FAC |
| 5. *Acer rubrum* | 5 | No | FAC |
| 6. | | | |
| 7. | | | |
| | 120 | = Total Cover | |
| 50% of total cover: 60 | 20% of total cover: | 24 | |

| Sapling/Shrub Stratum (Plot size: 5' x 40') | | | |
|---|---|---|---|
| 1. *Betula nigra* | 3 | No | FACW |
| 2. *Liriodendron tulipifera* | 1 | No | FACU |
| 3. *Pinus taeda* | | No | FAC |
| 4. *Liquidambar styraciflua* | | No | FAC |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 4 | = Total Cover | |
| 50% of total cover: 2 | 20% of total cover: | 0.8 | |

| Herb Stratum (Plot size: 5) | | | |
|---|---|---|---|
| 1. *Microstegium vimineum* | 80 | Yes | FAC |
| 2. *Onoclea sensibilis* | 20 | No | FACW |
| 3. *Impatiens capensis* | 15 | No | FACW |
| 4. *Betula nigra* | 3 | No | FACW |
| 5. *Verbesina alternifolia* | 1 | No | FAC |
| 6. *Liquidambar styraciflua* | 1 | No | FAC |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 120 | = Total Cover | |
| 50% of total cover: 60 | 20% of total cover: | 24 | |

| Woody Vine Stratum (Plot size: 5' x 40') | | | |
|---|---|---|---|
| 1. *Smilax rotundifolia* | 1 | No | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 1 | = Total Cover | |
| 50% of total cover: 0.5 | 20% of total cover: | 0.2 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 2 | (A) |
| Total Number of Dominant Species Across All Strata: | 3 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 66.7 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 91 | x 2 = | 182 |
| FAC species | | x 3 = | |
| FACU species | 36 | x 4 = | 144 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | | (A) | (B) |

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

__✓__ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-27_PFO-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 3 | 10YR 3/3 | 85 | 10YR 3/6 | 15 | C | M | Loam | |
| 3 - 14 | 10YR 4/1 | 90 | 7.5YR 3/4 | 10 | C | M | Sandy Loam | |
| 14 - 18 | 2.5YR 3/1 | 90 | 10YR 4/6 | 10 | C | M | Sandy Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-22
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-F18-27_UPL-1
**Investigator(s):** Jen Feese, Stephen Bendele, Jenn Favela **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Hillslope **Local relief (concave, convex, none):** Concave **Slope (%):** 15 to 20
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7039499 **Long:** -79.4703709 **Datum:** WGS84
**Soil Map Unit Name:** 21D **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ✓ No ____ | | |
| Hydric Soil Present? | Yes ____ No ✓ | | |
| Wetland Hydrology Present? | Yes ____ No ✓ | **Is the Sampled Area within a Wetland?** | **Yes ____ No ✓** |

**Remarks:**

Covertype is UPL. Area is upland, not all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No ✓ | Depth (inches): | |
| Water Table Present? | Yes ____ No ✓ | Depth (inches): | **Wetland Hydrology Present?** Yes ____ No ✓ |
| Saturation Present? (includes capillary fringe) | Yes ____ No ✓ | Depth (inches): | |

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

**Remarks:**

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

Sampling Point: W-F18-27_UPL-1

| Tree Stratum (Plot size: 5' × 40') | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Liquidambar styraciflua* | 85 | Yes | FAC |
| 2. *Pinus taeda* | 80 | Yes | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 165 | = Total Cover | |
| 50% of total cover: 82.5 | 20% of total cover: | 33 | |
| **Sapling/Shrub Stratum (Plot size: 5' x 40')** | | | |
| 1. *Liquidambar styraciflua* | 80 | Yes | FAC |
| 2. *Liriodendron tulipifera* | 1 | No | FACU |
| 3. *Quercus alba* | 1 | No | FACU |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 82 | = Total Cover | |
| 50% of total cover: 41 | 20% of total cover: | 16.4 | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Microstegium vimineum* | 25 | Yes | FAC |
| 2. *Parathelypteris noveboracensis* | 15 | Yes | FAC |
| 3. *Acer rubrum* | 10 | No | FAC |
| 4. *Verbesina alternifolia* | 10 | No | FAC |
| 5. *Liquidambar styraciflua* | 8 | No | FAC |
| 6. *Smilax rotundifolia* | 3 | No | FAC |
| 7. *Toxicodendron radicans* | 1 | No | FAC |
| 8. *Parthenocissus quinquefolia* | 1 | No | FACU |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 73 | = Total Cover | |
| 50% of total cover: 36.5 | 20% of total cover: | 14.6 | |
| **Woody Vine Stratum (Plot size: 5' x 40')** | | | |
| 1. *Smilax rotundifolia* | 5 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 5 | = Total Cover | |
| 50% of total cover: 2.5 | 20% of total cover: | 1 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 6 | (A) |
| Total Number of Dominant Species Across All Strata: | 6 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 100 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 322 | x 3 = | 966 |
| FACU species | 3 | x 4 = | 12 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 325 | (A) | 978 (B) |
| Prevalence Index = B/A = | 3 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

__✓__ 2 - Dominance Test is >50%

__✓__ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-27_UPL-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 2 | 10YR 2/2 | 100 | | | | | Loam | |
| 2 - 12 | 10YR 4/4 | 100 | | | | | Sandy Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Gravel
Depth (inches): 12

**Hydric Soil Present?** Yes ☐ No ☑

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-22
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-F18-29_PFO-1
**Investigator(s):** Jen Feese, E N, S B, JFavs **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Depression **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 3
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7044217 **Long:** -79.4701089 **Datum:** WGS84
**Soil Map Unit Name:** 21D **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PFO. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
_✓_ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
_✓_ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
_✓_ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | | |
| Water Table Present? | Yes _✓_ No ____ | Depth (inches): | 4 | **Wetland Hydrology Present?** Yes _✓_ No ____ |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 0 | |

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

**Remarks:**

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

Sampling Point: W-F18-29_PFO-1

| Tree Stratum (Plot size: 5' × 40') | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Carpinus caroliniana* | 25 | Yes | FAC |
| 2. *Fraxinus pennsylvanica* | 25 | Yes | FACW |
| 3. *Acer rubrum* | 25 | Yes | FAC |
| 4. *Quercus rubra* | 10 | No | FACU |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 85 | = Total Cover | |
| 50% of total cover: 42.5 | 20% of total cover: | 17 | |

| Sapling/Shrub Stratum (Plot size: 5' x 40') | | | |
|---|---|---|---|
| 1. *Liquidambar styraciflua* | 15 | Yes | FAC |
| 2. *Fraxinus pennsylvanica* | 15 | Yes | FACW |
| 3. *Oxydendrum arboreum* | 6 | No | UPL |
| 4. *Carex intumescens* | | No | FACW |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 36 | = Total Cover | |
| 50% of total cover: 18 | 20% of total cover: | 7.2 | |

| Herb Stratum (Plot size: 5) | | | |
|---|---|---|---|
| 1. *Carex intumescens* | 25 | Yes | FACW |
| 2. *Glyceria striata* | 25 | Yes | OBL |
| 3. *Phalaris arundinacea* | 15 | Yes | FACW |
| 4. *Scirpus atrovirens* | 5 | No | OBL |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 70 | = Total Cover | |
| 50% of total cover: 35 | 20% of total cover: | 14 | |

| Woody Vine Stratum (Plot size: 5' x 40') | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 8 | (A) |
| Total Number of Dominant Species Across All Strata: | 8 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 100 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 30 | x 1 = | 30 |
| FACW species | | x 2 = | |
| FAC species | 65 | x 3 = | 195 |
| FACU species | 10 | x 4 = | 40 |
| UPL species | 6 | x 5 = | 30 |
| Column Totals | | (A) | (B) |

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

__✓__ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-29_PFO-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 4 | 10YR 2/2 | 100 | | | | | Loam | |
| 4 - 8 | 10YR 3/1 | 100 | | | | | Loam | |
| 8 - 9 | 10YR 3/1 | 97 | 10YR 3/4 | 3 | C | M | Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: gravel/rock
Depth (inches): 9

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Dry Fork, Pittsylvania … **Sampling Date:** 2018-June-22
**Applicant/Owner:** NextEra **State:** Virginia **Sampling Point:** W-F18-29_PSS-1
**Investigator(s):** Beth Clements, JSF, JMF, EN **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Toe **Local relief (concave, convex, none):** Concave **Slope (%):** 10 to 20
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7044777 **Long:** -79.470091 **Datum:** WGS84
**Soil Map Unit Name:** 21D: Madison fine Sandy loam **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PSS. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
_✓_ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
_✓_ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | |
| Water Table Present? | Yes ____ No _✓_ | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 2 |

**Wetland Hydrology Present?** Yes _✓_ No ____

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

**Remarks:**

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

Sampling Point: W-F18-29_PSS-1

| Tree Stratum (Plot size: 20x10) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Fagus grandifolia* | 5 | Yes | FACU |
| 2. *Fraxinus pennsylvanica* | 5 | Yes | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 10 | = Total Cover | |
| 50% of total cover: 5 | 20% of total cover: | 2 | |

| Sapling/Shrub Stratum (Plot size: 10x5) | | | |
|---|---|---|---|
| 1. *Liquidambar styraciflua* | 28 | Yes | FAC |
| 2. *Fraxinus pennsylvanica* | 15 | Yes | FACW |
| 3. *Oxydendrum arboreum* | 8 | No | UPL |
| 4. *Carpinus caroliniana* | 3 | No | FAC |
| 5. *Rubus argutus* | 3 | No | FACU |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 57 | = Total Cover | |
| 50% of total cover: 28.5 | 20% of total cover: | 11.4 | |

| Herb Stratum (Plot size: 5' ) | | | |
|---|---|---|---|
| 1. *Juncus effusus* | 60 | Yes | FACW |
| 2. *Persicaria arifolia* | 25 | Yes | OBL |
| 3. *Microstegium vimineum* | 15 | No | FAC |
| 4. *Carex lurida* | 10 | No | OBL |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 110 | = Total Cover | |
| 50% of total cover: 55 | 20% of total cover: | 22 | |

| Woody Vine Stratum (Plot size: ) | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 5 | (A) |
| Total Number of Dominant Species Across All Strata: | 6 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 83.3 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 35 | x 1 = | 35 |
| FACW species | 80 | x 2 = | 160 |
| FAC species | 46 | x 3 = | 138 |
| FACU species | 8 | x 4 = | 32 |
| UPL species | 8 | x 5 = | 40 |
| Column Totals | 177 | (A) | 405 (B) |
| Prevalence Index = B/A = | 2.3 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-29_PSS-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 2 | 10YR 3/2 | 100 | | | | | Loam | |
| 2 - 7 | 2.5Y 4/1 | 95 | 7.5YR 3/4 | 5 | C | M/PL | Clay Loam | |
| 7 - 18 | 10YR 4/1 | 85 | 10YR 5/8 | 15 | C | M | Silt Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
✓ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-22
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-F18-29_UPL-1
**Investigator(s):** Jen Feese, EN, SB, JFav **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Terrace **Local relief (concave, convex, none):** None **Slope (%):** 2 to 5
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7044046 **Long:** -79.4702994 **Datum:** WGS84
**Soil Map Unit Name:** 21D **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ No ✓ | | |
| Hydric Soil Present? | Yes ____ No ✓ | | |
| Wetland Hydrology Present? | Yes ____ No ✓ | **Is the Sampled Area within a Wetland?** | **Yes ____ No ✓** |

**Remarks:**

Covertype is UPL.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No ✓ | Depth (inches): | |
| Water Table Present? | Yes ____ No ✓ | Depth (inches): | **Wetland Hydrology Present?** Yes ____ No ✓ |
| Saturation Present? (includes capillary fringe) | Yes ____ No ✓ | Depth (inches): | |

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

**Remarks:**

Sampling Point: W-F18-29_UPL-1

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

| Tree Stratum (Plot size: 5' × 40') | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Fagus grandifolia* | 70 | Yes | FACU |
| 2. *Liquidambar styraciflua* | 30 | Yes | FAC |
| 3. *Quercus rubra* | 10 | No | FACU |
| 4. *Quercus alba* | 5 | No | FACU |
| 5. *Acer rubrum* | 1 | No | FAC |
| 6. | | | |
| 7. | | | |
| | 116 | = Total Cover | |
| 50% of total cover: 58 | 20% of total cover: | 23.2 | |

| Sapling/Shrub Stratum (Plot size: 5' x 40') | | | |
|---|---|---|---|
| 1. *Fagus grandifolia* | 6 | Yes | FACU |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 6 | = Total Cover | |
| 50% of total cover: 3 | 20% of total cover: | 1.2 | |

| Herb Stratum (Plot size: 5) | | | |
|---|---|---|---|
| 1. *Parathelypteris noveboracensis* | 10 | Yes | FAC |
| 2. *Carex sp.* | 5 | Yes | NI |
| 3. *Fagus grandifolia* | 5 | Yes | FACU |
| 4. *Quercus alba* | 5 | Yes | FACU |
| 5. *Smilax rotundifolia* | 3 | No | FAC |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 28 | = Total Cover | |
| 50% of total cover: 14 | 20% of total cover: | 5.6 | |

| Woody Vine Stratum (Plot size: 5' x 40') | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 2 | (A) |
| Total Number of Dominant Species Across All Strata: | 7 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 28.6 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 44 | x 3 = | 132 |
| FACU species | 101 | x 4 = | 404 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 145 | (A) | 536 (B) |
| Prevalence Index = B/A = | 3.7 | | |

**Hydrophytic Vegetation Indicators:**

_____ 1- Rapid Test for Hydrophytic Vegetation

_____ 2 - Dominance Test is > 50%

_____ 3 - Prevalence Index is ≤ 3.0[1]

_____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☐ No ☑

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-29_UPL-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 2 | 7.5YR 3/4 | 100 | | | | | Loam | |
| 2 - 8 | 10YR 3/4 | 90 | 7.5YR 4/4 | 10 | C | M | Silt Loam | |
| 8 - 10 | 10YR 4/4 | 50 | 10YR 5/6 | 50 | C | M | Sandy Loam | |
| 10 - 18 | 7.5YR 6/1 | 60 | 10YR 4/3 | 40 | C | M | Sandy Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☐ No ☑

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Dry Fork, Pittsylvania … **Sampling Date:** 2018-Aug-06
**Applicant/Owner:** NextEra **State:** Virginia **Sampling Point:** W-C18-84_PEM-3
**Investigator(s):** Don Lockwood, Simon King **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Flood Plain **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 10
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7017361 **Long:** -79.4734684 **Datum:** WGS84
**Soil Map Unit Name:** Madison sandy loam **NWI classification:**
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ✓ No ____ | | |
| Hydric Soil Present? | Yes ✓ No ____ | | |
| Wetland Hydrology Present? | Yes ✓ No ____ | **Is the Sampled Area within a Wetland?** | **Yes ✓ No ____** |

**Remarks:**

Covertype is PEM. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ True Aquatic Plants (B14)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✓ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ✓ No ____ | Depth (inches): | 3 | |
| Water Table Present? | Yes ✓ No ____ | Depth (inches): | 0 | **Wetland Hydrology Present?** Yes ✓ No ____ |
| Saturation Present? (includes capillary fringe) | Yes ✓ No ____ | Depth (inches): | 0 | |

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

**Remarks:**

A positive indication of wetland hydrology was observed (primary and secondary indicators were present).

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

Sampling Point: W-C18-84_PEM-3

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Liriodendron tulipifera* | 30 | Yes | FACU |
| 2. *Acer rubrum* | 15 | Yes | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 45 | = Total Cover | |
| 50% of total cover: 22.5 | 20% of total cover: | 9 | |

| Sapling/Shrub Stratum (Plot size: 15) | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |

| Herb Stratum (Plot size: 5) | | | |
|---|---|---|---|
| 1. *Sagittaria latifolia* | 40 | Yes | OBL |
| 2. *Amphicarpaea bracteata* | 20 | Yes | FAC |
| 3. *Dichanthelium clandestinum* | 20 | Yes | FAC |
| 4. *Microstegium vimineum* | 20 | Yes | FAC |
| 5. *Glyceria striata* | 20 | Yes | OBL |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 120 | = Total Cover | |
| 50% of total cover: 60 | 20% of total cover: | 24 | |

| Woody Vine Stratum (Plot size: 30) | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 6 | (A) |
| Total Number of Dominant Species Across All Strata: | 7 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 85.7 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 60 | x 1 = | 60 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 75 | x 3 = | 225 |
| FACU species | 30 | x 4 = | 120 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 165 | (A) | 405 (B) |
| Prevalence Index = B/A = | 2.5 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-C18-84_PEM-3

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 5 | 7.5YR 4/1 | 90 | 2.5YR 3/4 | 10 | C | M | Sandy Loam | |
| 5 - 10 | 10YR 4/1 | 95 | 7.5YR 4/6 | 5 | C | M | Sandy Loam | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Hits gravel
Depth (inches): 10

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

A positive indication of hydric soil was observed.

Hydrology Photos

Vegetation Photos

Soil Photos

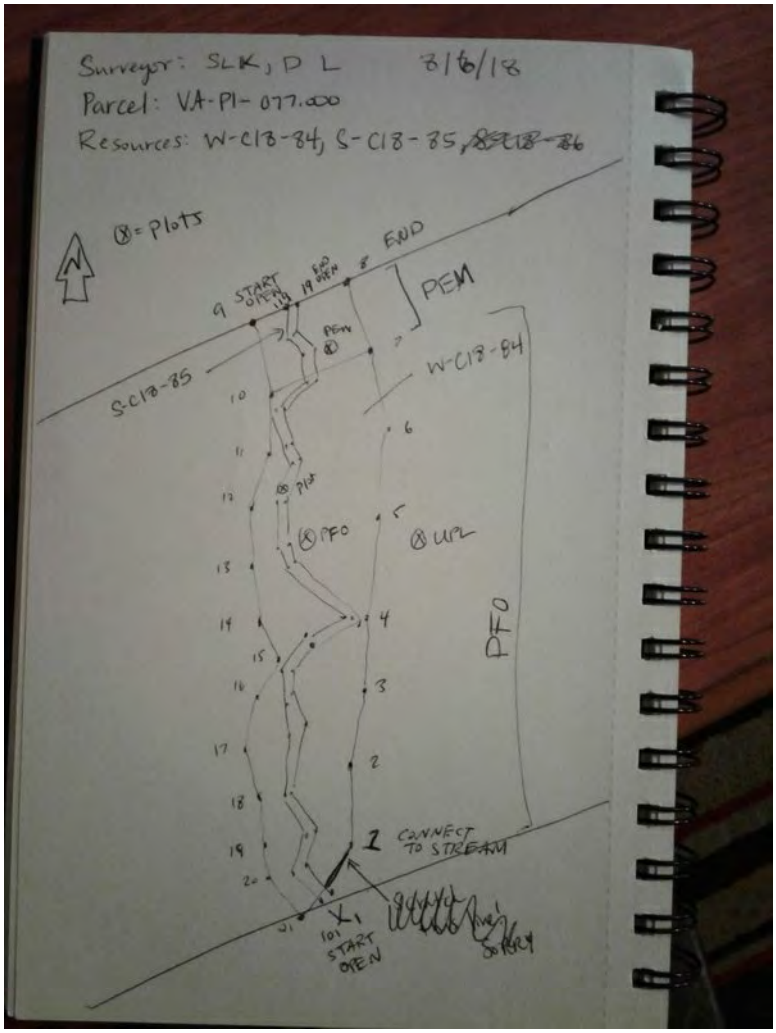
Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

Photo of Sample Plot Sketch



## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Dry Fork, Pittsylvania … **Sampling Date:** 2018-Aug-06
**Applicant/Owner:** NextEra **State:** Virginia **Sampling Point:** W-C18-84_PFO-1
**Investigator(s):** Don Lockwood, Simon King **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Flood Plain **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 10
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7014851 **Long:** -79.4732884 **Datum:** WGS84
**Soil Map Unit Name:** Madison Sandy loam **NWI classification:**
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PFO. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
_✓_ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
_✓_ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | | |
| Water Table Present? | Yes _✓_ No ____ | Depth (inches): | 18 | **Wetland Hydrology Present?** Yes _✓_ No ____ |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 0 | |

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

**Remarks:**

A positive indication of wetland hydrology was observed (primary and secondary indicators were present).

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

Sampling Point: W-C18-84_PFO-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer rubrum* | 30 | Yes | FAC |
| 2. *Liriodendron tulipifera* | 10 | Yes | FACU |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 40 | = Total Cover | |
| 50% of total cover: 20 | 20% of total cover: | 8 | |
| **Sapling/Shrub Stratum (Plot size: 15)** | | | |
| 1. *Acer rubrum* | 20 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 20 | = Total Cover | |
| 50% of total cover: 10 | 20% of total cover: | 4 | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Microstegium vimineum* | 60 | Yes | FAC |
| 2. *Carex crinita* | 10 | No | OBL |
| 3. *Amphicarpaea bracteata* | 10 | No | FAC |
| 4. *Dichanthelium clandestinum* | 10 | No | FAC |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 90 | = Total Cover | |
| 50% of total cover: 45 | 20% of total cover: | 18 | |
| **Woody Vine Stratum (Plot size: 30)** | | | |
| 1. *Vitis riparia* | 15 | Yes | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 15 | = Total Cover | |
| 50% of total cover: 7.5 | 20% of total cover: | 3 | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **80** (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 10 | x 1 = | 10 |
| FACW species | 15 | x 2 = | 30 |
| FAC species | 130 | x 3 = | 390 |
| FACU species | 10 | x 4 = | 40 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 165 | (A) | 470 (B) |

Prevalence Index = B/A = 2.8

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-C18-84_PFO-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 2 | 10YR 2/2 | 100 | | | | | Silt Loam | |
| 2 - 18 | 10YR 4/1 | 85 | 7.5YR 4/6 | | | | Sandy Loam | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

A positive indication of hydric soil was observed.

Hydrology Photos

Vegetation Photos

Soil Photos

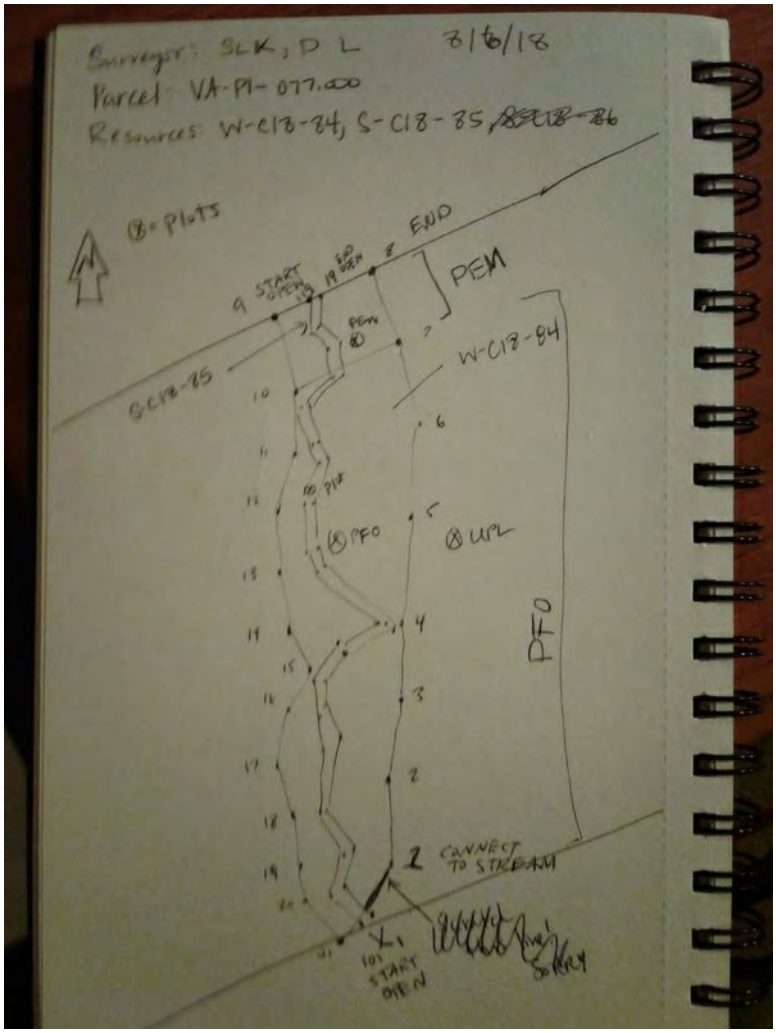
Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

Photo of Sample Plot Sketch



## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Dry Fork, Pittsylvania … **Sampling Date:** 2018-Aug-06
**Applicant/Owner:** NextEra **State:** Virginia **Sampling Point:** W-C18-84_UPL-2
**Investigator(s):** Don Lockwood, Simon King **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Foot slope **Local relief (concave, convex, none):** Convex **Slope (%):** 1 to 10
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.7015796 **Long:** -79.4731463 **Datum:** WGS84
**Soil Map Unit Name:** Madison sandy loam **NWI classification:**
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ No ✓ | | |
| Hydric Soil Present? | Yes ____ No ✓ | | |
| Wetland Hydrology Present? | Yes ____ No ✓ | **Is the Sampled Area within a Wetland?** | **Yes ____ No ✓** |

**Remarks:**

Covertype is UPL. Area is upland, not all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No ✓ | Depth (inches): | |
| Water Table Present? | Yes ____ No ✓ | Depth (inches): | **Wetland Hydrology Present?** Yes ____ No ✓ |
| Saturation Present? (includes capillary fringe) | Yes ____ No ✓ | Depth (inches): | |

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

**Remarks:**

No positive indication of wetland hydrology was observed.

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

Sampling Point: W-C18-84_UPL-2

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Liriodendron tulipifera* | 20 | Yes | FACU |
| 2. *Acer rubrum* | 20 | Yes | FAC |
| 3. *Quercus alba* | 20 | Yes | FACU |
| 4. *Quercus rubra* | | No | FACU |
| 5. | 10 | | |
| 6. | | | |
| 7. | | | |
| | 70 | = Total Cover | |
| 50% of total cover: 35 | 20% of total cover: | 14 | |
| **Sapling/Shrub Stratum (Plot size: 15)** | | | |
| 1. *Quercus rubra* | 10 | Yes | FACU |
| 2. *Juniperus virginiana* | 10 | Yes | FACU |
| 3. *Fraxinus americana* | 10 | Yes | FACU |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 30 | = Total Cover | |
| 50% of total cover: 15 | 20% of total cover: | 6 | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |
| **Woody Vine Stratum (Plot size: 30)** | | | |
| 1. *Smilax auriculata* | 10 | Yes | FACU |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 10 | = Total Cover | |
| 50% of total cover: 5 | 20% of total cover: | 2 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 1 | (A) |
| Total Number of Dominant Species Across All Strata: | 7 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 14.3 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 20 | x 3 = | 60 |
| FACU species | | x 4 = | |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | | (A) | (B) |
| Prevalence Index = B/A = | | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

____ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☐ No ☑

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-C18-84_UPL-2

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 18 | 5YR 4/6 | 100 | | | | | Sandy Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☐ No ☑

**Remarks:**

No positive indication of hydric soils was observed.

Hydrology Photos

Vegetation Photos

Soil Photos

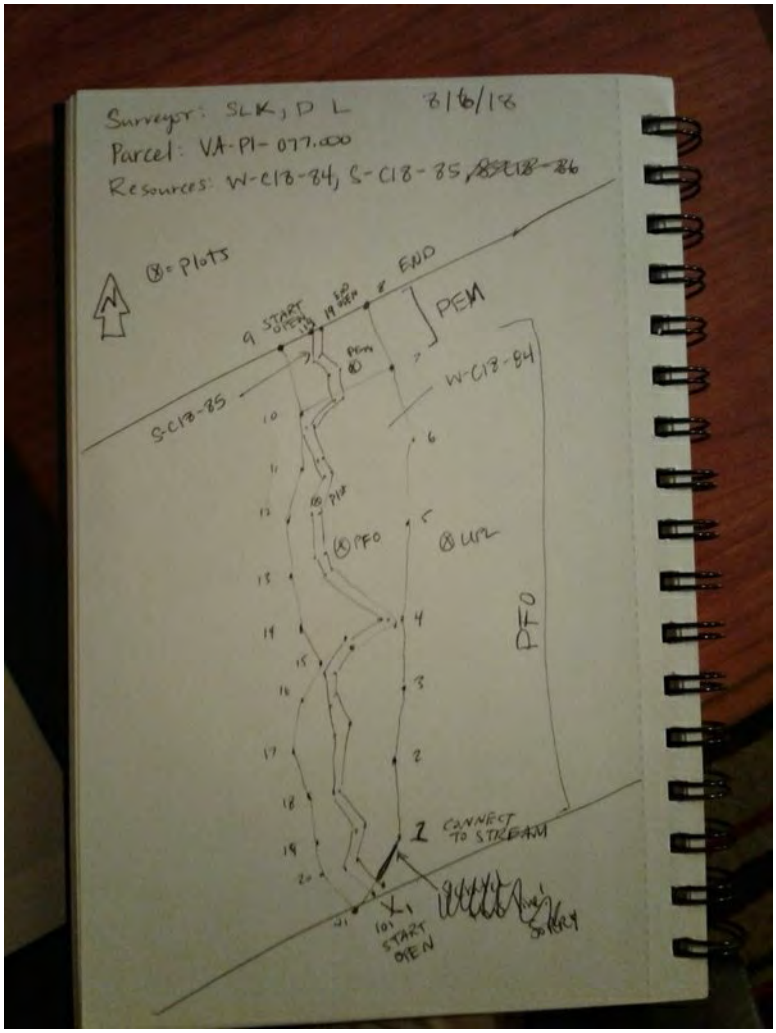
Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

Photo of Sample Plot Sketch



## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-July-18
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-F18-53_PFO-1
**Investigator(s):** Alexi Weber, SES, JSF **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Flood Plain **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 3
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.6886941 **Long:** -79.4861565 **Datum:** WGS84
**Soil Map Unit Name:** A8 **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PFO. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
_✓_ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
_✓_ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | |
| Water Table Present? | Yes ____ No _✓_ | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 4 |

**Wetland Hydrology Present?** Yes _✓_ No ____

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

**Remarks:**

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

Sampling Point: W-F18-53_PFO-1

| Tree Stratum (Plot size: 10x5) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |
| **Sapling/Shrub Stratum (Plot size: 10x5)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Solidago canadensis* | 8 | Yes | FACU |
| 2. *Dichanthelium clandestinum* | 6 | Yes | FAC |
| 3. *Microstegium vimineum* | 5 | Yes | FAC |
| 4. *Boehmeria cylindrica* | 2 | No | FACW |
| 5. *Acer rubrum* | 2 | No | FAC |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 23 = Total Cover | | |
| 50% of total cover: 11.5 | 20% of total cover: 4.6 | | |
| **Woody Vine Stratum (Plot size: 10x5)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 2 | (A) |
| Total Number of Dominant Species Across All Strata: | 3 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 66.7 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 2 | x 2 = | 4 |
| FAC species | 13 | x 3 = | 39 |
| FACU species | 8 | x 4 = | 32 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 23 | (A) | 75 (B) |
| Prevalence Index = B/A = | 3.3 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

__✓__ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-53_PFO-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 4 | 10YR 6/4 | 100 | | | | | Sand | recent alluvial deposit |
| 4 - 18 | 10YR 4/1 | 96 | 7.5YR 4/6 | 5 | C | M | Sand | |
| 4 - 18 | | | 10YR 3/2 | 1 | C | M | | |
| | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-July-18
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-F18-53_UPL-1
**Investigator(s):** Alexi Weber, SES, JSF **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Terrace **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 3
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.6886679 **Long:** -79.4859786 **Datum:** WGS84
**Soil Map Unit Name:** 8A **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ No ✓ | | |
| Hydric Soil Present? | Yes ____ No ✓ | | |
| Wetland Hydrology Present? | Yes ____ No ✓ | **Is the Sampled Area within a Wetland?** | **Yes ____ No ✓** |

**Remarks:**

Covertype is UPL. Area is upland, not all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No ____ | Depth (inches): | |
| Water Table Present? | Yes ____ No ____ | Depth (inches): | **Wetland Hydrology Present?** Yes ____ No ✓ |
| Saturation Present? (includes capillary fringe) | Yes ____ No ____ | Depth (inches): | |

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

**Remarks:**

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

Sampling Point: W-F18-53_UPL-1

| Tree Stratum (Plot size: 20x10) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Carpinus caroliniana* | 90 | Yes | FAC |
| 2. *Quercus alba* | 25 | Yes | FACU |
| 3. *Liriodendron tulipifera* | 8 | No | FACU |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 123 | = Total Cover | |
| 50% of total cover: 61.5 | 20% of total cover: 24.6 | | |
| **Sapling/Shrub Stratum (Plot size: 10x5)** | | | |
| 1. *Carpinus caroliniana* | 55 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 55 | = Total Cover | |
| 50% of total cover: 27.5 | 20% of total cover: 11 | | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Vitis labrusca* | 10 | Yes | FACU |
| 2. *Quercus montana* | 8 | Yes | UPL |
| 3. *Carpinus caroliniana* | 5 | No | FAC |
| 4. *Smilax rotundifolia* | 2 | No | FAC |
| 5. *Microstegium vimineum* | 2 | No | FAC |
| 6. *Acer rubrum* | 2 | No | FAC |
| 7. *Urtica dioica* | 1 | No | FACU |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 30 | = Total Cover | |
| 50% of total cover: 15 | 20% of total cover: 6 | | |
| **Woody Vine Stratum (Plot size: 10x20)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 2 | (A) |
| Total Number of Dominant Species Across All Strata: | 5 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 40 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 156 | x 3 = | 468 |
| FACU species | 44 | x 4 = | 176 |
| UPL species | 8 | x 5 = | 40 |
| Column Totals | 208 | (A) | 684 (B) |
| Prevalence Index = B/A = | 3.3 | | |

**Hydrophytic Vegetation Indicators:**

_____ 1- Rapid Test for Hydrophytic Vegetation

_____ 2 - Dominance Test is > 50%

_____ 3 - Prevalence Index is ≤ 3.0[1]

_____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☐ No ☑

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-53_UPL-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 3 | 7.5YR 5/4 | 100 | | | | | Silt Loam | |
| 3 - 18 | 7.5YR 5/6 | 100 | | | | | Silt Loam | |
| | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☐ No ☑

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-20
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-E18-28_PFO-1
**Investigator(s):** Alexi Weber, Troy Savage **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Flood Plain **Local relief (concave, convex, none):** Convex **Slope (%):** 1 to 3
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.6805905 **Long:** -79.4899864 **Datum:** WGS84
**Soil Map Unit Name:** 8A **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PFO. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
_✓_ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
_✓_ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
_✓_ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | | |
| Water Table Present? | Yes _✓_ No ____ | Depth (inches): | 12 | **Wetland Hydrology Present?** Yes _✓_ No ____ |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 12 | |

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

**Remarks:**

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

Sampling Point: W-E18-28_PFO-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer rubrum* | 35 | Yes | FAC |
| 2. *Liriodendron tulipifera* | 30 | Yes | FACU |
| 3. *Carpinus caroliniana* | 25 | Yes | FAC |
| 4. *Ulmus americana* | 20 | No | FACW |
| 5. *Quercus pagoda* | 10 | No | FACW |
| 6. | | | |
| 7. | | | |
| | 120 | = Total Cover | |
| 50% of total cover: 60 | 20% of total cover: | 24 | |
| **Sapling/Shrub Stratum (Plot size: 15)** | | | |
| 1. *Carpinus caroliniana* | 40 | Yes | FAC |
| 2. *Lindera benzoin* | 30 | Yes | FAC |
| 3. *Liquidambar styraciflua* | 15 | No | FAC |
| 4. *Ulmus americana* | 10 | No | FACW |
| 5. *Fraxinus pennsylvanica* | 10 | No | FACW |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 105 | = Total Cover | |
| 50% of total cover: 52.5 | 20% of total cover: | 21 | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Microstegium vimineum* | 35 | Yes | FAC |
| 2. *Leersia virginica* | 20 | Yes | FACW |
| 3. *Lindera benzoin* | 8 | No | FAC |
| 4. *Arisaema triphyllum* | 8 | No | FACW |
| 5. *Boehmeria cylindrica* | 5 | No | FACW |
| 6. *Woodwardia virginica* | 5 | No | OBL |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 81 | = Total Cover | |
| 50% of total cover: 40.5 | 20% of total cover: | 16.2 | |
| **Woody Vine Stratum (Plot size: 30)** | | | |
| 1. *Vitis riparia* | 5 | Yes | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 5 | = Total Cover | |
| 50% of total cover: 2.5 | 20% of total cover: | 1 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 7 | (A) |
| Total Number of Dominant Species Across All Strata: | 8 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 87.5 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 5 | x 1 = | 5 |
| FACW species | 88 | x 2 = | 176 |
| FAC species | 188 | x 3 = | 564 |
| FACU species | 30 | x 4 = | 120 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 311 | (A) | 865 (B) |
| Prevalence Index = B/A = | 2.8 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

__✓__ 2 - Dominance Test is >50%

__✓__ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-E18-28_PFO-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 4 | 10YR 3/2 | 100 | | | | | Sandy Loam | |
| 4 - 8 | 10YR 3/2 | 80 | 10YR 3/6 | 20 | C | M | | |
| 8 - 18 | 10YR 4/1 | 90 | 10R 3/6 | 10 | C | M/PL | Sandy Loam | |
| | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
_✓ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-20
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-E18-28_UPL-1
**Investigator(s):** Alexi Weber, Troy Savage **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Hillslope **Local relief (concave, convex, none):** Convex **Slope (%):** 2 to 5
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.6809324 **Long:** -79.4894024 **Datum:** WGS84
**Soil Map Unit Name:** 8A **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes ____ No _✓_ | | |
| Wetland Hydrology Present? | Yes ____ No _✓_ | **Is the Sampled Area within a Wetland?** | **Yes ____ No _✓_** |

**Remarks:**

Covertype is UPL. Area is upland, not all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | |
| Water Table Present? | Yes ____ No _✓_ | Depth (inches): | **Wetland Hydrology Present?** Yes ____ No _✓_ |
| Saturation Present? (includes capillary fringe) | Yes ____ No _✓_ | Depth (inches): | |

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

**Remarks:**

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

Sampling Point: W-E18-28_UPL-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Liquidambar styraciflua* | 35 | Yes | FAC |
| 2. *Acer rubrum* | 30 | Yes | FAC |
| 3. *Juniperus virginiana* | 25 | Yes | FACU |
| 4. *Liriodendron tulipifera* | 15 | No | FACU |
| 5. *Ulmus americana* | 5 | No | FACW |
| 6. | | | |
| 7. | | | |
| | 110 | = Total Cover | |
| 50% of total cover: 55 | 20% of total cover: | 22 | |

| Sapling/Shrub Stratum (Plot size: 15) | | | |
|---|---|---|---|
| 1. *Acer rubrum* | 20 | Yes | FAC |
| 2. *Prunus serotina* | 12 | Yes | FACU |
| 3. *Liriodendron tulipifera* | 8 | Yes | FACU |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 40 | = Total Cover | |
| 50% of total cover: 20 | 20% of total cover: | 8 | |

| Herb Stratum (Plot size: 5) | | | |
|---|---|---|---|
| 1. *Microstegium vimineum* | 40 | Yes | FAC |
| 2. *Lindera benzoin* | 18 | Yes | FAC |
| 3. *Potentilla indica* | 10 | No | FACU |
| 4. *Parthenocissus quinquefolia* | 5 | No | FACU |
| 5. *Rosa multiflora* | 4 | No | FACU |
| 6. *Carpinus caroliniana* | 3 | No | FAC |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 80 | = Total Cover | |
| 50% of total cover: 40 | 20% of total cover: | 16 | |

| Woody Vine Stratum (Plot size: ) | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 5 | (A) |
| Total Number of Dominant Species Across All Strata: | 8 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 62.5 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 5 | x 2 = | 10 |
| FAC species | 146 | x 3 = | 438 |
| FACU species | 79 | x 4 = | 316 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 230 | (A) | 764 (B) |
| Prevalence Index = B/A = | 3.3 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-E18-28_UPL-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 18 | 5YR 4/4 | 100 | | | | | Loam | Compacted |
| | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☐ No ☑

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Dry Fork, Pittsylvania … **Sampling Date:** 2018-June-23
**Applicant/Owner:** NextEra **State:** Virginia **Sampling Point:** W-D18-27_PFO-1
**Investigator(s):** Beth Clements, JSF, JMF, EN **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Toe **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 3
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.6759744 **Long:** -79.4913489 **Datum:** WGS84
**Soil Map Unit Name:** CHENNEBY-TOCCOA complex **NWI classification:**
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PFO.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
_✓_ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | |
| Water Table Present? | Yes ____ No _✓_ | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 4 |

**Wetland Hydrology Present?** Yes _✓_ No ____

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

**Remarks:**

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

Sampling Point: W-D18-27_PFO-1

| Tree Stratum (Plot size: 20x10) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer rubrum* | 35 | Yes | FAC |
| 2. *Liquidambar styraciflua* | 30 | Yes | FAC |
| 3. *Carpinus caroliniana* | 5 | No | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 70 | = Total Cover | |
| 50% of total cover: 35 | 20% of total cover: | 14 | |
| **Sapling/Shrub Stratum (Plot size: 10x5)** | | | |
| 1. *Lindera benzoin* | 5 | Yes | FAC |
| 2. *Ligustrum sinense* | 2 | Yes | FACU |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 7 | = Total Cover | |
| 50% of total cover: 3.5 | 20% of total cover: | 1.4 | |
| **Herb Stratum (Plot size: )** | | | |
| 1. *Carex frankii* | 25 | Yes | OBL |
| 2. *Leersia oryzoides* | 15 | Yes | OBL |
| 3. *Microstegium vimineum* | 10 | No | FAC |
| 4. *Impatiens capensis* | 3 | No | FACW |
| 5. *Dichanthelium clandestinum* | 3 | No | FAC |
| 6. *Persicaria sagittata* | 2 | No | OBL |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 58 | = Total Cover | |
| 50% of total cover: 29 | 20% of total cover: | 11.6 | |
| **Woody Vine Stratum (Plot size: )** | | | |
| 1. *Toxicodendron radicans* | 5 | Yes | FAC |
| 2. *Smilax rotundifolia* | 2 | Yes | FAC |
| 3. *Lonicera japonica* | 1 | No | FACU |
| 4. | | | |
| 5. | | | |
| | 8 | = Total Cover | |
| 50% of total cover: 4 | 20% of total cover: | 1.6 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 7 | (A) |
| Total Number of Dominant Species Across All Strata: | 8 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 87.5 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 42 | x 1 = | 42 |
| FACW species | 3 | x 2 = | 6 |
| FAC species | 95 | x 3 = | 285 |
| FACU species | 3 | x 4 = | 12 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 143 | (A) | 345 (B) |
| Prevalence Index = B/A = | 2.4 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-D18-27_PFO-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 2 | 10YR 3/2 | 97 | 10YR 4/6 | 3 | C | PL | Silt Loam | |
| 2 - 10 | 2.5Y 5/2 | 95 | 10YR 5/6 | 5 | C | M | Clay Loam | |
| 10 - 18 | 2.5Y 4/2 | 93 | 10YR 5/6 | 7 | C | M | Clay Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Dry Fork, Pittsylvania … **Sampling Date:** 2018-June-23
**Applicant/Owner:** NextEra **State:** Virginia **Sampling Point:** W-D18-27_UPL-1
**Investigator(s):** Beth Clements, JSF, JMF, EN **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Hillslope **Local relief (concave, convex, none):** Concave **Slope (%):** 15 to 20
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.6760404 **Long:** -79.4910582 **Datum:** WGS84
**Soil Map Unit Name:** 8A: Chenneby-toccoa complex 0-2% slopes **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes ____ No _✓_ | | |
| Wetland Hydrology Present? | Yes ____ No _✓_ | **Is the Sampled Area within a Wetland?** | **Yes ____ No _✓_** |

**Remarks:**

Covertype is UPL. Area is upland, not all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | |
| Water Table Present? | Yes ____ No _✓_ | Depth (inches): | **Wetland Hydrology Present?** Yes ____ No _✓_ |
| Saturation Present? (includes capillary fringe) | Yes ____ No _✓_ | Depth (inches): | |

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

**Remarks:**

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

Sampling Point: W-D18-27_UPL-1

| Tree Stratum (Plot size: 20x10) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Liriodendron tulipifera* | 30 | Yes | FACU |
| 2. *Acer rubrum* | 20 | Yes | FAC |
| 3. *Acer negundo* | 15 | Yes | FAC |
| 4. *Liquidambar styraciflua* | 10 | No | FAC |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 75 | = Total Cover | |
| 50% of total cover: 37.5 | 20% of total cover: | 15 | |
| **Sapling/Shrub Stratum (Plot size: 10x5)** | | | |
| 1. *Ulmus americana* | 15 | Yes | FACW |
| 2. *Liquidambar styraciflua* | 15 | Yes | FAC |
| 3. *Acer negundo* | 10 | Yes | FAC |
| 4. *Acer rubrum* | 10 | Yes | FAC |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 50 | = Total Cover | |
| 50% of total cover: 25 | 20% of total cover: | 10 | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Lonicera japonica* | 20 | Yes | FACU |
| 2. *Lindera benzoin* | 15 | Yes | FAC |
| 3. *Parthenocissus quinquefolia* | 5 | No | FACU |
| 4. *Rubus argutus* | 5 | No | FACU |
| 5. *Ulmus americana* | 5 | No | FACW |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 50 | = Total Cover | |
| 50% of total cover: 25 | 20% of total cover: | 10 | |
| **Woody Vine Stratum (Plot size: 20'x10')** | | | |
| 1. *Lonicera japonica* | 5 | Yes | FACU |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 5 | = Total Cover | |
| 50% of total cover: 2.5 | 20% of total cover: | 1 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 7 | (A) |
| Total Number of Dominant Species Across All Strata: | 10 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 70 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 20 | x 2 = | 40 |
| FAC species | 95 | x 3 = | 285 |
| FACU species | 65 | x 4 = | 260 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 180 | (A) | 585 (B) |
| Prevalence Index = B/A = | 3.3 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-D18-27_UPL-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 3 | 7.5YR 3/2 | 100 | | | | | Sandy Loam | |
| 3 - 8 | 10YR 5/4 | 95 | 2.5YR 4/8 | 5 | C | M | Sandy Loam | |
| 8 - 18 | 10YR 5/4 | 60 | 10YR 4/4 | 40 | D | M | Sandy Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☐ No ☑

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-June-23
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-D18-29_PFO-1
**Investigator(s):** Jen Feese, E N, S B, JFavs **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Swale **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 3
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.6764446 **Long:** -79.4914305 **Datum:** WGS84
**Soil Map Unit Name:** 8A **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PFO. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
_✓_ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
_✓_ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | | |
| Water Table Present? | Yes _✓_ No ____ | Depth (inches): | 12 | **Wetland Hydrology Present?** Yes _✓_ No ____ |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 4 | |

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

**Remarks:**

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

Sampling Point: W-D18-29_PFO-1

| Tree Stratum (Plot size: 5' × 40') | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer rubrum* | 50 | Yes | FAC |
| 2. *Acer negundo* | 5 | No | FAC |
| 3. *Liquidambar styraciflua* | 5 | No | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 60 | = Total Cover | |
| 50% of total cover: 30 | 20% of total cover: | 12 | |
| **Sapling/Shrub Stratum (Plot size: 5' x 40')** | | | |
| 1. *Acer rubrum* | 5 | Yes | FAC |
| 2. *Lindera melissifolia* | 5 | Yes | OBL |
| 3. *Carpinus caroliniana* | 5 | Yes | FAC |
| 4. *Ligustrum sinense* | 3 | No | FACU |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 18 | = Total Cover | |
| 50% of total cover: 9 | 20% of total cover: | 3.6 | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Dichanthelium clandestinum* | 20 | Yes | FAC |
| 2. *Impatiens capensis* | 20 | Yes | FACW |
| 3. *Leersia oryzoides* | 15 | Yes | OBL |
| 4. *Toxicodendron radicans* | 10 | No | FAC |
| 5. *Smilax glauca* | 5 | No | FACU |
| 6. *Lonicera japonica* | 5 | No | FACU |
| 7. *Carex lurida* | 5 | No | OBL |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 80 | = Total Cover | |
| 50% of total cover: 40 | 20% of total cover: | 16 | |
| **Woody Vine Stratum (Plot size: 5' x 40')** | | | |
| 1. *Toxicodendron radicans* | 20 | Yes | FAC |
| 2. *Smilax glauca* | 15 | Yes | FACU |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 35 | = Total Cover | |
| 50% of total cover: 17.5 | 20% of total cover: | 7 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 8 | (A) |
| Total Number of Dominant Species Across All Strata: | 9 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 88.9 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 25 | x 1 = | 25 |
| FACW species | 20 | x 2 = | 40 |
| FAC species | 120 | x 3 = | 360 |
| FACU species | 28 | x 4 = | 112 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 193 | (A) | 537 (B) |

Prevalence Index = B/A = 2.8

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

__✓__ 2 - Dominance Test is >50%

__✓__ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-D18-29_PFO-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 7 | 10YR 3/2 | 97 | 2.5YR 4/6 | 3 | C | PL | Loam | |
| 7 - 18 | 2.5Y 5/2 | 97 | 10YR 5/6 | 3 | C | M | Sandy Loam | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Dry Fork, Pittsylvania … **Sampling Date:** 2018-June-23
**Applicant/Owner:** NextEra **State:** Virginia **Sampling Point:** W-D18-29_UPL-1
**Investigator(s):** Jen Feese, B C, S B, JFavs **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Hillslope **Local relief (concave, convex, none):** slop **Slope (%):** 10 to 20
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.6765893 **Long:** -79.491322 **Datum:** WGS84
**Soil Map Unit Name:** **NWI classification:**
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes ____ No _✓_ | | |
| Wetland Hydrology Present? | Yes ____ No _✓_ | **Is the Sampled Area within a Wetland?** | **Yes ____ No _✓_** |

**Remarks:**

Covertype is UPL. Area is upland, not all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | |
| Water Table Present? | Yes ____ No _✓_ | Depth (inches): | **Wetland Hydrology Present?** Yes ____ No _✓_ |
| Saturation Present? (includes capillary fringe) | Yes ____ No _✓_ | Depth (inches): | |

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

**Remarks:**

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

Sampling Point: W-D18-29_UPL-1

| Tree Stratum (Plot size: 5' × 40') | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Liriodendron tulipifera* | 50 | Yes | FACU |
| 2. *Acer rubrum* | 30 | Yes | FAC |
| 3. *Liquidambar styraciflua* | 15 | No | FAC |
| 4. *Quercus alba* | 10 | No | FACU |
| 5. *Fraxinus pennsylvanica* | 5 | No | FACW |
| 6. | | | |
| 7. | | | |
| | 110 | = Total Cover | |
| 50% of total cover: 55 | 20% of total cover: | 22 | |

| Sapling/Shrub Stratum (Plot size: 5' x 40') | | | |
|---|---|---|---|
| 1. *Lindera melissifolia* | 90 | Yes | OBL |
| 2. *Liquidambar styraciflua* | 15 | No | FAC |
| 3. *Carpinus caroliniana* | 5 | No | FAC |
| 4. *Ligustrum sinense* | 2 | No | FACU |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 112 | = Total Cover | |
| 50% of total cover: 56 | 20% of total cover: | 22.4 | |

| Herb Stratum (Plot size: 5) | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |

| Woody Vine Stratum (Plot size: 5' x 40') | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 2 | (A) |
| Total Number of Dominant Species Across All Strata: | 3 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 66.7 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 90 | x 1 = | 90 |
| FACW species | 5 | x 2 = | 10 |
| FAC species | 65 | x 3 = | 195 |
| FACU species | 62 | x 4 = | 248 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 222 | (A) | 543 (B) |

Prevalence Index = B/A = 2.4

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC).

SOIL

Sampling Point: W-D18-29_UPL-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 3 | 10YR 3/4 | 100 | | | | | Loamy Sand | |
| 3 - 12 | 10YR 5/6 | 100 | | | | | Sandy Loam | |
| 12 - 12 | | | | | | | | rock layer |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock
Depth (inches): 12

**Hydric Soil Present?** Yes ☐ No ☑

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Dry Fork, Pittsylvania … **Sampling Date:** 2018-Aug-01
**Applicant/Owner:** NextEra **State:** VA **Sampling Point:** W-F18-62_PEM-1
**Investigator(s):** Beth Clements, JDF, AJW **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Channel **Local relief (concave, convex, none):** Concave **Slope (%):** 0 to 1
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.6718467 **Long:** -79.4988711 **Datum:** WGS84
**Soil Map Unit Name:** 8A **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PEM. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
_✓_ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | |
| Water Table Present? | Yes ____ No _✓_ | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 0 |

**Wetland Hydrology Present?** Yes _✓_ No ____

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

**Remarks:**

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

Sampling Point: W-F18-62_PEM-1

| Tree Stratum (Plot size: 10x15) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |
| **Sapling/Shrub Stratum (Plot size: 10x5)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Murdannia keisak* | 70 | Yes | OBL |
| 2. *Symphyotrichum puniceum* | 15 | No | OBL |
| 3. *Cicuta maculata* | 15 | No | OBL |
| 4. *Persicaria sagittata* | 10 | No | OBL |
| 5. *Boehmeria cylindrica* | 10 | No | FACW |
| 6. *Vernonia noveboracensis* | 5 | No | FACW |
| 7. *Leersia oryzoides* | 5 | No | OBL |
| 8. *Cyperus esculentus* | 2 | No | FACW |
| 9. *Hypericum mutilum* | 1 | No | FACW |
| 10. | | | |
| 11. | | | |
| | 133 = Total Cover | | |
| 50% of total cover: 66.5 | 20% of total cover: 26.6 | | |
| **Woody Vine Stratum (Plot size: 10x15)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 1 | (A) |
| Total Number of Dominant Species Across All Strata: | 1 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 100 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 115 | x 1 = | 115 |
| FACW species | 18 | x 2 = | 36 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 133 | (A) | 151 (B) |

Prevalence Index = B/A = 1.1

**Hydrophytic Vegetation Indicators:**

✓ 1- Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-62_PEM-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 4 | 10YR 4/2 | 70 | 10YR 3/6 | 30 | C | M/PL | Sandy Loam | |
| 4 - 12 | 10YR 6/3 | 55 | 10YR 5/1 | 20 | D | M | Sandy Clay Loam | |
| 4 - 12 | | | 7.5YR 3/4 | 5 | C | M/PL | | |
| 4 - 12 | | | 5YR 4/4 | 20 | C | M | | |
| 12 - 18 | 2.5Y 6/3 | 60 | 7.5YR 5/6 | 30 | C | M | Sandy Clay Loam | |
| 12 - 18 | | | 5YR 4/4 | 10 | C | M | | |
| | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Dry Fork, Pittsylvania … **Sampling Date:** 2018-Aug-01
**Applicant/Owner:** NextEra **State:** VA **Sampling Point:** W-F18-62_PFO-1
**Investigator(s):** Beth Clements, JDF, AJW **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Island **Local relief (concave, convex, none):** Convex **Slope (%):** 1 to 3
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.672 **Long:** -79.4987844 **Datum:** WGS84
**Soil Map Unit Name:** 8A **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PFO. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | |
| Water Table Present? | Yes ____ No _✓_ | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 0 |

**Wetland Hydrology Present?** Yes _✓_ No ____

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

**Remarks:**

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

Sampling Point: W-F18-62_PFO-1

| Tree Stratum (Plot size: 15x5) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |
| **Sapling/Shrub Stratum (Plot size: 10x5)** | | | |
| 1. *Salix nigra* | 5 | Yes | OBL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 5 | = Total Cover | |
| 50% of total cover: 2.5 | 20% of total cover: | 1 | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Impatiens capensis* | 60 | Yes | FACW |
| 2. *Amphicarpaea bracteata* | 15 | No | FAC |
| 3. *Salix nigra* | 10 | No | OBL |
| 4. *Persicaria maculosa* | 10 | No | FACW |
| 5. *Dichanthelium clandestinum* | 5 | No | FAC |
| 6. *Microstegium vimineum* | 2 | No | FAC |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 102 | = Total Cover | |
| 50% of total cover: 51 | 20% of total cover: | 20.400000000000006 | |
| **Woody Vine Stratum (Plot size: 15x5)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 2 | (A) |
| Total Number of Dominant Species Across All Strata: | 2 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 100 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 15 | x 1 = | 15 |
| FACW species | 70 | x 2 = | 140 |
| FAC species | 22 | x 3 = | 66 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 107 | (A) | 221 (B) |

Prevalence Index = B/A = 2.1

**Hydrophytic Vegetation Indicators:**

✓ 1- Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-62_PFO-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 8 | 7.5YR 4/3 | 85 | 7.5YR 4/6 | 15 | C | M | Loamy Sand | |
| | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
✓ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock
Depth (inches): 8

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Dry Fork, Pittsylvania … **Sampling Date:** 2018-Aug-01
**Applicant/Owner:** NextEra **State:** VA **Sampling Point:** W-F18-62_UPL-1
**Investigator(s):** Beth Clements, JDF, AJW **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Flat **Local relief (concave, convex, none):** None **Slope (%):** 0 to 1
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.6717451 **Long:** -79.4989038 **Datum:** WGS84
**Soil Map Unit Name:** 8A **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ No _✓_ | | |
| Hydric Soil Present? | Yes ____ No _✓_ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes ____ No _✓_** |

**Remarks:**

Covertype is UPL. Area is upland, not all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

- _✓_ Surface Water (A1)
- _✓_ High Water Table (A2)
- _✓_ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes _✓_ No ____ | Depth (inches): | 1 |
| Water Table Present? | Yes _✓_ No ____ | Depth (inches): | 8 |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 0 |

**Wetland Hydrology Present?** Yes _✓_ No ____

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

**Remarks:**

Area received rain evening prior to field work. Some standing water observed in plot at 1" in depth..

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

Sampling Point: W-F18-62_UPL-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |
| **Sapling/Shrub Stratum (Plot size: 15)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Plantago pusilla* | 10 | Yes | UPL |
| 2. *Lespedeza cuneata* | 10 | Yes | FACU |
| 3. *Poaceae* | | No | NI |
| 4. *Juncus effusus* | 5 | No | FACW |
| 5. *Juncus tenuis* | 5 | No | FAC |
| 6. *Trifolium repens* | 2 | No | FACU |
| 7. *Trifolium pratense* | 2 | No | FACU |
| 8. *Carex sp.* | 1 | No | NI |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 35 = Total Cover | | |
| 50% of total cover: 17.5 | 20% of total cover: 7 | | |
| **Woody Vine Stratum (Plot size: 30)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 0 | (A) |
| Total Number of Dominant Species Across All Strata: | 2 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 0 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 5 | x 2 = | 10 |
| FAC species | 5 | x 3 = | 15 |
| FACU species | 14 | x 4 = | 56 |
| UPL species | 10 | x 5 = | 50 |
| Column Totals | 34 | (A) | 131 (B) |

Prevalence Index = B/A = 3.9

**Hydrophytic Vegetation Indicators:**

_____ 1- Rapid Test for Hydrophytic Vegetation

_____ 2 - Dominance Test is > 50%

_____ 3 - Prevalence Index is ≤ 3.0[1]

_____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☐ No ☑

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-62_UPL-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 1 | 10YR 5/4 | 60 | 5YR 5/8 | 30 | C | M | Sandy Clay Loam | |
| 0 - 1 | | | 5YR 4/6 | 10 | C | M | | |
| 1 - 12 | 5YR 5/6 | 80 | 10YR 4/2 | 5 | D | M | Clay Loam | |
| 1 - 12 | | | 2.5YR 4/6 | 5 | C | M | | |
| 1 - 12 | | | 2.5Y 6/8 | 10 | C | M | | |
| 12 - 18 | 2.5Y 5/3 | 85 | 5YR 4/6 | 15 | C | M/PL | Clay | |
| | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☐ No ☑

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-July-16
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-E18-45_PEM-1
**Investigator(s):** Troy Savage, MS JB **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Perennial Stream **Local relief (concave, convex, none):** None **Slope (%):** 5 to 10
**Subregion (LRR or MLRA):** **Lat:** 36.6681515 **Long:** -79.5066422 **Datum:** WGS84
**Soil Map Unit Name:** 9c **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PEM. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
_✓_ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
_✓_ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
_✓_ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
_✓_ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | | |
| Water Table Present? | Yes _✓_ No ____ | Depth (inches): | 12 | **Wetland Hydrology Present?** Yes _✓_ No ____ |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 6 | |

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

**Remarks:**

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

Sampling Point: W-E18-45_PEM-1

| Tree Stratum (Plot size: 10) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |

| Sapling/Shrub Stratum (Plot size: 10) | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |

| Herb Stratum (Plot size: 5) | | | |
|---|---|---|---|
| 1. *Microstegium vimineum* | 35 | Yes | FAC |
| 2. *Elymus virginicus* | 25 | Yes | FACW |
| 3. *Dichanthelium clandestinum* | 10 | No | FAC |
| 4. *Impatiens capensis* | 10 | No | FACW |
| 5. *Murdannia keisak* | 8 | No | OBL |
| 6. *Hypericum canadense* | 5 | No | FACW |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 93 = Total Cover | | |
| 50% of total cover: 46.5 | 20% of total cover: 18.6 | | |

| Woody Vine Stratum (Plot size: 10) | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 2 | (A) |
| Total Number of Dominant Species Across All Strata: | 2 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 100 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 8 | x 1 = | 8 |
| FACW species | 40 | x 2 = | 80 |
| FAC species | 45 | x 3 = | 135 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 93 | (A) | 223 (B) |
| Prevalence Index = B/A = | 2.4 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

small 10 foot by 10 ft area.

SOIL

Sampling Point: W-E18-45_PEM-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 4 | 7.5YR 5/4 | 100 | | | | | Sand | |
| 4 - 15 | 10YR 5/2 | 80 | 7.5YR 4/3 | 20 | C | PL | Sandy Loam | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
__✓__ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock rubble
Depth (inches): 15

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Refusal due to coarse fragments.

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** **Sampling Date:** 2018-July-16
**Applicant/Owner:** NextEra **State:** **Sampling Point:** W-E18-45_UPL-1
**Investigator(s):** Troy Savage, MS JB **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Hillslope **Local relief (concave, convex, none):** Convex **Slope (%):** 5 to 10
**Subregion (LRR or MLRA):** **Lat:** 36.6681711 **Long:** -79.5067496 **Datum:** WGS84
**Soil Map Unit Name:** 9c **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ No ✓ | | |
| Hydric Soil Present? | Yes ____ No ✓ | | |
| Wetland Hydrology Present? | Yes ____ No ✓ | **Is the Sampled Area within a Wetland?** | **Yes ____ No ✓** |

**Remarks:**

Covertype is UPL. Area is upland, not all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No ✓ | Depth (inches): | |
| Water Table Present? | Yes ____ No ✓ | Depth (inches): | **Wetland Hydrology Present?** Yes ____ No ✓ |
| Saturation Present? (includes capillary fringe) | Yes ____ No ✓ | Depth (inches): | |

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

**Remarks:**

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

Sampling Point: W-E18-45_UPL-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Carya cordiformis* | 40 | Yes | FACU |
| 2. *Liriodendron tulipifera* | 25 | Yes | FACU |
| 3. *Juniperus virginiana* | 15 | No | FACU |
| 4. *Acer rubrum* | 15 | No | FAC |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 95 | = Total Cover | |
| 50% of total cover: 47.5 | 20% of total cover: | 19 | |

| Sapling/Shrub Stratum (Plot size: 15) | | | |
|---|---|---|---|
| 1. *Juniperus virginiana* | 10 | Yes | FACU |
| 2. *Liquidambar styraciflua* | 8 | Yes | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 18 | = Total Cover | |
| 50% of total cover: 9 | 20% of total cover: | 3.6 | |

| Herb Stratum (Plot size: 5) | | | |
|---|---|---|---|
| 1. *Liquidambar styraciflua* | 15 | Yes | FAC |
| 2. *Lonicera japonica* | 10 | Yes | FACU |
| 3. *Microstegium vimineum* | 8 | No | FAC |
| 4. *Panicum amarum* | 5 | No | FACU |
| 5. *Polystichum acrostichoides* | 4 | No | FACU |
| 6. *Quercus rubra* | 3 | No | FACU |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 45 | = Total Cover | |
| 50% of total cover: 22.5 | 20% of total cover: | 9 | |

| Woody Vine Stratum (Plot size: 30) | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 2 | (A) |
| Total Number of Dominant Species Across All Strata: | 6 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 33.3 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 46 | x 3 = | 138 |
| FACU species | 112 | x 4 = | 448 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 158 | (A) | 586 (B) |
| Prevalence Index = B/A = | 3.7 | | |

**Hydrophytic Vegetation Indicators:**

_____ 1- Rapid Test for Hydrophytic Vegetation

_____ 2 - Dominance Test is > 50%

_____ 3 - Prevalence Index is ≤ 3.0[1]

_____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☐ No ☑

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-E18-45_UPL-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 13 | 2.5Y 5/4 | 100 | | | | | Sandy Loam | Cemented |
| | | | | | | | | Cemented |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Stone
Depth (inches): 13

**Hydric Soil Present?** Yes ☐ No ☑

**Remarks:**

refusal 13 inches.

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Dry Fork, Pittsylvania … **Sampling Date:** 2018-July-25
**Applicant/Owner:** NextEra **State:** Virginia **Sampling Point:** W-A18-189_PFO-1
**Investigator(s):** Laura Giese, Simon King **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Back slope **Local relief (concave, convex, none):** Concave **Slope (%):** 2 to 5
**Subregion (LRR or MLRA):** **Lat:** 36.6613403 **Long:** -79.5116199 **Datum:** WGS84
**Soil Map Unit Name:** **NWI classification:**
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PFO. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
_✓_ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
_✓_ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
_✓_ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
_✓_ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
_✓_ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | | |
| Water Table Present? | Yes _✓_ No ____ | Depth (inches): | 4 | **Wetland Hydrology Present?** Yes _✓_ No ____ |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 0 | |

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

**Remarks:**

The criterion for wetland hydrology is met.

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

Sampling Point: W-A18-189_PFO-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer rubrum* | 25 | Yes | FAC |
| 2. *Fraxinus pennsylvanica* | 15 | Yes | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 40 | = Total Cover | |
| 50% of total cover: 20 | 20% of total cover: | 8 | |
| **Sapling/Shrub Stratum (Plot size: 15)** | | | |
| 1. *Carpinus caroliniana* | 15 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 15 | = Total Cover | |
| 50% of total cover: 7.5 | 20% of total cover: | 3 | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Carex stricta* | 35 | Yes | OBL |
| 2. *Leersia oryzoides* | 10 | No | OBL |
| 3. *Solidago rugosa* | 5 | No | FAC |
| 4. *Sium suave* | 5 | No | OBL |
| 5. *Osmundastrum cinnamomeum* | 5 | No | FACW |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 60 | = Total Cover | |
| 50% of total cover: 30 | 20% of total cover: | 12 | |
| **Woody Vine Stratum (Plot size: 30)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 4 | (A) |
| Total Number of Dominant Species Across All Strata: | 4 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 100 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 50 | x 1 = | 50 |
| FACW species | 20 | x 2 = | 40 |
| FAC species | 45 | x 3 = | 135 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 115 | (A) | 225 (B) |

Prevalence Index = B/A = 2

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC).

SOIL

Sampling Point: W-A18-189_PFO-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 13 | 10YR 3/2 | 95 | 10YR 4/6 | 5 | C | M | Mucky Peat | |
| 13 - 20 | 10YR 4/2 | 100 | | | | | Loamy Sand | |
| 20 - 24 | 10YR 5/1 | 98 | 10YR 5/8 | 2 | C | M | Loamy Sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
_✓ Histic Epipedon (A2)
__ Black Histic (A3)
_✓ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
_✓ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

The criterion for hydric soil is met.

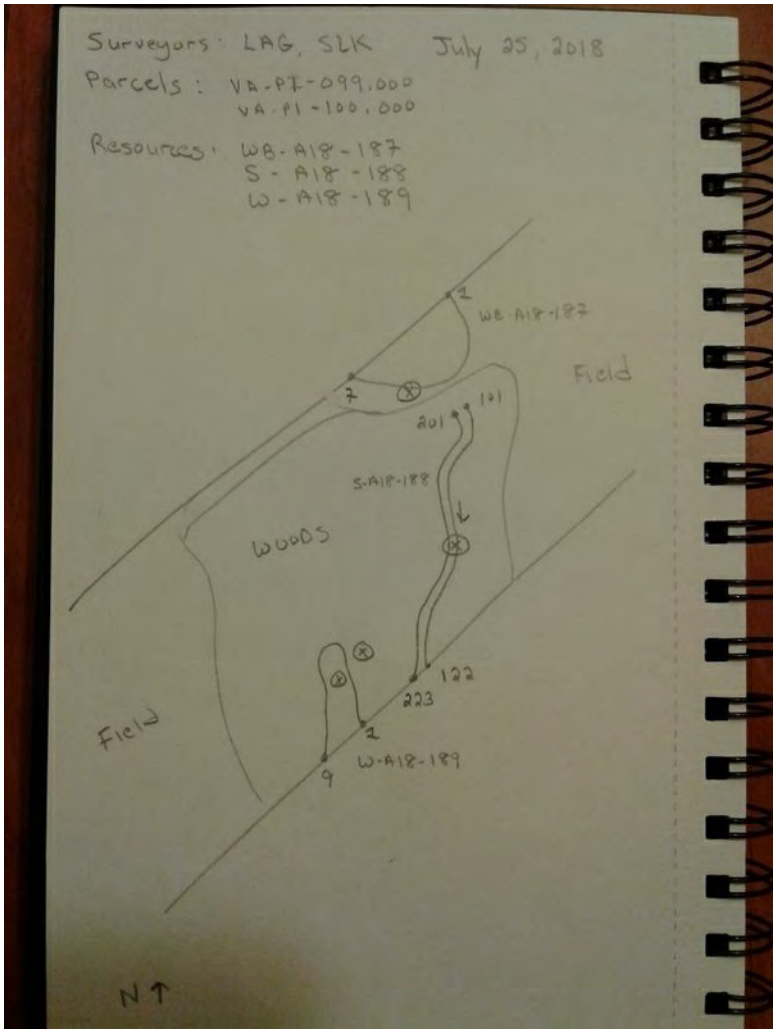
Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

**Photo of Sample Plot Sketch**



## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Dry Fork, Pittsylvania … **Sampling Date:** 2018-July-25

**Applicant/Owner:** NextEra **State:** Virginia **Sampling Point:** W-A18-189_UPL-1

**Investigator(s):** Laura Giese, Simon King **Section, Township, Range:**

**Landform (hillslope, terrace, etc.):** Back slope **Local relief (concave, convex, none):** Convex **Slope (%):** 2 to 5

**Subregion (LRR or MLRA):** **Lat:** 36.6614508 **Long:** -79.5115789 **Datum:** WGS84

**Soil Map Unit Name:** **NWI classification:**

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____

Are Vegetation ____, Soil ____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes ____ No _✓_ | | |
| Wetland Hydrology Present? | Yes ____ No _✓_ | **Is the Sampled Area within a Wetland?** | **Yes ____ No _✓_** |

**Remarks:**

Covertype is UPL. Area is upland based on absence of hydric soils and wetland hydrology.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | |
| Water Table Present? | Yes ____ No _✓_ | Depth (inches): | **Wetland Hydrology Present?** Yes ____ No _✓_ |
| Saturation Present? (includes capillary fringe) | Yes ____ No _✓_ | Depth (inches): | |

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

**Remarks:**

The criterion for wetland hydrology is not met.

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

Sampling Point: W-A18-189_UPL-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Carpinus caroliniana* | 60 | Yes | FAC |
| 2. *Liriodendron tulipifera* | 20 | No | FACU |
| 3. *Diospyros virginiana* | 15 | No | FAC |
| 4. *Liquidambar styraciflua* | 10 | No | FAC |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 105 | = Total Cover | |
| 50% of total cover: 52.5 | 20% of total cover: | 21 | |

| Sapling/Shrub Stratum (Plot size: 15) | | | |
|---|---|---|---|
| 1. *Carpinus caroliniana* | 10 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 10 | = Total Cover | |
| 50% of total cover: 5 | 20% of total cover: | 2 | |

| Herb Stratum (Plot size: 5) | | | |
|---|---|---|---|
| 1. *Prunus serotina* | 10 | Yes | FACU |
| 2. *Euonymus americanus* | 10 | Yes | FAC |
| 3. *Lonicera japonica* | 10 | Yes | FACU |
| 4. *Parthenocissus quinquefolia* | 5 | No | FACU |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 35 | = Total Cover | |
| 50% of total cover: 17.5 | 20% of total cover: | 7 | |

| Woody Vine Stratum (Plot size: 30) | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 3 | (A) |
| Total Number of Dominant Species Across All Strata: | 5 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 60 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 105 | x 3 = | 315 |
| FACU species | 45 | x 4 = | 180 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 150 | (A) | 495 (B) |
| Prevalence Index = B/A = | 3.3 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

__✓__ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC).

SOIL

Sampling Point: W-A18-189_UPL-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 3 | 10YR 3/2 | 100 | | | | | Loam | |
| 3 - 14 | 10YR 4/2 | 100 | | | | | Loam | |
| 14 - 20 | 2.5Y 5/3 | 75 | 7.5YR 5/8 | 20 | C | M | Sandy Loam | |
| 14 - 20 | | | 2.5Y 6/1 | 5 | D | M | Sandy Loam | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☐ No ☑

**Remarks:**

The criterion for hydric soil is not met.

Photo of Sample Plot North

Photo of Sample Plot East

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Chatham-Blairs, Pittsy... **Sampling Date:** 2018-July-28
**Applicant/Owner:** NextEra **State:** Virginia **Sampling Point:** W-F18-59_PFO-1
**Investigator(s):** Troy Savage, AJW CS **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Seep **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 3
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.6575699 **Long:** -79.5164701 **Datum:** WGS84
**Soil Map Unit Name:** 23C **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PFO. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
_✓_ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
_✓_ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | |
| Water Table Present? | Yes ____ No _✓_ | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 0 |

**Wetland Hydrology Present?** Yes _✓_ No ____

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

**Remarks:**

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

Sampling Point: W-F18-59_PFO-1

| Tree Stratum (Plot size: 20x10) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Betula nigra* | 40 | Yes | FACW |
| 2. *Liquidambar styraciflua* | 15 | Yes | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 55 | = Total Cover | |
| 50% of total cover: 27.5 | 20% of total cover: | 11 | |
| **Sapling/Shrub Stratum (Plot size: 10x5)** | | | |
| 1. *Liquidambar styraciflua* | 40 | Yes | FAC |
| 2. *Acer rubrum* | 2 | No | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 42 | = Total Cover | |
| 50% of total cover: 21 | 20% of total cover: | 8.4 | |
| **Herb Stratum (Plot size: 5')** | | | |
| 1. *Microstegium vimineum* | 65 | Yes | FAC |
| 2. *Persicaria hydropiperoides* | 20 | Yes | OBL |
| 3. *Boehmeria cylindrica* | 20 | Yes | FACW |
| 4. *Cicuta maculata* | 10 | No | OBL |
| 5. *Hypericum mutilum* | 10 | No | FACW |
| 6. *Betula nigra* | 8 | No | FACW |
| 7. *Toxicodendron radicans* | 5 | No | FAC |
| 8. *Juncus effusus* | 5 | No | FACW |
| 9. *Impatiens capensis* | 2 | No | FACW |
| 10. *Carex tribuloides* | 2 | No | FACW |
| 11. | | | |
| | 147 | = Total Cover | |
| 50% of total cover: 73.5 | 20% of total cover: | 29.4 | |
| **Woody Vine Stratum (Plot size: 20x10)** | | | |
| 1. *Smilax rotundifolia* | 10 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 10 | = Total Cover | |
| 50% of total cover: 5 | 20% of total cover: | 2 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 7 | (A) |
| Total Number of Dominant Species Across All Strata: | 7 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 100 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 30 | x 1 = | 30 |
| FACW species | 87 | x 2 = | 174 |
| FAC species | 137 | x 3 = | 411 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 254 | (A) | 615 (B) |
| Prevalence Index = B/A = | 2.4 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-59_PFO-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 2 | 2.5Y 4/2 | 97 | 10YR 3/6 | 3 | C | M/PL | Silt Loam | |
| 2 - 4 | 2.5Y 6/2 | 90 | 7.5YR 5/8 | 10 | C | M/PL | Silt Loam | |
| 4 - 6 | 10YR 5/2 | 82 | 10YR 5/8 | 10 | C | M/PL | Silt Loam | |
| 4 - 6 | | | 10YR 6/2 | 8 | D | M | | |
| 6 - 18 | 10Y 5/1 | 75 | 10YR 4/4 | 10 | C | M | Silt Loam | |
| 6 - 18 | | | 10YR 4/6 | 5 | C | M | | |
| 6 - 18 | | | 10YR 5/6 | 10 | C | M | | |
| | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Chatham-Blairs, Pittsy... **Sampling Date:** 2018-July-28
**Applicant/Owner:** NextEra **State:** Virginia **Sampling Point:** W-F18-59_UPL-1
**Investigator(s):** Troy Savage, AJW CS **Section, Township, Range:**
**Landform (hillslope, terrace, etc.):** Flood Plain **Local relief (concave, convex, none):** Concave **Slope (%):** 0 to 1
**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.6575074 **Long:** -79.5166165 **Datum:** WGS84
**Soil Map Unit Name:** 23C **NWI classification:** None
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ✓ No ____ | | |
| Hydric Soil Present? | Yes ____ No ✓ | | |
| Wetland Hydrology Present? | Yes ____ No ✓ | **Is the Sampled Area within a Wetland?** | **Yes ____ No ✓** |

**Remarks:**

Covertype is UPL.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No ✓ | Depth (inches): | |
| Water Table Present? | Yes ____ No ✓ | Depth (inches): | **Wetland Hydrology Present?** Yes ____ No ✓ |
| Saturation Present? (includes capillary fringe) | Yes ____ No ✓ | Depth (inches): | |

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

**Remarks:**

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

Sampling Point: W-F18-59_UPL-1

| Tree Stratum (Plot size: 30') | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Liquidambar styraciflua* | 40 | Yes | FAC |
| 2. *Platanus occidentalis* | 30 | Yes | FACW |
| 3. *Carpinus caroliniana* | 30 | Yes | FAC |
| 4. *Quercus palustris* | 10 | No | FACW |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 110 | = Total Cover | |
| 50% of total cover: 55 | 20% of total cover: | 22 | |
| **Sapling/Shrub Stratum (Plot size: 15')** | | | |
| 1. *Acer rubrum* | 15 | Yes | FAC |
| 2. *Liquidambar styraciflua* | 5 | Yes | FAC |
| 3. *Ligustrum sinense* | 2 | No | FACU |
| 4. *Betula nigra* | 2 | No | FACW |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 24 | = Total Cover | |
| 50% of total cover: 12 | 20% of total cover: | 4.8 | |
| **Herb Stratum (Plot size: 5')** | | | |
| 1. *Rubus allegheniensis* | 40 | Yes | FACU |
| 2. *Microstegium vimineum* | 30 | Yes | FAC |
| 3. *Solanum americanum* | 15 | No | FACU |
| 4. *Ligustrum sinense* | 5 | No | FACU |
| 5. *Betula nigra* | 5 | No | FACW |
| 6. *Lonicera japonica* | 2 | No | FACU |
| 7. *Parthenocissus quinquefolia* | 2 | No | FACU |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 99 | = Total Cover | |
| 50% of total cover: 49.5 | 20% of total cover: | 19.8 | |
| **Woody Vine Stratum (Plot size: 30')** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: | 0 | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 6 | (A) |
| Total Number of Dominant Species Across All Strata: | 7 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 85.7 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 47 | x 2 = | 94 |
| FAC species | 120 | x 3 = | 360 |
| FACU species | 66 | x 4 = | 264 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 233 | (A) | 718 (B) |
| Prevalence Index = B/A = | 3.1 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

SOIL

Sampling Point: W-F18-59_UPL-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 1 | 10YR 3/3 | 100 | | | | | Silt Loam | |
| 1 - 9 | 10YR 5/3 | 98 | 10YR 6/2 | 2 | D | M | Silty Clay Loam | |
| 9 - 18 | 10YR 4/6 | 90 | 10YR 6/2 | 8 | D | M | Silty Clay Loam | |
| 9 - 18 | 10YR 4/6 | 90 | 10YR 6/8 | 2 | C | M | Silty Clay Loam | |
| | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☐ No ☑

**Remarks:**

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Danville, Pittsylvania C... **Sampling Date:** 2018-July-26

**Applicant/Owner:** NextEra **State:** Virginia **Sampling Point:** W-A18-191_PSS-1

**Investigator(s):** Laura Giese, Simon King **Section, Township, Range:**

**Landform (hillslope, terrace, etc.):** Swale **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 3

**Subregion (LRR or MLRA):** MLRA 136 of LRR P **Lat:** 36.654925 **Long:** -79.5183262 **Datum:** WGS84

**Soil Map Unit Name:** **NWI classification:**

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes _✓_ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes _✓_ No ____ | | |
| Hydric Soil Present? | Yes _✓_ No ____ | | |
| Wetland Hydrology Present? | Yes _✓_ No ____ | **Is the Sampled Area within a Wetland?** | **Yes _✓_ No ____** |

**Remarks:**

Covertype is PSS. Area is wetland, all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
_✓_ High Water Table (A2)
_✓_ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
_✓_ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ____ No _✓_ | Depth (inches): | | |
| Water Table Present? | Yes _✓_ No ____ | Depth (inches): | 0 | **Wetland Hydrology Present?** Yes _✓_ No ____ |
| Saturation Present? (includes capillary fringe) | Yes _✓_ No ____ | Depth (inches): | 0 | |

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

**Remarks:**

The criterion for wetland hydrology is met. A positive indication of wetland hydrology was observed (at least one primary indicator).

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

Sampling Point: W-A18-191_PSS-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 0 = Total Cover | | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |
| **Sapling/Shrub Stratum (Plot size: 15)** | | | |
| 1. *Sambucus nigra* | 35 | Yes | FAC |
| 2. *Liquidambar styraciflua* | 10 | No | FAC |
| 3. *Rubus allegheniensis* | 10 | No | FACU |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 55 = Total Cover | | |
| 50% of total cover: 27.5 | 20% of total cover: 11 | | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Persicaria hydropiper* | 30 | Yes | OBL |
| 2. *Boehmeria cylindrica* | 20 | Yes | FACW |
| 3. *Poa palustris* | 15 | No | FACW |
| 4. *Lonicera japonica* | 15 | No | FACU |
| 5. *Lycopus virginicus* | 5 | No | OBL |
| 6. *Leersia oryzoides* | 5 | No | OBL |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 90 = Total Cover | | |
| 50% of total cover: 45 | 20% of total cover: 18 | | |
| **Woody Vine Stratum (Plot size: 30)** | | | |
| 1. *Clematis virginiana* | 10 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 10 = Total Cover | | |
| 50% of total cover: 5 | 20% of total cover: 2 | | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 4 | (A) |
| Total Number of Dominant Species Across All Strata: | 4 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 100 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 40 | x 1 = | 40 |
| FACW species | 35 | x 2 = | 70 |
| FAC species | 55 | x 3 = | 165 |
| FACU species | 25 | x 4 = | 100 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 155 | (A) | 375 (B) |
| Prevalence Index = B/A = | 2.4 | | |

**Hydrophytic Vegetation Indicators:**

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

**Remarks: (Include photo numbers here or on a separate sheet.)**

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC).

SOIL

Sampling Point: W-A18-191_PSS-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 2 | 10YR 3/2 | 100 | | | | | Sandy Loam | |
| 2 - 14 | 10YR 4/1 | 90 | 7.5YR 5/8 | 10 | C | M | Silt Loam | |
| 14 - 20 | 10YR 4/2 | 95 | 10YR 4/6 | 5 | C | M | Sandy Loam | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
_✓ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☑ No ☐

**Remarks:**

A positive indication of hydric soil was observed.

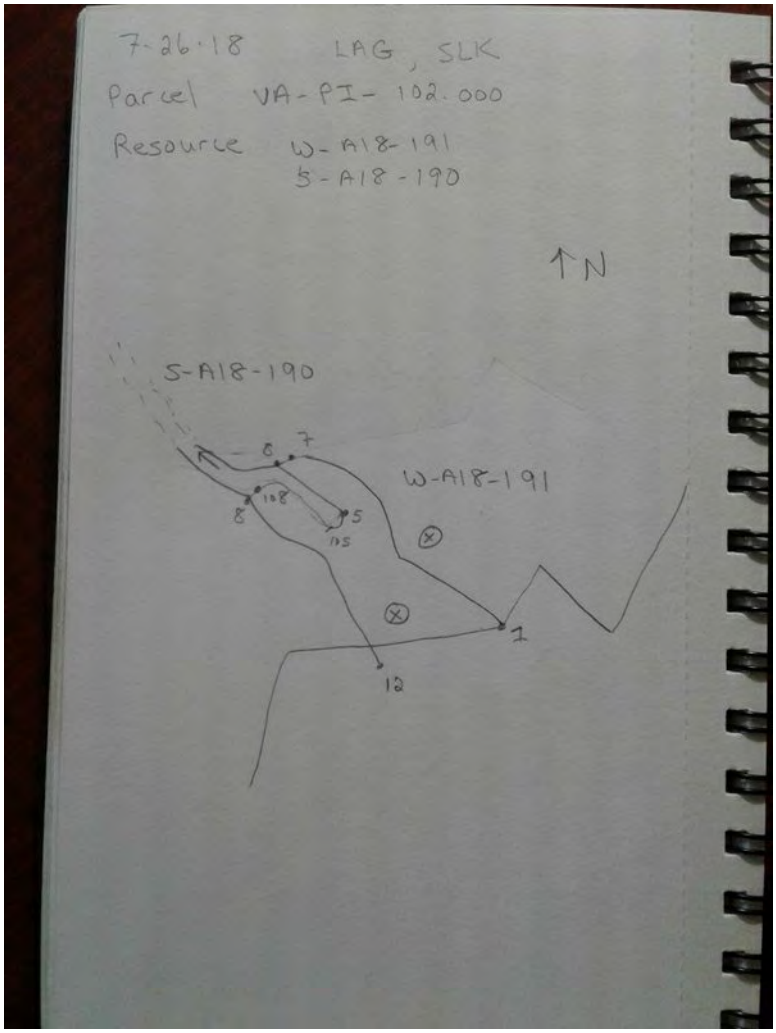
Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

**Photo of Sample Plot Sketch**



## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

**Project/Site:** MVP Southgate **City/County:** Danville, Pittsylvania C... **Sampling Date:** 2018-July-26

**Applicant/Owner:** NextEra **State:** Virginia **Sampling Point:** W-A18-191_UPL-1

**Investigator(s):** Laura Giese, Simon King **Section, Township, Range:**

**Landform (hillslope, terrace, etc.):** Back slope **Local relief (concave, convex, none):** Convex **Slope (%):** 2 to 5

**Subregion (LRR or MLRA):** **Lat:** 36.6549723 **Long:** -79.5183168 **Datum:** WGS84

**Soil Map Unit Name:** **NWI classification:**

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ No ✓ | | |
| Hydric Soil Present? | Yes ____ No ✓ | | |
| Wetland Hydrology Present? | Yes ____ No ✓ | **Is the Sampled Area within a Wetland?** | **Yes ____ No ✓** |

**Remarks:**

Covertype is UPL. Area is upland, not all three wetland parameters are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one is required; check all that apply)**

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

**Secondary Indicators (minimum of two required)**

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No ✓ | Depth (inches): | |
| Water Table Present? | Yes ____ No ✓ | Depth (inches): | **Wetland Hydrology Present?** Yes ____ No ✓ |
| Saturation Present? (includes capillary fringe) | Yes ____ No ✓ | Depth (inches): | |

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

**Remarks:**

No positive indication of wetland hydrology was observed.

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

Sampling Point: W-A18-191_UPL-1

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Liquidambar styraciflua* | 40 | Yes | FAC |
| 2. *Liriodendron tulipifera* | 30 | Yes | FACU |
| 3. *Juniperus virginiana* | 15 | No | FACU |
| 4. *Platanus occidentalis* | 10 | No | FACW |
| 5. *Pinus virginiana* | 5 | No | UPL |
| 6. | | | |
| 7. | | | |
| | 100 | = Total Cover | |
| 50% of total cover: 50 | 20% of total cover: 20 | | |
| **Sapling/Shrub Stratum (Plot size: 15)** | | | |
| 1. *Liquidambar styraciflua* | 25 | Yes | FAC |
| 2. *Liriodendron tulipifera* | 20 | Yes | FACU |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| | 45 | = Total Cover | |
| 50% of total cover: 22.5 | 20% of total cover: 9 | | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Toxicodendron radicans* | 20 | Yes | FAC |
| 2. *Lonicera japonica* | 20 | Yes | FACU |
| 3. *Liquidambar styraciflua* | 5 | No | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| | 45 | = Total Cover | |
| 50% of total cover: 22.5 | 20% of total cover: 9 | | |
| **Woody Vine Stratum (Plot size: 30)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 0 | = Total Cover | |
| 50% of total cover: 0 | 20% of total cover: 0 | | |

**Dominance Test worksheet:**

| | | |
|---|---|---|
| Number of Dominant Species That Are OBL, FACW, or FAC: | 3 | (A) |
| Total Number of Dominant Species Across All Strata: | 6 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 50 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply By: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 10 | x 2 = | 20 |
| FAC species | 90 | x 3 = | 270 |
| FACU species | 85 | x 4 = | 340 |
| UPL species | 5 | x 5 = | 25 |
| Column Totals | 190 | (A) | 655 (B) |

Prevalence Index = B/A = 3.4

**Hydrophytic Vegetation Indicators:**

_____ 1- Rapid Test for Hydrophytic Vegetation

_____ 2 - Dominance Test is > 50%

_____ 3 - Prevalence Index is ≤ 3.0[1]

_____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☐ No ☑

**Remarks: (Include photo numbers here or on a separate sheet.)**

No positive indication of hydrophytic vegetation was observed (≥50% of dominant species indexed as FAC− or drier).

SOIL

Sampling Point: W-A18-191_UPL-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0 - 2 | 10YR 3/2 | 100 | | | | | Silt Loam | |
| 2 - 11 | 7.5YR 5/6 | 70 | | | | | Sandy Loam | |
| 2 - 11 | 10YR 5/3 | 30 | | | | | Sandy Loam | |
| 11 - 20 | 10YR 5/3 | 80 | 10YR 5/2 | 5 | D | M | Sandy Loam | |
| 11 - 20 | 7.5YR 5/8 | 15 | | | | | Sandy Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

**Hydric Soil Indicators:**

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ 2 cm Muck (A10) **(LRR N)**
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7)
__ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
__ Thin Dark Surface (S9) **(MLRA 147, 148)**
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)
__ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
__ Umbric Surface (F13) **(MLRA 136, 122)**
__ Piedmont Floodplain Soils (F19) **(MLRA 148)**
__ Red Parent Material (F21) **(MLRA 127, 147)**

**Indicators for Problematic Hydric Soils[3]:**

___ 2 cm Muck (A10) **(MLRA 147)**
___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: None
Depth (inches):

**Hydric Soil Present?** Yes ☐ No ☑

**Remarks:**

No positive indication of hydric soils was observed.

Photo of Sample Plot North

Photo of Sample Plot East